

A ALZHEIMER: ALZHEIMER-DIMENTIA-HEALTHY CONTROL

A.1 LEAVE-ONE-OUT RESULTS

A.1.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 1: Average Leave-One-Out Zero-Shot Performance Across All Subjects, Including Diagnosis Accuracy and AUC.

Model (Training strategy)	Acc.1	Acc.2	Diagnosis Acc	Diagnosis AUC
DeepConvnet	0.535 ± 0.355	0.811 ± 0.275	0.511	0.534
EEGNet	0.605 ± 0.324	0.860 ± 0.201	0.648	0.605
Conformer	0.528 ± 0.333 0.543	0.817 ± 0.250 0.826	0.557	0.528
CTNet	± 0.338 0.557	± 0.244 0.828	0.545	0.543
BIOT (f)	± 0.336 0.514	± 0.212 0.795	0.602	0.556
BIOT (l)	± 0.317 0.537	± 0.236 0.805	0.523	0.514
BENDR (f)	± 0.302 0.370	± 0.175 0.695	0.511	0.536
BENDR (l)	± 0.222 0.530	± 0.235 0.831	0.330	0.369
CBraMod (f)	± 0.337 0.435	± 0.231 0.766	0.545	0.529
CBraMod (l)	± 0.244 0.582	± 0.220 0.839	0.420	0.435
EEGPT (f)	± 0.354 0.561	± 0.224 0.844	0.602	0.582
EEGPT (l)	± 0.342 0.558	± 0.237 0.849	0.557	0.561
LaBraM (f)	± 0.362 0.446	± 0.236 0.756	0.557	0.557
LaBraM (l)	± 0.381	± 0.327	0.511	0.446
STEEGformer-s (f)	0.593 ± 0.368	0.864 ± 0.215	0.602	0.592
STEEGformer-s (l)	0.526 ± 0.408 0.588	0.784 ± 0.309 0.850	0.534	0.525
STEEGformer-b (f)	± 0.374 0.554	± 0.240 0.812	0.625	0.587
STEEGformer-b (l)	± 0.378 0.590	± 0.282 0.853	0.568	0.553
STEEGformer-l (f)	± 0.368 0.570	± 0.247 0.822	0.602	0.589
STEEGformer-l (l)	± 0.398	± 0.286	0.580	0.570

Table 2: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
Asub-001B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.047	1.000	0.531	0.969	1.000	0.969	0.953	0.656	0.844	0.750	1.000	1.000	0.891	0.984	0.984	0.812	0.734	1.000	0.766	0.938
	Acc.2	0.984	1.000	0.922	1.000	1.000	1.000	0.984	0.938	0.984	1.000	1.000	1.000	0.984	1.000	1.000	1.000	0.969	1.000	0.984	1.000
Asub-002B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.330	0.645	0.456	0.583	0.504	0.379	0.378	0.519	0.686	0.504	0.590	0.377	0.519	0.662	0.565	0.164	0.589	0.321	0.456	0.173
	Acc.2	0.748	0.906	0.897	0.827	0.795	0.819	0.827	0.906	0.898	0.921	0.779	0.937	0.787	1.000	0.889	0.565	0.889	0.542	0.778	0.644
Asub-003B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.429	0.000	0.190	0.857	0.714	0.190	0.333	0.857	0.333	0.095	0.381	0.095	0.524	0.333	0.000	0.714	0.524	0.238	0.000
	Acc.2	0.095	0.571	0.571	0.381	0.952	0.952	0.714	0.762	1.000	0.905	0.429	0.619	1.000	1.000	1.000	0.190	1.000	0.810	0.524	0.857
Asub-004B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.214	0.744	0.677	0.786	0.789	0.691	0.953	0.583	0.871	0.775	0.891	0.775	1.000	0.902	0.951	0.902	1.000	0.967	0.902	0.853
	Acc.2	1.000	1.000	0.951	0.967	1.000	0.967	1.000	0.886	0.984	0.951	0.984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-005B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.209	0.848	0.984	0.709	0.541	0.864	0.861	0.631	0.739	0.638	0.908	0.716	0.510	0.746	0.685	0.669	0.793	0.678	0.570	0.815
	Acc.2	0.511	1.000	1.000	0.901	0.878	0.977	0.977	0.892	1.000	0.953	1.000	0.984	1.000	1.000	1.000	1.000	0.984	0.962	1.000	1.000
Asub-006B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.094	0.172	0.491	0.094	0.016	0.078	0.217	0.416	0.109	0.307	0.094	0.634	0.094	0.371	0.433	0.000	0.372	0.062	0.062	0.062
	Acc.2	0.544	0.311	0.784	0.188	0.264	0.375	0.494	0.831	0.908	0.599	0.540	0.848	0.585	0.953	0.740	0.203	0.803	0.388	0.599	0.203

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (j)	STEGformer-s (l)	STEGformer-b (j)	STEGformer-b (l)	STEGformer-l (j)	STEGformer-l (l)
Asub-007BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.863	0.909	0.297	0.919	0.809	0.959	0.838	0.675	0.909	0.831	0.944	0.356	0.597	0.950	0.425	0.869	0.591	0.959	0.825	0.878
Asub-008BAcc	Acc.2	1.000	0.975	0.959	1.000	1.000	1.000	0.984	0.919	1.000	0.984	1.000	1.000	1.000	1.000	0.984	1.000	1.000	1.000	1.000	1.000
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-009BAcc	Acc.1	0.439	0.507	0.776	0.693	0.415	0.624	0.648	0.575	0.831	0.577	1.000	0.930	0.854	0.923	0.938	1.000	0.930	1.000	0.892	1.000
	Acc.2	0.730	0.852	1.000	0.938	0.759	0.885	1.000	0.876	0.953	0.977	1.000	0.984	1.000	1.000	0.953	1.000	1.000	1.000	1.000	1.000
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-010BAcc	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.734	1.000	0.677	1.000	0.953	0.780	0.307	0.479	0.984	0.693	0.733	0.283	0.969	0.599	0.891	0.323	0.623	0.882	0.875	0.726
	Acc.2	0.984	1.000	0.984	1.000	1.000	1.000	0.882	0.731	0.984	0.913	1.000	1.000	1.000	0.984	1.000	1.000	0.851	1.000	0.984	1.000
Asub-011BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.021	0.280	0.000	0.271	0.130	0.295	0.140	0.572	0.416	0.418	0.187	0.010	0.087	0.841	0.408	0.258	0.298	0.505	0.324	0.502
Asub-012BAcc	Acc.2	0.431	0.503	0.562	0.498	0.538	0.678	0.558	0.855	0.786	0.749	0.533	0.228	0.544	1.000	0.812	0.732	0.584	0.856	0.608	0.902
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-013BAcc	Acc.1	0.709	0.600	0.828	0.756	0.416	0.403	0.588	0.453	0.516	0.356	0.369	0.409	0.122	0.803	0.556	0.222	0.584	0.537	0.428	0.322
	Acc.2	0.925	0.925	0.975	0.975	0.625	0.778	0.903	0.869	0.953	0.738	0.856	0.919	0.456	0.925	0.844	0.806	0.950	0.975	0.769	0.759
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-014BAcc	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.290	0.188	0.321	0.174	0.129	0.132	0.375	0.578	0.661	0.310	0.299	0.266	0.453	0.100	0.114	0.000	0.103	0.085	0.087	0.000
	Acc.2	0.920	0.783	0.837	0.826	0.748	0.560	0.688	0.929	0.922	0.766	0.866	0.984	1.000	0.853	0.846	0.473	0.938	0.540	1.000	0.542
Asub-015BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
	Acc.1	0.573	0.896	0.589	0.776	0.964	0.625	0.698	0.490	0.750	0.380	0.802	0.552	0.682	0.922	0.943	0.875	0.964	0.807	0.891	0.938
	Acc.2	0.943	0.979	0.891	0.958	1.000	0.984	0.964	0.839	0.932	0.781	0.958	0.865	0.823	0.969	0.979	0.984	0.984	1.000	1.000	1.000
Asub-014BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.969	0.842	0.603	0.906	0.764	0.857	0.827	0.666	0.700	0.493	0.953	0.904	0.795	0.953	1.000	0.937	0.984	0.921	0.984	0.683
	Acc.2	1.000	0.984	0.984	0.984	0.921	1.000	0.984	0.889	1.000	0.905	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.984
Asub-015BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.747	0.773	0.851	0.656	0.851	0.327	0.211	0.495	0.617	0.265	0.325	0.225	0.279	0.726	0.803	0.017	0.564	0.066	0.166	0.017
	Acc.2	0.905	0.952	0.966	0.969	1.000	0.689	0.599	0.822	0.969	0.703	0.588	0.516	0.721	1.000	1.000	0.161	0.886	0.192	0.784	0.208
Asub-016BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	0.990	0.594	0.979	0.740	0.906	0.604	0.708	0.906	0.812	0.792	0.979	0.958	0.948	1.000	1.000	0.990	0.948	0.990	0.990
	Acc.2	1.000	1.000	0.990	1.000	0.979	0.979	1.000	0.938	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-017BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.554	0.969	0.795	0.933	0.980	0.902	0.933	0.679	0.933	0.731	0.969	0.969	1.000	0.980	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	0.984	0.984	1.000	1.000	0.984	1.000	0.924	1.000	0.984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-018BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	1.000	1.000	0.949	0.984	0.877	0.574	0.953	0.688	0.984	0.611	0.980	0.795	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	0.984	0.858	0.984	0.909	1.000	0.869	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-019BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.404	0.730	0.691	0.733	0.488	0.406	0.401	0.611	0.952	0.564	0.097	0.389	0.289	0.902	0.080	0.207	0.295	0.307	0.356	0.417
	Acc.2	0.803	0.983	0.967	1.000	0.763	0.791	0.691	0.808	1.000	0.968	0.403	0.792	0.904	1.000	0.491	0.674	0.636	0.743	0.730	0.933
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
Asub-020BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.748	0.950	0.465	0.930	0.653	0.761	0.721	0.659	0.918	0.775	0.965	0.981	0.903	0.864	0.873	0.704	0.888	0.895	0.776	1.000
Asub-021BAcc	Acc.2	0.984	1.000	0.953	1.000	1.000	0.981	1.000	0.938	0.981	0.950	1.000	1.000	1.000	0.984	1.000	0.962	1.000	1.000	0.962	1.000
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-022BAcc	Acc.1	0.111	0.597	0.096	0.324	0.128	0.617	0.565	0.646	0.494	0.596	0.968	0.950	0.192	0.858	0.047	0.276	0.094	0.662	0.078	0.810
	Acc.2	0.901	0.934	0.659	0.771	0.335	0.969	0.759	0.919	1.000	0.984	1.000	1.000	1.000	1.000	0.404	0.967	0.984	0.920	0.840	0.984
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-023BAcc	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.461	0.878	0.427	0.545	0.863	0.741	0.910	0.458	0.713	0.274	0.816	0.751	0.922	0.688	0.969	0.797	0.938	0.828	0.906	0.812
	Acc.2	0.938	1.000	0.953	0.969	1.000	0.984	1.000	0.804	1.000	0.872	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-024BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	0.974	1.000	1.000	0.900	1.000	0.749	1.000	0.571	1.000	0.974	1.000	0.817	1.000	1.000	1.000	1.000	1.000	1.000
Asub-025BAcc	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.911	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-026BAcc	Acc.1	0.114	0.033	0.131	0.131	0.065	0.147	0.116	0.290	0.198	0.363	0.147	0.049	0.147	0.693	0.116	0.049	0.082	0.049	0.049	0.016
	Acc.2	0.292	0.131	0.325	0.180	0.554	0.227	0.309	0.755	0.521	0.650	0.276	0.165	0.668	1.000	0.539	0.280	0.777	0.131	0.082	0.309
	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
Asub-026BAcc	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
	Acc.1	0.469	0.834	0.537	0.588	0.671	0.751	0.753	0.626	0.731	0.651	0.966	0.817	0.668	0.934	0.848	0.967	0.832	0.984	0.602	0.900
	Acc.2	0.652	0.984	0.850	0.753	1.000	0.869	0.915	0.936	0.948	1.000	1.000	0.983	0.915	1.000	1.000	1.000	1.000	1.000	0.934	1.000
Asub-027BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	1.000	1.000	1.000	0.917	1.000	0.672	0.958	0.740	1.000	1.000	1.000	0.979	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.932	1.000	0.984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-028BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	0.823	1.000	1.000	0.711	0.978	0.579	1.000	0.617	1.000	0.984	1.000	0.894	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.863	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-029BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	0.984	0.984	0.847	0.984	0.972	0.531	0.925	0.689	1.000	1.000	1.000	0.984	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.858	1.000	0.972	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-030BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.969	0.969	1.000	0.953	1.000	0.906	0.969	0.544	0.906	0.603	1.000	0.953	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	0.984	1.000	0.722	0.984	0.969	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-031BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.171	0.177	0.167	0.296	0.518	0.135	0.167	0.472	0.212	0.238	0.161	0.042	0.083	0.736	0.052	0.224	0.125	0.307	0.115	0.192
	Acc.2	0.462	0.674	0.416	0.716	0.849	0.534	0.473	0.803	0.731	0.964	0.746	0.416	0.352	1.000	0.460	0.663	0.373	0.808	0.369	0.958
Asub-032BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.897	0.924	0.873	0.822	0.762	0.791	0.826	0.517	0.699	0.548	0.949	0.949	0.806	0.664	0.826	0.862	0.897	0.949	0.893	0.811
	Acc.2	1.000	1.000	0.889	0.980	0.964	0.842	0.944	0.913	0.964	0.964	1.000	1.000	0.969	1.000	0.984	1.000	0.984	1.000	1.000	1.000

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
Asub-033BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.824	0.886	0.628	0.822	0.082	0.163	0.726	0.708	0.405	0.728	0.904	0.984	0.423	0.534	0.229	0.000	0.163	0.409	0.532	0.180
	Acc.2	0.969	1.000	0.886	0.935	0.713	0.370	0.840	0.886	0.857	0.951	0.935	1.000	0.826	0.951	0.779	0.697	0.505	0.922	0.938	0.891
Asub-034BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.917	0.979	0.542	0.938	0.542	0.542	0.854	0.740	0.375	0.219	0.625	0.958	0.896	0.885	0.990	0.969	0.979	0.896	0.625	0.854
	Acc.2	1.000	1.000	0.990	1.000	0.646	0.969	0.948	0.969	0.604	0.573	1.000	1.000	0.979	1.000	1.000	1.000	1.000	0.979	0.990	0.990
Asub-035BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.728	0.398	0.738	0.539	0.639	0.623	0.775	0.664	0.571	0.984	0.953	0.450	0.984	0.921	0.984	0.942	0.984	0.780	0.984
	Acc.2	0.645	1.000	0.984	0.984	0.958	0.942	0.984	0.916	0.947	0.874	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Asub-036BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.154	0.506	0.158	0.316	0.474	0.036	0.367	0.537	0.738	0.407	0.403	0.147	0.036	0.158	0.552	0.016	0.584	0.118	0.430	0.229
	Acc.2	0.383	0.909	0.806	1.000	0.949	0.715	0.731	0.940	0.984	0.862	0.693	0.584	0.427	1.000	0.940	0.904	0.873	0.889	0.797	0.980
Asub-037BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.319	0.463	0.091	0.425	0.734	0.366	0.319	0.409	0.328	0.441	0.516	0.294	0.716	0.113	0.631	0.897	0.759	0.934	0.778	0.975
	Acc.2	0.753	0.753	0.431	0.819	1.000	0.669	0.628	0.691	0.878	0.794	0.866	0.678	0.950	0.787	0.975	0.975	1.000	1.000	0.975	0.975
Asub-038BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.984	0.917	0.984	0.935	0.699	0.848	0.904	0.522	0.558	0.739	0.951	0.967	0.967	0.569	0.844	0.953	0.967	1.000	0.915	0.984
	Acc.2	1.000	0.982	0.984	1.000	1.000	0.969	0.967	0.783	0.953	0.888	1.000	1.000	1.000	0.969	1.000	1.000	1.000	1.000	1.000	1.000
Asub-039BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.2	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
	Acc.1	0.449	0.454	0.296	0.454	0.592	0.425	0.634	0.454	0.394	0.546	0.563	0.568	0.744	0.594	0.706	0.706	0.509	0.407	0.494	0.443
	Acc.2	0.871	0.811	0.938	0.713	0.922	0.724	0.835	0.791	0.775	0.917	0.964	0.902	1.000	0.949	0.984	0.969	0.953	0.623	0.647	0.859
Asub-040BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.896	0.885	0.844	0.927	0.781	0.375	0.844	0.479	0.729	0.823	0.875	0.927	0.885	0.198	0.781	0.927	0.719	0.854	0.958	0.948
	Acc.2	0.969	0.969	0.979	0.938	0.979	0.719	0.917	0.865	1.000	0.958	0.990	0.979	1.000	0.708	0.990	0.958	0.927	0.938	0.990	1.000
Asub-041BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	0.892	0.981	0.870	1.000	0.202	0.821	0.230	0.907	0.370	0.963	1.000	1.000	0.016	1.000	0.926	1.000	0.858	1.000	0.981
	Acc.2	1.000	1.000	1.000	1.000	1.000	0.693	0.855	0.693	1.000	0.761	1.000	1.000	1.000	0.139	1.000	1.000	1.000	1.000	1.000	1.000
Asub-042BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.969	0.615	0.781	0.417	0.979	0.969	0.948	0.333	0.396	0.406	1.000	0.990	0.521	0.354	0.812	0.990	0.823	0.979	0.865	1.000
	Acc.2	1.000	1.000	0.990	1.000	1.000	1.000	0.979	0.896	0.656	0.896	1.000	1.000	1.000	0.958	1.000	1.000	0.990	1.000	1.000	1.000
Asub-043BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.401	0.641	0.250	0.323	0.000	0.000	0.427	0.130	0.052	0.276	0.542	0.198	0.130	0.094	0.000	0.328	0.000	0.328	0.583	0.922
	Acc.2	1.000	0.922	0.802	0.661	0.776	0.094	0.672	0.599	0.240	0.661	0.969	0.984	0.339	0.812	0.068	0.865	0.062	0.547	0.943	1.000
Asub-044BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.718	0.898	0.134	0.429	0.572	0.913	0.758	0.246	0.900	0.606	0.805	0.274	0.674	0.656	0.569	0.737	0.603	0.858	0.411	0.721
	Acc.2	0.873	1.000	0.482	0.913	0.826	0.981	0.892	0.705	0.984	0.919	1.000	0.429	0.913	0.966	0.823	1.000	0.876	0.981	0.984	1.000
Asub-045BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.462	0.139	0.663	0.314	0.605	0.407	0.174	0.302	0.272	0.519	0.294	0.345	0.489	0.101	0.981	0.206	0.873	0.101	0.698	0.214
	Acc.2	0.787	0.772	0.838	0.364	0.965	0.601	0.631	0.620	0.899	0.922	0.911	0.981	1.000	0.814	1.000	0.695	1.000	0.334	0.984	0.815
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-q (f)	STEGformer-q (l)	STEGformer-l (f)	STEGformer-l (l)
Asub-046B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.927	0.822	0.854	0.942	0.748	0.707	0.576	0.419	0.607	0.560	0.544	0.800	0.947	0.660	0.974	0.932	0.942	0.759	0.958	0.900
	Acc.2	1.000	0.911	1.000	0.958	0.974	0.932	0.759	0.796	0.885	0.743	0.879	0.905	0.974	0.905	1.000	0.974	1.000	0.916	0.984	0.947
Asub-047B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.953	0.852	0.645	0.837	0.938	0.861	0.615	0.308	0.791	0.661	0.730	0.568	0.946	0.553	0.977	0.946	0.969	0.800	0.984	0.969
	Acc.2	0.969	0.984	0.923	0.984	0.969	0.908	0.791	0.655	0.930	0.892	0.838	0.793	1.000	0.984	0.977	1.000	0.984	1.000	1.000	1.000
Asub-048B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.833	0.781	0.594	0.698	0.396	0.656	0.625	0.229	0.396	0.719	0.802	0.771	0.396	0.292	0.115	0.729	0.042	0.625	0.073	0.875
	Acc.2	0.875	0.854	0.885	0.844	0.812	0.792	0.865	0.729	0.750	1.000	0.896	0.896	0.990	0.740	0.917	0.865	0.656	0.729	0.719	0.938
Asub-049B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	0.984	0.929	0.953	0.905	0.906	0.922	0.337	1.000	0.488	0.914	0.882	1.000	0.543	0.795	0.984	0.818	0.984	0.826	0.961
	Acc.2	1.000	1.000	1.000	1.000	0.976	1.000	0.984	0.818	1.000	0.772	1.000	0.976	1.000	0.921	1.000	1.000	1.000	1.000	1.000	1.000
Asub-050B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.215	0.554	0.311	0.402	0.331	0.262	0.377	0.302	0.579	0.782	0.442	0.498	0.601	0.000	0.109	0.408	0.393	0.031	0.000	0.162
	Acc.2	0.851	0.807	0.557	0.801	0.537	0.571	0.660	0.729	0.888	0.925	0.885	0.978	0.841	0.234	0.630	0.704	0.963	0.243	0.424	0.470
Asub-051B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.969	0.921	0.906	0.952	0.496	0.653	0.465	0.299	0.472	0.749	0.976	0.952	0.976	0.079	1.000	0.858	1.000	0.615	1.000	0.961
	Acc.2	1.000	1.000	1.000	1.000	0.945	0.897	0.732	0.763	1.000	0.961	1.000	1.000	1.000	0.733	1.000	1.000	1.000	1.000	1.000	1.000
Asub-052B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBranMod ^(f)	CBranMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBranM ^(f)	LaBranM ^(l)	STEGformer-s ^(f)	STEGformer-s ^(l)	STEGformer-b ^(f)	STEGformer-b ^(l)	STEGformer-l ^(f)	STEGformer-l ^(l)
	Acc.1	0.581	0.492	0.664	0.534	0.544	0.450	0.465	0.204	0.550	0.451	0.649	0.481	0.827	0.262	0.785	0.544	0.591	0.465	0.764	0.497
	Acc.2	0.869	0.633	0.780	0.696	0.837	0.607	0.706	0.655	0.812	0.687	0.984	0.706	0.969	0.922	0.911	0.738	0.722	0.523	0.927	0.607
Asub-053BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.768	0.330	0.401	0.676	0.815	0.746	0.655	0.408	0.776	0.413	0.629	0.254	0.847	0.399	0.899	0.418	0.807	0.524	0.822	0.714
	Acc.2	0.876	0.807	0.531	0.938	0.939	0.869	0.854	0.847	0.908	0.690	0.876	0.501	0.977	0.869	1.000	0.817	0.969	0.777	0.984	0.916
Asub-054BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	1.000	0.969	0.984	0.969	0.776	1.000	0.370	0.984	0.339	0.792	1.000	0.964	0.677	0.979	1.000	0.984	1.000	0.984	1.000
	Acc.2	1.000	1.000	1.000	1.000	1.000	0.984	1.000	0.849	1.000	0.875	1.000	1.000	1.000	0.969	1.000	1.000	1.000	1.000	1.000	1.000
Asub-055BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	1.000	0.984	0.953	0.984	1.000	0.888	0.876	0.374	0.941	0.760	1.000	0.978	1.000	0.969	1.000	1.000	1.000	1.000	1.000	1.000
	Acc.2	1.000	1.000	1.000	0.984	1.000	0.963	0.963	0.819	1.000	0.925	1.000	0.978	1.000	0.984	1.000	1.000	1.000	1.000	1.000	1.000
Asub-056BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.391	0.286	0.000	0.317	0.661	0.593	0.391	0.441	0.302	0.674	0.633	0.512	0.451	0.748	0.454	0.858	0.199	0.721	0.472	0.823
	Acc.2	0.686	0.724	0.071	0.640	0.981	0.913	0.624	0.848	0.798	0.916	0.879	0.708	1.000	1.000	0.705	1.000	0.541	0.929	0.832	1.000
Asub-057BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.740	0.733	0.874	0.685	0.276	0.086	0.710	0.339	0.489	0.401	0.756	0.654	0.921	0.039	0.709	0.433	0.749	0.134	0.551	0.370
	Acc.2	0.914	0.976	0.945	0.976	0.496	0.450	0.914	0.835	0.763	0.567	0.945	0.945	1.000	0.528	0.866	0.819	0.882	0.276	0.961	0.693
Asub-058BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.618	0.512	0.775	0.706	0.685	0.706	0.398	0.440	0.450	0.414	0.534	0.512	0.220	0.482	0.146	0.974	0.900	0.659	0.701	0.848
	Acc.2	0.984	0.843	0.958	0.947	0.974	0.859	0.701	0.796	1.000	0.738	0.822	0.854	0.879	0.927	0.424	1.000	1.000	0.969	0.868	0.958
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(j)	BIOT ⁽ⁱ⁾	BENDR ^(j)	BENDR ⁽ⁱ⁾	CBraMod ^(j)	CBraMod ⁽ⁱ⁾	EEGPT ^(j)	EEGPT ⁽ⁱ⁾	LaBraM ^(j)	LaBraM ⁽ⁱ⁾	STEGformer-s ^(j)	STEGformer-s ⁽ⁱ⁾	STEGformer-b ^(j)	STEGformer-b ⁽ⁱ⁾	STEGformer-l ^(j)	STEGformer-l ⁽ⁱ⁾
Asub-059BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.732	0.338	0.094	0.244	0.629	0.196	0.315	0.307	0.000	0.205	0.205	0.133	0.157	0.126	0.055	0.542	0.173	0.551	0.786	0.889
Asub-060BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.972	0.953	0.941	0.957	0.941	0.882	0.842	0.220	0.720	0.531	0.929	0.910	0.972	0.524	1.000	1.000	1.000	0.913	1.000	1.000
Asub-061BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.085	0.092	0.054	0.031	0.116	0.223	0.347	0.159	0.310	0.334	0.378	0.244	0.000	0.038	0.016	0.054	0.070	0.092	0.124
Asub-062BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.590	0.382	0.462	0.509	0.410	0.818	0.803	0.519	0.800	0.801	0.836	0.519	0.538	0.654	0.775	1.000	0.726	1.000	0.631	1.000
Asub-063BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.145	0.237	0.199	0.176	0.530	0.061	0.260	0.162	0.435	0.246	0.392	0.321	0.530	0.045	0.791	0.293	0.723	0.145	1.000	0.244
Asub-064BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.984	0.917	0.909	0.893	1.000	1.000	0.969	0.423	0.924	0.691	1.000	1.000	1.000	0.924	1.000	1.000	1.000	1.000	1.000	1.000
Asub-065BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.851	1.000	0.909	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
	Acc.1	0.264	0.476	0.230	0.348	0.910	0.209	0.317	0.417	0.510	0.422	0.748	0.304	0.858	0.196	0.569	0.805	0.969	0.749	0.947	0.895
	Acc.2	1.000	0.755	0.792	0.755	1.000	0.508	0.708	0.845	0.718	0.580	0.932	0.656	1.000	0.668	0.935	0.858	1.000	0.836	0.981	0.981
Asub-066BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.366	0.241	0.713	0.031	0.178	0.356	0.109	0.147	0.000	0.016	0.031	0.031	0.031	0.000	0.250	0.000	0.391	0.000	0.328	0.016
Acc.2	1.000	0.984	1.000	0.984	0.769	0.884	0.753	0.341	0.388	0.450	0.822	0.984	0.812	0.444	1.000	1.000	1.000	1.000	0.984	1.000	
Asub-067BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.061	1.000	0.186	0.016	0.955	0.798	0.418	0.124	0.000	0.000	0.847	0.955	0.122	0.016	0.000	1.000	0.291	0.969	0.000	0.906
Acc.2	0.876	1.000	0.878	0.984	1.000	0.922	0.862	0.553	1.000	0.510	1.000	1.000	0.616	0.710	1.000	1.000	0.876	1.000	0.984	1.000	
Asub-068BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.324	0.277	0.804	0.277	0.426	0.520	0.371	0.047	0.710	0.000	0.330	0.237	0.087	0.000	0.261	0.000	0.190	0.190	0.355	0.016
Acc.2	0.757	0.536	0.969	0.748	0.772	0.891	0.496	0.094	0.875	0.339	0.766	0.844	0.364	0.016	0.850	0.694	0.694	0.504	0.891	0.458	
Asub-069BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.446	0.723	0.831	0.678	0.246	0.107	0.047	0.016	0.016	0.000	0.000	0.413	0.141	0.000	0.616	0.000	0.016	0.000	0.892	0.000
Acc.2	1.000	1.000	1.000	1.000	0.938	0.815	0.939	0.214	0.402	0.185	0.739	0.984	0.969	0.000	0.955	0.876	1.000	0.908	1.000	0.831	
Asub-070BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.750	1.000	1.000	0.469	0.375	0.500	0.469	0.000	0.625	0.375	0.156	0.688	0.969	0.000	1.000	0.125	0.969	0.500	0.969	0.781
Acc.2	1.000	1.000	1.000	1.000	0.625	0.844	0.812	0.344	0.969	0.625	0.844	0.906	1.000	0.406	1.000	0.625	1.000	0.875	1.000	1.000	
Asub-071BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.791	0.225	0.756	0.188	0.237	0.141	0.328	0.097	0.144	0.081	0.212	0.572	0.066	0.000	0.325	0.050	0.284	0.156	0.047	0.188
Acc.2	0.950	0.825	0.984	0.822	0.528	0.613	0.669	0.322	0.738	0.512	0.684	0.844	0.722	0.562	0.953	0.434	0.487	0.891	0.919	0.478	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
Asub-072BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.089	0.016	0.016	0.031	0.000	0.016	0.031	0.016	0.083	0.000	0.000	0.016	0.323	0.000	0.042	0.000	0.000	0.042	0.000	0.000
	Acc.2	1.000	1.000	0.885	0.969	0.854	0.911	0.750	0.427	0.599	0.349	0.943	1.000	0.865	0.219	0.969	0.688	1.000	0.984	0.984	0.953
Asub-073BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.831	0.516	0.764	0.630	0.897	0.648	0.516	0.051	0.917	0.396	0.407	0.851	0.969	0.000	0.953	0.000	0.984	0.289	1.000	0.051
	Acc.2	1.000	0.893	0.913	0.913	0.964	0.984	0.846	0.341	0.984	0.626	0.842	1.000	1.000	0.234	1.000	0.142	1.000	0.862	1.000	0.352
Asub-074BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.979	0.583	0.829	0.269	0.825	0.358	0.694	0.083	0.958	0.135	0.544	0.248	1.000	0.000	1.000	0.000	1.000	0.073	1.000	0.000
	Acc.2	1.000	0.906	0.990	0.642	0.990	0.777	0.969	0.373	0.979	0.512	0.892	0.906	1.000	0.248	1.000	0.000	1.000	0.348	1.000	0.031
Asub-075BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.823	0.736	0.634	0.583	0.792	0.495	0.292	0.031	0.158	0.016	0.347	0.667	0.556	0.028	0.516	0.043	0.186	0.474	0.205	0.611
	Acc.2	1.000	0.953	0.969	0.913	0.969	0.814	0.556	0.259	0.637	0.347	0.835	0.969	0.832	0.323	0.708	0.816	0.444	0.957	0.484	0.925
Asub-076BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.000	0.000	0.000	0.000	0.000	0.218	0.134	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Acc.2	0.000	0.000	0.000	0.016	0.162	0.037	0.542	0.374	0.000	0.287	0.134	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Asub-077BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.033	0.231	0.049	0.067	0.211	0.192	0.390	0.065	0.000	0.345	0.311	0.143	0.062	0.049	0.824	0.532	0.775	0.501	0.851	0.033
	Acc.2	0.098	0.554	0.129	0.082	0.583	0.546	0.693	0.321	0.109	0.632	0.468	0.450	0.454	0.793	0.920	0.953	0.953	0.953	1.000	0.474
Asub-078BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.2	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)
	Acc.1	0.034	0.515	0.019	0.229	0.111	0.879	0.323	0.065	0.034	0.425	0.279	0.543	0.258	0.000	0.276	0.646	0.019	0.438	0.037	0.593
	Acc.2	0.410	0.866	0.137	0.475	0.478	0.981	0.634	0.264	0.745	0.845	0.615	0.785	0.652	0.491	0.819	0.950	0.226	0.963	0.155	0.969
Asub-079BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.544	0.522	0.373	0.495	0.603	0.539	0.851	0.084	0.249	0.287	1.000	0.897	0.124	0.037	0.320	0.713	0.174	0.763	0.292	0.507
	Acc.2	0.688	0.875	0.978	1.000	0.844	0.785	1.000	0.237	0.654	0.882	1.000	1.000	0.510	0.825	0.673	0.978	0.351	0.978	0.719	0.947
Asub-080BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.033	0.000	0.000	0.000	0.016	0.048	0.048	0.000	0.000	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000
	Acc.2	0.631	0.470	0.241	0.114	0.475	0.790	0.454	0.226	0.016	0.129	0.259	0.049	0.032	0.065	0.442	0.000	0.017	0.397	0.147	0.017
Asub-081BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.021	0.203	0.078	0.224	0.000	0.047	0.250	0.083	0.000	0.312	0.125	0.354	0.068	0.000	0.021	0.000	0.000	0.021	0.000	0.000
	Acc.2	0.240	0.870	0.958	0.635	0.490	0.979	0.906	0.318	0.708	0.703	0.807	1.000	0.875	0.016	0.880	0.135	0.833	0.917	0.349	0.203
Asub-082BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.203	0.106	0.169	0.081	0.366	0.431	0.388	0.138	0.106	0.066	0.000	0.081	0.116	0.025	0.428	0.050	0.369	0.263	0.281	0.175
	Acc.2	0.716	0.512	0.494	0.334	0.744	0.897	0.725	0.403	0.806	0.409	0.128	0.466	0.294	0.588	0.769	0.556	0.738	0.938	0.613	0.756
Asub-083BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.294	0.031	0.047	0.017	0.016	0.466	0.050	0.080	0.371	0.427	0.388	0.457	0.000	0.000	0.230	0.000	0.064	0.000	0.496
	Acc.2	0.048	0.886	0.372	0.872	0.661	0.839	0.781	0.344	0.938	0.765	0.915	0.950	0.934	0.629	0.419	0.747	0.808	0.809	0.649	0.920
Asub-084BAcc	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.188	0.000	0.016	0.000	0.016	0.146	0.047	0.062	0.167	0.031	0.031	0.016	0.000	0.000	0.016	0.000	0.057	0.000	0.000	0.000
	Acc.2	1.000	1.000	0.521	1.000	0.734	0.969	0.812	0.438	0.927	0.385	0.969	1.000	1.000	0.391	0.844	1.000	0.870	1.000	1.000	1.000

Continued on next page

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (j)	STEGformer-s (l)	STEGformer-b (j)	STEGformer-b (l)	STEGformer-l (j)	STEGformer-l (l)
Asub-085B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.479	0.016	0.333	0.000	0.000	0.016	0.031	0.109	0.000	0.031	0.016	0.016	0.130	0.016	0.016	0.000	0.000	0.000	0.000	0.000
Asub-086B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.599	0.307	0.234	0.177	0.057	0.099	0.016	0.203	0.000	0.000	0.099	0.078	0.047	0.000	0.120	0.000	0.016	0.000	0.000	0.073
Asub-087B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.000	0.087	0.616	0.047	0.016	0.220	0.000	0.047	0.031	0.071	0.000	0.174	0.260	0.000	0.361	0.000	0.196	0.000	0.394	0.000
Asub-088B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.339	0.536	0.134	0.166	0.481	0.544	0.134	0.048	0.386	0.464	0.031	0.086	0.393	0.016	0.314	0.016	0.141	0.031	0.503	0.016
Asub-089B	κ	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	AUC	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan	nan
	Acc.1	0.890	0.866	0.567	0.551	0.866	0.749	0.519	0.324	0.867	0.812	0.259	0.749	0.614	0.055	0.558	0.173	0.591	0.354	0.803	0.141

B BCI-IV2A: 4-CLASS MOTOR IMAGERY CLASSIFICATION

B.1 POPULATION-LEVEL RESULTS

Table 3: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.604	0.905	0.703	0.703	0.895
DeepConvnet	± 0.118	± 0.053	± 0.089	± 0.089	± 0.059
	0.604	0.910	0.703	0.703	0.893
EEGNet	± 0.103	± 0.045	± 0.077	± 0.077	± 0.045
	0.414	0.805	0.561	0.561	0.785
Conformer	± 0.104	± 0.058	± 0.078	± 0.078	± 0.041
	0.663	0.930	0.747	0.747	0.907
CTNet	± 0.146	± 0.047	± 0.109	± 0.109	± 0.066
	0.255	0.687	0.441	0.441	0.694
BIOT (f)	± 0.128	± 0.085	± 0.096	± 0.096	± 0.090
	0.240	0.692	0.430	0.430	0.689
BIOT (l)	± 0.171	± 0.116	± 0.128	± 0.128	± 0.118
	0.287	0.725	0.465	0.465	0.726
BENDR (f)	± 0.076	± 0.053	± 0.057	± 0.057	± 0.050
	0.095	0.573	0.321	0.321	0.573
BENDR (l)	± 0.035	± 0.019	± 0.026	± 0.026	± 0.020
	0.490	0.851	0.617	0.618	0.840
CBraMod (f)	± 0.102	± 0.051	± 0.077	± 0.077	± 0.053
	0.092	0.634	0.319	0.319	0.616
CBraMod (l)	± 0.044	± 0.049	± 0.033	± 0.033	± 0.028
	0.203	0.674	0.402	0.402	0.670
EEGPT (f)	± 0.061	± 0.042	± 0.046	± 0.046	± 0.039
	0.475	0.841	0.606	0.606	0.821
EEGPT (l)	± 0.104	± 0.054	± 0.078	± 0.078	± 0.055
	0.226	0.677	0.419	0.419	0.701
LaBraM (f)	± 0.085	± 0.050	± 0.064	± 0.064	± 0.050
	0.048	0.572	0.286	0.286	0.562
LaBraM (l)	± 0.056	± 0.056	± 0.042	± 0.041	± 0.051
	0.586	0.863	0.689	0.689	0.876
STEEGformer-s (f)	± 0.154	± 0.069	± 0.116	± 0.116	± 0.082
	0.162	0.690	0.371	0.371	0.636
STEEGformer-s (l)	± 0.108	± 0.098	± 0.081	± 0.081	± 0.094
	0.700	0.908	0.775	0.775	0.921
STEEGformer-b (f)	± 0.131	± 0.058	± 0.098	± 0.098	± 0.054
	0.215	0.713	0.411	0.412	0.688
STEEGformer-b (l)	± 0.128	± 0.092	± 0.096	± 0.096	± 0.107
	0.728	0.928	0.796	0.796	0.928
STEEGformer-l (f)	± 0.147	± 0.052	± 0.110	± 0.110	± 0.059
	0.188	0.716	0.391	0.390	0.675
STEEGformer-l (l)	± 0.146	± 0.103	± 0.109	± 0.110	± 0.115

Table 4: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.634	0.653	0.269	0.713	0.315	0.426	0.287	0.093	0.417	0.046	0.190	0.588	0.264	0.009	0.708	0.301	0.759	0.338	0.782	0.389
	AUC	0.922	0.931	0.720	0.950	0.749	0.852	0.709	0.601	0.808	0.639	0.664	0.897	0.698	0.591	0.910	0.821	0.947	0.829	0.967	0.856
	BAcc	0.726	0.740	0.451	0.785	0.486	0.569	0.465	0.319	0.562	0.285	0.392	0.691	0.448	0.257	0.781	0.476	0.819	0.503	0.837	0.542
	Acc.1	0.726	0.740	0.451	0.785	0.486	0.569	0.465	0.319	0.562	0.285	0.392	0.691	0.448	0.264	0.781	0.476	0.819	0.503	0.837	0.542
	Acc.2	0.938	0.910	0.736	0.962	0.795	0.885	0.705	0.601	0.802	0.580	0.639	0.868	0.750	0.615	0.948	0.809	0.951	0.885	0.979	0.903
A2	κ	0.338	0.468	0.301	0.389	0.106	0.019	0.185	0.088	0.324	0.065	0.065	0.301	0.116	-0.051	0.287	0.074	0.449	0.116	0.444	0.032
	AUC	0.790	0.827	0.742	0.838	0.569	0.541	0.657	0.553	0.758	0.575	0.579	0.741	0.604	0.488	0.708	0.555	0.773	0.568	0.827	0.550
	BAcc	0.503	0.601	0.476	0.542	0.330	0.264	0.389	0.316	0.493	0.299	0.299	0.476	0.337	0.212	0.465	0.306	0.587	0.337	0.583	0.274
	Acc.1	0.503	0.601	0.476	0.542	0.330	0.264	0.389	0.316	0.493	0.299	0.299	0.476	0.337	0.212	0.465	0.306	0.587	0.337	0.583	0.274
	Acc.2	0.764	0.819	0.750	0.760	0.562	0.580	0.660	0.566	0.740	0.597	0.590	0.753	0.622	0.486	0.670	0.531	0.799	0.562	0.806	0.562
A3	κ	0.787	0.810	0.532	0.898	0.370	0.481	0.292	0.097	0.648	0.125	0.278	0.611	0.417	0.134	0.829	0.116	0.921	0.194	0.944	0.116
	AUC	0.983	0.983	0.877	0.994	0.778	0.835	0.753	0.583	0.915	0.633	0.724	0.916	0.791	0.629	0.963	0.770	0.984	0.786	0.991	0.781
	BAcc	0.840	0.858	0.649	0.924	0.528	0.611	0.469	0.323	0.736	0.344	0.458	0.708	0.562	0.351	0.872	0.337	0.941	0.396	0.958	0.337
	Acc.1	0.840	0.858	0.649	0.924	0.528	0.611	0.469	0.323	0.736	0.344	0.458	0.708	0.562	0.351	0.872	0.337	0.941	0.396	0.958	0.337
	Acc.2	0.965	0.958	0.830	0.983	0.753	0.830	0.757	0.587	0.910	0.635	0.726	0.903	0.792	0.635	0.965	0.608	0.993	0.701	0.993	0.594
A4	κ	0.606	0.528	0.375	0.681	0.181	0.069	0.319	0.111	0.417	0.037	0.273	0.454	0.264	0.069	0.532	0.037	0.648	0.144	0.630	0.199
	AUC	0.894	0.877	0.789	0.926	0.630	0.582	0.735	0.584	0.829	0.578	0.701	0.832	0.686	0.602	0.858	0.616	0.909	0.676	0.886	0.708
	BAcc	0.705	0.646	0.531	0.760	0.385	0.302	0.490	0.333	0.562	0.278	0.455	0.590	0.448	0.302	0.649	0.278	0.736	0.358	0.722	0.399
	Acc.1	0.705	0.646	0.531	0.760	0.385	0.302	0.490	0.333	0.562	0.278	0.455	0.590	0.448	0.302	0.649	0.278	0.736	0.361	0.722	0.399
	Acc.2	0.910	0.865	0.764	0.920	0.628	0.531	0.743	0.583	0.837	0.604	0.694	0.830	0.684	0.615	0.878	0.580	0.941	0.684	0.917	0.677
A5	κ	0.620	0.606	0.556	0.565	0.065	0.074	0.407	0.079	0.602	0.083	0.204	0.366	0.153	0.046	0.421	0.060	0.676	0.056	0.713	0.046
	AUC	0.922	0.922	0.885	0.927	0.588	0.568	0.824	0.544	0.923	0.663	0.684	0.786	0.643	0.509	0.850	0.586	0.897	0.614	0.945	0.612
	BAcc	0.715	0.705	0.667	0.674	0.299	0.306	0.556	0.309	0.701	0.312	0.403	0.524	0.365	0.285	0.566	0.295	0.757	0.292	0.785	0.285
	Acc.1	0.715	0.705	0.667	0.674	0.299	0.306	0.556	0.309	0.701	0.312	0.403	0.524	0.365	0.285	0.566	0.295	0.757	0.292	0.785	0.281

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A6	Acc_2	0.875	0.913	0.844	0.872	0.573	0.556	0.785	0.556	0.906	0.611	0.694	0.740	0.677	0.497	0.830	0.528	0.889	0.556	0.938	0.521
	κ	0.481	0.458	0.333	0.481	0.144	0.079	0.194	0.056	0.412	0.069	0.153	0.356	0.157	-0.028	0.454	0.051	0.532	0.102	0.537	0.074
	AUC	0.841	0.854	0.762	0.858	0.597	0.573	0.676	0.554	0.802	0.579	0.644	0.788	0.645	0.516	0.783	0.575	0.843	0.593	0.851	0.575
	BAcc	0.611	0.594	0.500	0.611	0.358	0.309	0.396	0.292	0.559	0.302	0.365	0.517	0.368	0.229	0.590	0.288	0.649	0.326	0.653	0.306
	Acc_1	0.611	0.594	0.500	0.611	0.358	0.309	0.396	0.292	0.562	0.302	0.365	0.517	0.368	0.229	0.590	0.285	0.649	0.326	0.653	0.306
	Acc_2	0.812	0.826	0.743	0.830	0.635	0.590	0.653	0.545	0.792	0.587	0.656	0.750	0.649	0.493	0.823	0.583	0.861	0.604	0.837	0.583
A7	κ	0.657	0.685	0.579	0.796	0.236	0.176	0.412	0.097	0.639	0.093	0.199	0.486	0.296	0.046	0.676	0.185	0.847	0.181	0.889	0.102
	AUC	0.939	0.943	0.889	0.976	0.671	0.673	0.800	0.587	0.908	0.734	0.689	0.857	0.722	0.570	0.905	0.737	0.966	0.764	0.984	0.791
	BAcc	0.743	0.764	0.684	0.847	0.427	0.382	0.559	0.323	0.729	0.319	0.399	0.615	0.472	0.285	0.757	0.389	0.885	0.385	0.917	0.326
	Acc_1	0.743	0.764	0.684	0.847	0.427	0.382	0.559	0.323	0.729	0.319	0.399	0.615	0.472	0.285	0.757	0.389	0.885	0.385	0.917	0.326
	Acc_2	0.927	0.917	0.840	0.962	0.681	0.670	0.819	0.587	0.906	0.684	0.684	0.823	0.747	0.580	0.913	0.587	0.969	0.604	0.979	0.698
	κ	0.731	0.681	0.435	0.801	0.417	0.412	0.278	0.185	0.486	0.111	0.190	0.616	0.148	0.111	0.671	0.292	0.727	0.296	0.810	0.227
A8	AUC	0.953	0.952	0.816	0.972	0.788	0.803	0.717	0.595	0.858	0.622	0.654	0.902	0.632	0.574	0.892	0.763	0.924	0.774	0.948	0.768
	BAcc	0.799	0.760	0.576	0.851	0.562	0.559	0.458	0.389	0.615	0.333	0.392	0.712	0.361	0.333	0.753	0.469	0.795	0.472	0.858	0.420
	Acc_1	0.799	0.760	0.576	0.851	0.562	0.559	0.458	0.389	0.615	0.337	0.392	0.712	0.361	0.330	0.753	0.469	0.795	0.472	0.858	0.420
	Acc_2	0.944	0.955	0.812	0.958	0.802	0.785	0.733	0.597	0.840	0.618	0.632	0.892	0.656	0.562	0.931	0.729	0.944	0.753	0.958	0.698
	κ	0.583	0.551	0.347	0.644	0.463	0.421	0.204	0.051	0.463	0.199	0.273	0.495	0.218	0.093	0.694	0.338	0.736	0.509	0.806	0.505
	AUC	0.904	0.903	0.762	0.924	0.809	0.799	0.659	0.552	0.858	0.692	0.731	0.850	0.672	0.683	0.901	0.817	0.930	0.827	0.946	0.836
A9	BAcc	0.688	0.663	0.510	0.733	0.597	0.566	0.403	0.288	0.597	0.399	0.455	0.622	0.413	0.319	0.771	0.503	0.802	0.632	0.854	0.628
	Acc_1	0.688	0.663	0.510	0.733	0.597	0.566	0.403	0.288	0.597	0.399	0.455	0.622	0.413	0.319	0.771	0.503	0.802	0.632	0.854	0.628
	Acc_2	0.917	0.875	0.747	0.920	0.816	0.778	0.684	0.538	0.823	0.628	0.715	0.830	0.729	0.576	0.927	0.771	0.938	0.844	0.948	0.840
	κ	0.583	0.551	0.347	0.644	0.463	0.421	0.204	0.051	0.463	0.199	0.273	0.495	0.218	0.093	0.694	0.338	0.736	0.509	0.806	0.505

B.2 PER-SUBJECT RESULTS

B.2.1 WITHIN-SUBJECT EVALUATION

Table 5: Average ‘‘Self’’ Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.449	0.827	0.587	0.587	0.805
DeepConvnet	± 0.155	± 0.083	± 0.116	± 0.116	± 0.084
	0.454	0.835	0.591	0.591	0.825
EEGNet	± 0.107	± 0.060	± 0.080	± 0.080	± 0.057
	0.359	0.761	0.519	0.519	0.753
Conformer	± 0.116	± 0.064	± 0.087	± 0.087	± 0.065
	0.568	0.885	0.676	0.676	0.884
CTNet	± 0.166	± 0.072	± 0.125	± 0.125	± 0.070
	0.210	0.664	0.407	0.407	0.669
BIOT (f)	± 0.141	± 0.111	± 0.106	± 0.106	± 0.127
	0.203	0.665	0.402	0.402	0.659
BIOT (l)	± 0.143	± 0.108	± 0.108	± 0.108	± 0.112
	0.211	0.672	0.408	0.408	0.655
BENDR (f)	± 0.064	± 0.048	± 0.048	± 0.048	± 0.047
	0.088	0.575	0.316	0.316	0.584
BENDR (l)	± 0.040	± 0.030	± 0.030	± 0.030	± 0.031
	0.311	0.734	0.483	0.483	0.729
CBraMod (f)	± 0.101	± 0.061	± 0.076	± 0.075	± 0.055
	0.112	0.609	0.334	0.334	0.609
CBraMod (l)	± 0.036	± 0.038	± 0.027	± 0.027	± 0.022
	0.155	0.625	0.367	0.367	0.624
EEGPT (f)	± 0.049	± 0.045	± 0.037	± 0.037	± 0.045
	0.172	0.648	0.379	0.379	0.650
EEGPT (l)	± 0.088	± 0.068	± 0.066	± 0.066	± 0.070
	0.145	0.614	0.359	0.359	0.623
LaBraM (f)	± 0.120	± 0.081	± 0.090	± 0.090	± 0.077
	0.084	0.576	0.313	0.312	0.576
LaBraM (l)	± 0.066	± 0.058	± 0.050	± 0.049	± 0.051
	0.520	0.845	0.640	0.640	0.849
STEEGformer-s (f)	± 0.202	± 0.096	± 0.151	± 0.151	± 0.087
	0.229	0.722	0.422	0.421	0.698
STEEGformer-s (l)	± 0.093	± 0.085	± 0.070	± 0.072	± 0.111
	0.527	0.846	0.645	0.645	0.847
STEEGformer-b (f)	± 0.151	± 0.079	± 0.114	± 0.114	± 0.070
	0.240	0.722	0.430	0.430	0.704
STEEGformer-b (l)	± 0.105	± 0.081	± 0.079	± 0.079	± 0.107
	0.621	0.888	0.716	0.716	0.889
STEEGformer-l (f)	± 0.156	± 0.077	± 0.117	± 0.117	± 0.084
	0.238	0.736	0.428	0.428	0.704
STEEGformer-l (l)	± 0.121	± 0.077	± 0.091	± 0.091	± 0.108

Table 6: Per-Subject ‘‘Self’’ Performance (trained+tested on same subject)

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.514	0.574	0.301	0.657	0.324	0.398	0.185	0.157	0.213	0.074	0.199	0.315	0.213	0.083	0.606	0.310	0.537	0.356	0.639	0.380
	AUC	0.867	0.890	0.725	0.923	0.771	0.822	0.651	0.616	0.663	0.597	0.651	0.744	0.678	0.595	0.884	0.834	0.872	0.827	0.909	0.840
	BAcc	0.635	0.681	0.476	0.743	0.493	0.549	0.389	0.368	0.410	0.306	0.399	0.486	0.410	0.312	0.705	0.483	0.653	0.517	0.729	0.535
	Acc.1	0.635	0.681	0.476	0.743	0.493	0.549	0.389	0.368	0.410	0.306	0.399	0.486	0.410	0.309	0.705	0.483	0.653	0.517	0.729	0.535
	Acc.2	0.882	0.872	0.736	0.944	0.833	0.858	0.618	0.635	0.694	0.608	0.653	0.750	0.674	0.611	0.931	0.924	0.924	0.899	0.965	0.910
A2	κ	0.273	0.264	0.213	0.278	0.032	0.065	0.111	0.060	0.130	0.079	0.069	0.051	-0.051	0.009	0.255	0.102	0.301	0.125	0.407	0.139
	AUC	0.696	0.722	0.675	0.743	0.519	0.541	0.591	0.558	0.629	0.553	0.537	0.538	0.488	0.488	0.705	0.612	0.713	0.622	0.796	0.655
	BAcc	0.455	0.448	0.410	0.458	0.274	0.299	0.333	0.295	0.347	0.309	0.302	0.288	0.212	0.257	0.441	0.326	0.476	0.344	0.556	0.354
	Acc.1	0.455	0.448	0.410	0.458	0.274	0.299	0.333	0.295	0.347	0.309	0.302	0.288	0.212	0.257	0.441	0.323	0.476	0.344	0.556	0.354
	Acc.2	0.663	0.729	0.649	0.729	0.500	0.549	0.569	0.552	0.618	0.590	0.538	0.531	0.490	0.493	0.733	0.628	0.722	0.625	0.764	0.667
A3	κ	0.639	0.514	0.421	0.843	0.255	0.356	0.282	0.120	0.454	0.060	0.167	0.167	0.167	0.157	0.847	0.255	0.718	0.259	0.861	0.273
	AUC	0.913	0.847	0.806	0.985	0.731	0.748	0.734	0.603	0.810	0.593	0.647	0.662	0.652	0.619	0.982	0.775	0.938	0.785	0.982	0.795
	BAcc	0.729	0.635	0.566	0.882	0.441	0.517	0.462	0.340	0.590	0.295	0.375	0.375	0.375	0.368	0.885	0.441	0.788	0.444	0.896	0.455
	Acc.1	0.729	0.635	0.566	0.882	0.441	0.517	0.462	0.340	0.590	0.295	0.375	0.375	0.375	0.368	0.885	0.438	0.788	0.444	0.896	0.455
	Acc.2	0.878	0.826	0.802	0.976	0.726	0.733	0.733	0.590	0.778	0.580	0.632	0.712	0.628	0.615	0.979	0.771	0.927	0.799	0.969	0.788
A4	κ	0.347	0.375	0.241	0.454	0.093	0.056	0.162	0.060	0.324	0.093	0.185	0.227	0.042	0.060	0.306	0.199	0.412	0.222	0.458	0.208
	AUC	0.757	0.812	0.689	0.841	0.582	0.575	0.650	0.569	0.727	0.578	0.636	0.694	0.541	0.570	0.758	0.716	0.802	0.702	0.807	0.708
	BAcc	0.510	0.531	0.431	0.590	0.319	0.292	0.372	0.295	0.493	0.319	0.389	0.420	0.281	0.295	0.479	0.399	0.559	0.417	0.594	0.406
	Acc.1	0.510	0.531	0.431	0.590	0.319	0.292	0.372	0.295	0.493	0.319	0.389	0.420	0.281	0.295	0.479	0.399	0.559	0.417	0.594	0.406
	Acc.2	0.743	0.802	0.688	0.840	0.615	0.583	0.646	0.556	0.698	0.569	0.628	0.660	0.583	0.587	0.792	0.670	0.806	0.670	0.819	0.688
A5	κ	0.583	0.565	0.583	0.639	0.083	0.014	0.264	0.060	0.435	0.134	0.125	0.051	0.083	0.065	0.449	0.111	0.574	0.120	0.625	0.144
	AUC	0.885	0.904	0.867	0.910	0.537	0.523	0.708	0.570	0.813	0.587	0.594	0.565	0.562	0.547	0.832	0.602	0.847	0.601	0.909	0.632
	BAcc	0.688	0.674	0.688	0.729	0.312	0.260	0.448	0.295	0.576	0.351	0.344	0.288	0.312	0.299	0.587	0.333	0.681	0.340	0.719	0.358
	Acc.1	0.688	0.674	0.688	0.729	0.312	0.260	0.448	0.295	0.576	0.351	0.344	0.288	0.312	0.299	0.587	0.330	0.681	0.340	0.719	0.358
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A6	Acc_2	0.882	0.882	0.837	0.899	0.517	0.521	0.670	0.580	0.802	0.615	0.587	0.566	0.583	0.535	0.812	0.549	0.819	0.576	0.889	0.583
	κ	0.171	0.301	0.241	0.356	0.065	0.120	0.134	0.019	0.241	0.116	0.097	0.130	0.074	-0.019	0.264	0.190	0.282	0.213	0.398	0.167
	AUC	0.693	0.748	0.698	0.799	0.543	0.568	0.629	0.507	0.702	0.601	0.602	0.609	0.548	0.515	0.703	0.630	0.718	0.649	0.753	0.651
	BAcc	0.378	0.476	0.431	0.517	0.299	0.340	0.351	0.264	0.431	0.337	0.323	0.347	0.306	0.236	0.448	0.392	0.462	0.410	0.549	0.375
	Acc_1	0.378	0.476	0.431	0.517	0.299	0.340	0.351	0.264	0.431	0.337	0.323	0.347	0.306	0.236	0.448	0.392	0.462	0.410	0.549	0.375
A7	Acc_2	0.705	0.733	0.681	0.833	0.531	0.549	0.625	0.531	0.701	0.628	0.611	0.628	0.562	0.528	0.712	0.632	0.757	0.660	0.750	0.618
	κ	0.551	0.505	0.472	0.565	0.236	0.199	0.306	0.088	0.366	0.171	0.190	0.157	0.227	0.069	0.708	0.208	0.579	0.120	0.708	0.120
	AUC	0.882	0.874	0.837	0.912	0.704	0.713	0.748	0.579	0.790	0.674	0.631	0.646	0.671	0.555	0.938	0.770	0.900	0.761	0.960	0.799
	BAcc	0.663	0.628	0.604	0.674	0.427	0.399	0.479	0.316	0.524	0.378	0.392	0.368	0.420	0.302	0.781	0.406	0.684	0.340	0.781	0.340
	Acc_1	0.663	0.628	0.604	0.674	0.427	0.399	0.479	0.316	0.524	0.378	0.392	0.368	0.420	0.302	0.781	0.406	0.684	0.340	0.781	0.340
A8	Acc_2	0.858	0.858	0.840	0.906	0.681	0.681	0.712	0.608	0.792	0.625	0.660	0.632	0.684	0.552	0.913	0.601	0.878	0.580	0.965	0.597
	κ	0.366	0.519	0.389	0.681	0.333	0.213	0.218	0.106	0.269	0.157	0.134	0.157	0.162	0.120	0.560	0.264	0.685	0.306	0.764	0.204
	AUC	0.844	0.880	0.783	0.936	0.761	0.704	0.651	0.593	0.714	0.637	0.613	0.635	0.623	0.599	0.879	0.732	0.919	0.721	0.943	0.711
	BAcc	0.524	0.639	0.542	0.760	0.500	0.410	0.413	0.330	0.451	0.368	0.351	0.368	0.372	0.340	0.670	0.448	0.764	0.479	0.823	0.403
	Acc_1	0.524	0.639	0.542	0.760	0.500	0.410	0.413	0.330	0.451	0.368	0.351	0.368	0.372	0.337	0.670	0.448	0.764	0.479	0.823	0.403
A9	Acc_2	0.750	0.889	0.767	0.934	0.774	0.663	0.642	0.608	0.722	0.632	0.604	0.635	0.628	0.594	0.861	0.701	0.913	0.698	0.948	0.649
	κ	0.597	0.472	0.366	0.639	0.468	0.403	0.236	0.120	0.370	0.120	0.231	0.296	0.389	0.208	0.685	0.421	0.653	0.435	0.727	0.505
	AUC	0.904	0.834	0.766	0.917	0.827	0.795	0.683	0.583	0.761	0.663	0.713	0.744	0.764	0.697	0.921	0.830	0.902	0.830	0.937	0.831
	BAcc	0.698	0.604	0.524	0.729	0.601	0.552	0.427	0.340	0.528	0.340	0.424	0.472	0.542	0.406	0.764	0.566	0.740	0.576	0.795	0.628
	Acc_1	0.698	0.604	0.524	0.729	0.601	0.552	0.427	0.340	0.524	0.340	0.424	0.472	0.542	0.406	0.764	0.569	0.740	0.576	0.795	0.628
A9	Acc_2	0.882	0.833	0.778	0.892	0.844	0.795	0.684	0.594	0.757	0.632	0.705	0.740	0.774	0.670	0.906	0.809	0.875	0.826	0.931	0.833

B.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 7: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.129	0.632	0.347	0.347	0.616
DeepConvnet	± 0.038	± 0.023	± 0.029	± 0.029	± 0.026
	0.146	0.635	0.359	0.359	0.625
EEGNet	± 0.025	± 0.017	± 0.018	± 0.018	± 0.014
	0.128	0.611	0.346	0.346	0.607
Conformer	± 0.032	± 0.021	± 0.024	± 0.024	± 0.015
	0.175	0.675	0.381	0.381	0.648
CTNet	± 0.031	± 0.022	± 0.024	± 0.024	± 0.025
	0.031	0.534	0.273	0.273	0.531
BIOT (f)	± 0.026	± 0.026	± 0.019	± 0.019	± 0.021
	0.034	0.539	0.276	0.276	0.531
BIOT (l)	± 0.027	± 0.025	± 0.020	± 0.020	± 0.021
	0.067	0.561	0.301	0.301	0.562
BENDR (f)	± 0.014	± 0.009	± 0.011	± 0.011	± 0.008
	0.025	0.522	0.269	0.269	0.522
BENDR (l)	± 0.012	± 0.006	± 0.009	± 0.009	± 0.009
	0.099	0.587	0.325	0.325	0.582
CBraMod (f)	± 0.023	± 0.016	± 0.017	± 0.017	± 0.015
	0.040	0.546	0.280	0.280	0.541
CBraMod (l)	± 0.020	± 0.010	± 0.015	± 0.015	± 0.015
	0.036	0.533	0.277	0.277	0.531
EEGPT (f)	± 0.019	± 0.016	± 0.014	± 0.014	± 0.016
	0.043	0.541	0.283	0.283	0.535
EEGPT (l)	± 0.019	± 0.021	± 0.014	± 0.014	± 0.019
	0.038	0.538	0.278	0.278	0.531
LaBraM (f)	± 0.016	± 0.018	± 0.012	± 0.012	± 0.010
	0.018	0.531	0.263	0.263	0.518
LaBraM (l)	± 0.015	± 0.013	± 0.011	± 0.011	± 0.011
	0.108	0.613	0.331	0.331	0.581
STEEGformer-s (f)	± 0.057	± 0.055	± 0.043	± 0.043	± 0.034
	0.032	0.602	0.274	0.274	0.539
STEEGformer-s (l)	± 0.023	± 0.023	± 0.017	± 0.017	± 0.012
	0.127	0.625	0.345	0.345	0.593
STEEGformer-b (f)	± 0.051	± 0.039	± 0.038	± 0.038	± 0.036
	0.029	0.596	0.272	0.272	0.538
STEEGformer-b (l)	± 0.019	± 0.020	± 0.014	± 0.014	± 0.014
	0.151	0.645	0.364	0.364	0.612
STEEGformer-l (f)	± 0.046	± 0.045	± 0.035	± 0.035	± 0.031
	0.028	0.600	0.271	0.271	0.533
STEEGformer-l (l)	± 0.015	± 0.022	± 0.011	± 0.011	± 0.017

Table 8: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.150 ± 0.071	0.144 ± 0.085	0.103 ± 0.034	0.173 ± 0.135	0.030 ± 0.048	0.047 ± 0.047	0.046 ± 0.025	0.009 ± 0.044	0.072 ± 0.035	0.082 ± 0.023	0.061 ± 0.058	0.063 ± 0.075	0.036 ± 0.035	0.017 ± 0.041	0.098 ± 0.110	0.022 ± 0.030	0.080 ± 0.092	0.031 ± 0.040	0.101 ± 0.148	0.014 ± 0.035
	AUC	0.651 ± 0.061	0.647 ± 0.051	0.598 ± 0.030	0.690 ± 0.088	0.539 ± 0.046	0.554 ± 0.058	0.550 ± 0.018	0.516 ± 0.014	0.566 ± 0.029	0.567 ± 0.028	0.542 ± 0.043	0.563 ± 0.046	0.551 ± 0.040	0.552 ± 0.056	0.621 ± 0.083	0.624 ± 0.070	0.608 ± 0.050	0.613 ± 0.078	0.623 ± 0.103	0.623 ± 0.076
	BAcc	0.362 ± 0.054	0.358 ± 0.064	0.327 ± 0.026	0.380 ± 0.101	0.272 ± 0.036	0.285 ± 0.035	0.284 ± 0.019	0.257 ± 0.033	0.304 ± 0.026	0.311 ± 0.017	0.296 ± 0.044	0.297 ± 0.056	0.277 ± 0.026	0.263 ± 0.031	0.323 ± 0.082	0.266 ± 0.023	0.310 ± 0.069	0.273 ± 0.030	0.326 ± 0.111	0.260 ± 0.026
	Acc.1	0.362 ± 0.054	0.358 ± 0.064	0.327 ± 0.026	0.380 ± 0.101	0.272 ± 0.036	0.285 ± 0.035	0.284 ± 0.019	0.257 ± 0.033	0.304 ± 0.026	0.311 ± 0.017	0.296 ± 0.044	0.297 ± 0.056	0.277 ± 0.026	0.263 ± 0.031	0.323 ± 0.082	0.266 ± 0.023	0.309 ± 0.068	0.273 ± 0.030	0.326 ± 0.111	0.261 ± 0.026
	Acc.2	0.631 ± 0.085	0.616 ± 0.047	0.595 ± 0.023	0.635 ± 0.089	0.545 ± 0.047	0.547 ± 0.052	0.558 ± 0.018	0.528 ± 0.018	0.565 ± 0.035	0.571 ± 0.028	0.532 ± 0.044	0.552 ± 0.049	0.536 ± 0.033	0.535 ± 0.043	0.571 ± 0.096	0.539 ± 0.048	0.554 ± 0.062	0.536 ± 0.044	0.586 ± 0.110	0.527 ± 0.038
A2	κ	0.112 ± 0.044	0.109 ± 0.058	0.116 ± 0.044	0.135 ± 0.048	0.014 ± 0.030	0.036 ± 0.043	0.057 ± 0.027	0.021 ± 0.030	0.090 ± 0.040	0.014 ± 0.032	0.022 ± 0.042	0.025 ± 0.018	0.037 ± 0.027	0.008 ± 0.030	-0.020 ± 0.032	0.010 ± 0.017	0.045 ± 0.049	0.014 ± 0.051	0.072 ± 0.079	0.023 ± 0.067
	AUC	0.604 ± 0.027	0.619 ± 0.032	0.601 ± 0.025	0.639 ± 0.026	0.519 ± 0.027	0.536 ± 0.032	0.560 ± 0.019	0.527 ± 0.024	0.575 ± 0.021	0.533 ± 0.026	0.515 ± 0.019	0.514 ± 0.016	0.529 ± 0.013	0.518 ± 0.015	0.494 ± 0.018	0.572 ± 0.044	0.558 ± 0.051	0.570 ± 0.049	0.571 ± 0.048	0.559 ± 0.057
	BAcc	0.334 ± 0.033	0.332 ± 0.044	0.337 ± 0.033	0.351 ± 0.036	0.260 ± 0.022	0.277 ± 0.032	0.293 ± 0.020	0.266 ± 0.022	0.318 ± 0.030	0.261 ± 0.024	0.266 ± 0.031	0.269 ± 0.014	0.278 ± 0.020	0.256 ± 0.022	0.235 ± 0.024	0.257 ± 0.013	0.284 ± 0.037	0.260 ± 0.038	0.304 ± 0.059	0.267 ± 0.050
	Acc.1	0.334 ± 0.033	0.332 ± 0.044	0.337 ± 0.033	0.351 ± 0.036	0.260 ± 0.022	0.277 ± 0.032	0.293 ± 0.020	0.266 ± 0.022	0.318 ± 0.030	0.261 ± 0.024	0.266 ± 0.031	0.269 ± 0.014	0.278 ± 0.020	0.257 ± 0.022	0.235 ± 0.024	0.257 ± 0.013	0.284 ± 0.037	0.261 ± 0.037	0.304 ± 0.059	0.267 ± 0.050
	Acc.2	0.599 ± 0.033	0.610 ± 0.026	0.609 ± 0.027	0.609 ± 0.034	0.522 ± 0.030	0.543 ± 0.038	0.555 ± 0.021	0.526 ± 0.035	0.567 ± 0.027	0.525 ± 0.027	0.520 ± 0.024	0.505 ± 0.021	0.534 ± 0.012	0.516 ± 0.019	0.506 ± 0.029	0.540 ± 0.050	0.532 ± 0.051	0.534 ± 0.039	0.559 ± 0.046	0.533 ± 0.039
A3	κ	0.092 ± 0.074	0.127 ± 0.061	0.123 ± 0.047	0.178 ± 0.081	0.070 ± 0.058	0.054 ± 0.040	0.090 ± 0.031	0.041 ± 0.013	0.128 ± 0.050	0.050 ± 0.062	0.062 ± 0.050	0.053 ± 0.047	0.049 ± 0.041	0.000 ± 0.011	0.132 ± 0.140	0.068 ± 0.076	0.119 ± 0.158	0.038 ± 0.084	0.203 ± 0.197	0.027 ± 0.062
	AUC	0.625 ± 0.027	0.615 ± 0.047	0.608 ± 0.029	0.704 ± 0.058	0.565 ± 0.044	0.554 ± 0.052	0.576 ± 0.025	0.523 ± 0.014	0.605 ± 0.033	0.552 ± 0.045	0.557 ± 0.042	0.558 ± 0.036	0.554 ± 0.039	0.529 ± 0.031	0.684 ± 0.105	0.644 ± 0.107	0.643 ± 0.110	0.634 ± 0.106	0.685 ± 0.130	0.634 ± 0.115
	BAcc	0.319 ± 0.056	0.345 ± 0.046	0.342 ± 0.035	0.384 ± 0.061	0.303 ± 0.044	0.291 ± 0.030	0.318 ± 0.023	0.281 ± 0.010	0.346 ± 0.038	0.287 ± 0.046	0.297 ± 0.038	0.289 ± 0.035	0.287 ± 0.031	0.250 ± 0.008	0.349 ± 0.105	0.301 ± 0.057	0.339 ± 0.118	0.279 ± 0.063	0.402 ± 0.147	0.270 ± 0.047
	Acc.1	0.319 ± 0.056	0.345 ± 0.046	0.342 ± 0.035	0.384 ± 0.061	0.303 ± 0.044	0.291 ± 0.030	0.318 ± 0.024	0.281 ± 0.010	0.346 ± 0.038	0.287 ± 0.046	0.297 ± 0.038	0.289 ± 0.035	0.287 ± 0.031	0.250 ± 0.008	0.349 ± 0.105	0.301 ± 0.057	0.339 ± 0.118	0.279 ± 0.063	0.402 ± 0.147	0.270 ± 0.047
	Acc.2	0.617 ± 0.021	0.603 ± 0.053	0.607 ± 0.030	0.684 ± 0.068	0.556 ± 0.034	0.559 ± 0.063	0.576 ± 0.030	0.526 ± 0.022	0.591 ± 0.039	0.534 ± 0.043	0.549 ± 0.033	0.542 ± 0.035	0.537 ± 0.037	0.515 ± 0.019	0.620 ± 0.111	0.563 ± 0.105	0.602 ± 0.121	0.560 ± 0.094	0.640 ± 0.126	0.539 ± 0.097

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A8	AUC	0.658 ±0.066	0.642 ±0.073	0.640 ±0.055	0.690 ± 0.073	0.568 ±0.050	0.568 ±0.061	0.576 ±0.049	0.517 ±0.025	0.607 ±0.054	0.549 ±0.031	0.523 ±0.020	0.536 ±0.014	0.550 ±0.024	0.534 ±0.023	0.660 ±0.110	0.624 ±0.083	0.683 ±0.115	0.619 ±0.086	0.697 ± 0.107	0.625 ±0.088
	BAcc	0.396 ±0.067	0.366 ±0.069	0.372 ±0.047	0.419 ± 0.082	0.302 ±0.043	0.283 ±0.052	0.314 ±0.040	0.264 ±0.032	0.347 ±0.062	0.274 ±0.035	0.273 ±0.025	0.286 ±0.010	0.296 ±0.026	0.269 ±0.026	0.379 ±0.116	0.298 ±0.073	0.400 ± 0.120	0.294 ±0.065	0.376 ±0.094	0.291 ±0.059
	Acc.1	0.396 ±0.067	0.366 ±0.069	0.372 ±0.047	0.419 ± 0.082	0.302 ±0.043	0.283 ±0.052	0.315 ±0.040	0.264 ±0.032	0.347 ±0.062	0.275 ±0.035	0.273 ±0.025	0.286 ±0.010	0.296 ±0.026	0.269 ±0.026	0.379 ±0.116	0.298 ±0.073	0.400 ± 0.120	0.294 ±0.065	0.376 ±0.094	0.291 ±0.059
	Acc.2	0.661 ± 0.065	0.642 ±0.091	0.624 ±0.071	0.645 ± 0.062	0.552 ±0.049	0.558 ±0.076	0.574 ±0.058	0.505 ±0.037	0.599 ±0.059	0.545 ±0.023	0.513 ±0.020	0.533 ±0.015	0.542 ±0.026	0.531 ±0.016	0.608 ±0.092	0.543 ±0.066	0.629 ±0.126	0.546 ±0.061	0.636 ±0.068	0.547 ±0.070
	κ	0.142 ±0.125	0.177 ±0.085	0.153 ±0.033	0.183 ± 0.099	0.036 ±0.042	0.075 ±0.078	0.079 ±0.026	0.028 ±0.032	0.095 ±0.036	0.047 ±0.035	0.054 ±0.045	0.065 ±0.030	0.045 ±0.030	0.021 ±0.032	0.130 ±0.120	0.026 ±0.026	0.134 ±0.128	0.020 ±0.048	0.186 ± 0.143	0.024 ±0.028
	AUC	0.663 ±0.070	0.659 ±0.067	0.626 ±0.035	0.681 ± 0.068	0.557 ±0.050	0.573 ±0.060	0.555 ±0.018	0.524 ±0.022	0.588 ±0.027	0.545 ±0.036	0.547 ±0.048	0.562 ±0.035	0.552 ±0.025	0.550 ±0.044	0.622 ±0.094	0.603 ±0.079	0.625 ±0.090	0.585 ±0.068	0.698 ± 0.096	0.595 ±0.069
	BAcc	0.357 ±0.094	0.382 ±0.063	0.365 ±0.024	0.387 ± 0.075	0.277 ±0.031	0.306 ±0.058	0.309 ±0.020	0.271 ±0.024	0.321 ±0.027	0.286 ±0.026	0.290 ±0.034	0.299 ±0.023	0.283 ±0.022	0.266 ±0.024	0.348 ±0.090	0.270 ±0.020	0.351 ±0.096	0.265 ±0.036	0.389 ± 0.107	0.268 ±0.021
	Acc.1	0.357 ±0.094	0.382 ±0.063	0.365 ±0.024	0.387 ± 0.075	0.277 ±0.031	0.306 ±0.058	0.309 ±0.020	0.271 ±0.024	0.321 ±0.027	0.286 ±0.026	0.290 ±0.034	0.299 ±0.023	0.283 ±0.022	0.266 ±0.024	0.347 ±0.089	0.270 ±0.020	0.351 ±0.096	0.265 ±0.036	0.389 ± 0.107	0.268 ±0.021
	Acc.2	0.605 ±0.090	0.638 ±0.057	0.609 ±0.038	0.669 ± 0.075	0.539 ±0.051	0.537 ±0.043	0.563 ±0.029	0.525 ±0.026	0.578 ±0.022	0.549 ±0.034	0.547 ±0.040	0.549 ±0.031	0.539 ±0.014	0.518 ±0.023	0.608 ±0.067	0.537 ±0.058	0.587 ±0.097	0.513 ±0.035	0.645 ± 0.107	0.511 ±0.030
	A9	κ	0.068 ±0.049	0.163 ±0.069	0.148 ±0.073	0.153 ±0.080	0.038 ±0.049	0.038 ±0.066	0.059 ±0.044	0.036 ±0.037	0.113 ±0.043	0.010 ±0.023	0.035 ±0.037	0.061 ±0.040	0.055 ±0.060	-0.011 ±0.021	0.156 ±0.150	0.005 ±0.015	0.171 ± 0.119	0.012 ±0.031	0.203 ± 0.145
AUC		0.623 ±0.052	0.645 ±0.044	0.612 ±0.054	0.681 ± 0.062	0.543 ±0.051	0.529 ±0.048	0.561 ±0.025	0.529 ±0.018	0.602 ±0.024	0.538 ±0.022	0.547 ±0.028	0.568 ±0.034	0.557 ±0.046	0.531 ±0.038	0.642 ±0.112	0.585 ±0.058	0.665 ±0.085	0.582 ±0.057	0.675 ± 0.111	0.582 ±0.054
BAcc		0.301 ±0.037	0.372 ±0.052	0.361 ±0.055	0.365 ±0.060	0.279 ±0.037	0.278 ±0.049	0.294 ±0.033	0.277 ±0.028	0.335 ±0.032	0.257 ±0.017	0.276 ±0.028	0.296 ±0.030	0.291 ±0.045	0.242 ±0.016	0.367 ±0.112	0.253 ±0.011	0.378 ± 0.089	0.259 ±0.023	0.402 ± 0.108	0.260 ±0.026
Acc.1		0.301 ±0.037	0.372 ±0.052	0.361 ±0.055	0.365 ±0.060	0.279 ±0.037	0.278 ±0.049	0.294 ±0.032	0.277 ±0.028	0.335 ±0.032	0.257 ±0.017	0.276 ±0.028	0.296 ±0.030	0.291 ±0.045	0.242 ±0.017	0.367 ±0.112	0.253 ±0.011	0.378 ± 0.089	0.259 ±0.023	0.402 ± 0.108	0.260 ±0.026
Acc.2		0.572 ±0.041	0.632 ± 0.043	0.605 ±0.058	0.638 ± 0.066	0.544 ±0.047	0.516 ±0.039	0.566 ±0.034	0.532 ±0.019	0.608 ±0.032	0.520 ±0.025	0.558 ±0.034	0.568 ±0.035	0.541 ±0.033	0.506 ±0.008	0.599 ±0.108	0.514 ±0.036	0.625 ±0.099	0.523 ±0.027	0.618 ±0.128	0.500 ±0.003

B.3 LEAVE-ONE-OUT RESULTS

B.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 9: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.418	0.838	0.563	0.563	0.804
DeepConvnet	± 0.108	± 0.069	± 0.081	± 0.081	± 0.068
	0.454	0.858	0.591	0.591	0.824
EEGNet	± 0.129	± 0.063	± 0.097	± 0.097	± 0.069
	0.308	0.738	0.481	0.481	0.731
Conformer	± 0.092	± 0.062	± 0.069	± 0.069	± 0.043
	0.489	0.876	0.617	0.617	0.829
CTNet	± 0.150	± 0.068	± 0.112	± 0.112	± 0.089
	0.084	0.578	0.313	0.313	0.576
BIOT (f)	± 0.094	± 0.064	± 0.071	± 0.071	± 0.064
	0.086	0.597	0.315	0.315	0.565
BIOT (l)	± 0.071	± 0.071	± 0.053	± 0.053	± 0.065
	0.217	0.676	0.412	0.412	0.657
BENDR (f)	± 0.063	± 0.046	± 0.047	± 0.048	± 0.044
	0.065	0.555	0.299	0.299	0.555
BENDR (l)	± 0.026	± 0.024	± 0.020	± 0.021	± 0.034
	0.359	0.775	0.519	0.519	0.750
CBraMod (f)	± 0.097	± 0.062	± 0.073	± 0.073	± 0.058
	0.114	0.623	0.335	0.335	0.607
CBraMod (l)	± 0.039	± 0.050	± 0.029	± 0.030	± 0.039
	0.129	0.618	0.347	0.347	0.614
EEGPT (f)	± 0.049	± 0.035	± 0.037	± 0.037	± 0.033
	0.330	0.774	0.498	0.498	0.745
EEGPT (l)	± 0.137	± 0.064	± 0.103	± 0.103	± 0.094
	0.081	0.573	0.311	0.311	0.576
LaBraM (f)	± 0.056	± 0.040	± 0.042	± 0.042	± 0.050
	0.040	0.557	0.280	0.279	0.535
LaBraM (l)	± 0.044	± 0.050	± 0.033	± 0.031	± 0.042
	0.349	0.746	0.512	0.512	0.735
STEEGformer-s (f)	± 0.166	± 0.083	± 0.125	± 0.125	± 0.094
	0.031	0.642	0.273	0.273	0.545
STEEGformer-s (l)	± 0.074	± 0.087	± 0.055	± 0.055	± 0.063
	0.377	0.780	0.533	0.533	0.754
STEEGformer-b (f)	± 0.151	± 0.085	± 0.114	± 0.114	± 0.089
	0.043	0.660	0.282	0.282	0.561
STEEGformer-b (l)	± 0.089	± 0.095	± 0.066	± 0.066	± 0.086
	0.434	0.800	0.575	0.575	0.788
STEEGformer-l (f)	± 0.197	± 0.103	± 0.148	± 0.148	± 0.119
	0.074	0.672	0.306	0.305	0.577
STEEGformer-l (l)	± 0.104	± 0.105	± 0.078	± 0.078	± 0.103

Table 10: Per-Subject Leave-One-Out Zero-Shot Performance.

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.384	0.486	0.157	0.565	0.194	0.148	0.185	0.097	0.292	0.097	0.069	0.509	0.171	0.005	0.556	0.231	0.606	0.282	0.681	0.310
	AUC	0.833	0.858	0.653	0.898	0.660	0.648	0.657	0.588	0.747	0.631	0.586	0.843	0.643	0.568	0.841	0.764	0.875	0.785	0.914	0.833
	BAcc	0.538	0.615	0.368	0.674	0.396	0.361	0.389	0.323	0.469	0.323	0.302	0.632	0.378	0.253	0.667	0.424	0.705	0.462	0.760	0.483
	Acc.1	0.538	0.615	0.368	0.674	0.396	0.361	0.389	0.323	0.469	0.323	0.302	0.632	0.378	0.253	0.667	0.424	0.705	0.462	0.760	0.483
	Acc.2	0.833	0.851	0.656	0.889	0.642	0.632	0.628	0.594	0.712	0.608	0.615	0.854	0.646	0.545	0.851	0.715	0.872	0.788	0.941	0.844
A2	κ	0.292	0.324	0.213	0.315	0.019	0.074	0.162	0.046	0.245	0.102	0.051	0.157	0.019	-0.009	0.204	0.023	0.218	0.000	0.194	-0.028
	AUC	0.712	0.771	0.684	0.761	0.530	0.543	0.628	0.545	0.702	0.566	0.545	0.679	0.513	0.488	0.638	0.536	0.646	0.532	0.648	0.505
	BAcc	0.469	0.493	0.410	0.486	0.264	0.306	0.372	0.285	0.434	0.326	0.288	0.368	0.264	0.243	0.403	0.267	0.413	0.250	0.396	0.229
	Acc.1	0.469	0.493	0.410	0.486	0.264	0.306	0.372	0.285	0.434	0.326	0.288	0.368	0.264	0.243	0.403	0.267	0.413	0.250	0.396	0.229
	Acc.2	0.681	0.733	0.701	0.688	0.517	0.552	0.608	0.573	0.701	0.580	0.542	0.691	0.503	0.497	0.628	0.531	0.653	0.514	0.688	0.490
A3	κ	0.569	0.657	0.431	0.708	0.176	0.208	0.296	0.051	0.380	0.162	0.171	0.523	0.106	0.130	0.639	0.000	0.519	0.014	0.681	0.005
	AUC	0.946	0.960	0.806	0.977	0.636	0.664	0.721	0.570	0.827	0.626	0.647	0.876	0.591	0.592	0.881	0.723	0.901	0.729	0.899	0.734
	BAcc	0.677	0.743	0.573	0.781	0.382	0.406	0.472	0.288	0.535	0.372	0.378	0.642	0.330	0.347	0.729	0.250	0.639	0.260	0.760	0.253
	Acc.1	0.677	0.743	0.573	0.781	0.382	0.406	0.472	0.288	0.535	0.372	0.378	0.642	0.330	0.344	0.729	0.250	0.639	0.260	0.760	0.253
	Acc.2	0.899	0.924	0.767	0.924	0.656	0.660	0.653	0.545	0.743	0.656	0.649	0.878	0.608	0.583	0.878	0.566	0.851	0.587	0.920	0.594
A4	κ	0.347	0.398	0.273	0.370	0.069	0.028	0.227	0.097	0.241	0.051	0.134	0.208	0.093	0.088	0.144	0.000	0.167	0.083	0.208	0.116
	AUC	0.790	0.827	0.714	0.835	0.552	0.542	0.692	0.573	0.688	0.572	0.654	0.734	0.570	0.594	0.653	0.568	0.704	0.629	0.674	0.665
	BAcc	0.510	0.549	0.455	0.528	0.302	0.271	0.420	0.323	0.431	0.288	0.351	0.406	0.319	0.316	0.358	0.250	0.375	0.312	0.406	0.337
	Acc.1	0.510	0.549	0.455	0.528	0.302	0.271	0.420	0.326	0.431	0.288	0.351	0.406	0.319	0.312	0.358	0.250	0.375	0.312	0.403	0.337
	Acc.2	0.795	0.792	0.715	0.788	0.559	0.514	0.691	0.608	0.660	0.562	0.608	0.653	0.562	0.625	0.646	0.507	0.688	0.545	0.688	0.590
A5	κ	0.333	0.417	0.398	0.380	0.014	0.009	0.292	0.028	0.495	0.125	0.083	0.181	0.046	0.019	0.236	0.000	0.245	0.000	0.269	0.028
	AUC	0.873	0.886	0.816	0.890	0.511	0.522	0.740	0.508	0.873	0.674	0.592	0.717	0.553	0.499	0.709	0.563	0.716	0.558	0.776	0.598
	BAcc	0.500	0.563	0.549	0.535	0.260	0.257	0.469	0.271	0.622	0.344	0.312	0.385	0.285	0.264	0.427	0.250	0.434	0.250	0.451	0.271
	Acc.1	0.500	0.562	0.549	0.535	0.260	0.257	0.469	0.271	0.622	0.344	0.312	0.385	0.285	0.264	0.427	0.250	0.434	0.250	0.451	0.271

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	
A6	Acc_2	0.705	0.795	0.733	0.715	0.500	0.479	0.729	0.500	0.788	0.597	0.583	0.580	0.576	0.486	0.625	0.500	0.649	0.500	0.660	0.500	1050
	κ	0.296	0.278	0.287	0.310	-0.032	0.014	0.181	0.042	0.347	0.074	0.144	0.282	0.102	-0.014	0.218	-0.037	0.273	-0.014	0.222	-0.046	1051
	AUC	0.771	0.774	0.696	0.791	0.513	0.538	0.637	0.542	0.760	0.574	0.611	0.743	0.596	0.504	0.682	0.533	0.719	0.527	0.676	0.518	1052
	BAcc	0.472	0.458	0.465	0.483	0.226	0.260	0.385	0.281	0.510	0.306	0.358	0.462	0.326	0.240	0.413	0.222	0.455	0.240	0.417	0.215	1053
	Acc_1	0.472	0.458	0.465	0.483	0.226	0.260	0.382	0.278	0.510	0.306	0.358	0.462	0.326	0.243	0.413	0.222	0.455	0.240	0.417	0.215	1054
	Acc_2	0.781	0.736	0.726	0.757	0.517	0.500	0.632	0.524	0.774	0.576	0.611	0.715	0.587	0.507	0.667	0.542	0.681	0.545	0.611	0.524	1055
A7	κ	0.565	0.634	0.426	0.644	-0.019	0.042	0.306	0.097	0.542	0.167	0.148	0.282	0.088	0.042	0.315	0.037	0.380	0.014	0.509	0.144	1056
	AUC	0.887	0.920	0.825	0.937	0.506	0.530	0.732	0.568	0.861	0.711	0.642	0.776	0.565	0.572	0.754	0.662	0.788	0.718	0.850	0.730	1057
	BAcc	0.674	0.726	0.569	0.733	0.236	0.281	0.479	0.323	0.656	0.375	0.361	0.462	0.316	0.281	0.486	0.278	0.535	0.260	0.632	0.358	1058
	Acc_1	0.674	0.726	0.569	0.733	0.236	0.281	0.479	0.323	0.656	0.375	0.361	0.462	0.316	0.281	0.486	0.278	0.535	0.260	0.632	0.358	1059
	Acc_2	0.840	0.917	0.809	0.938	0.521	0.510	0.726	0.556	0.875	0.684	0.635	0.733	0.611	0.528	0.774	0.524	0.760	0.573	0.847	0.552	1060
	κ	0.546	0.551	0.343	0.671	0.245	0.185	0.181	0.083	0.352	0.088	0.148	0.500	-0.023	0.051	0.514	0.023	0.560	0.000	0.616	0.111	1061
A8	AUC	0.907	0.913	0.768	0.939	0.667	0.710	0.674	0.572	0.764	0.586	0.633	0.849	0.514	0.548	0.835	0.686	0.876	0.714	0.912	0.703	1062
	BAcc	0.660	0.663	0.507	0.753	0.434	0.389	0.385	0.312	0.514	0.316	0.361	0.625	0.233	0.288	0.635	0.267	0.670	0.250	0.712	0.333	1063
	Acc_1	0.660	0.663	0.507	0.753	0.434	0.389	0.385	0.312	0.514	0.312	0.361	0.625	0.233	0.288	0.635	0.267	0.670	0.250	0.712	0.330	1064
	Acc_2	0.861	0.889	0.771	0.910	0.674	0.646	0.635	0.580	0.757	0.569	0.622	0.847	0.483	0.528	0.826	0.514	0.882	0.500	0.892	0.500	1065
	κ	0.426	0.343	0.241	0.440	0.088	0.069	0.120	0.046	0.333	0.157	0.213	0.329	0.130	0.046	0.319	0.000	0.426	0.009	0.523	0.028	1066
	AUC	0.825	0.815	0.683	0.855	0.626	0.674	0.603	0.527	0.750	0.671	0.650	0.748	0.608	0.652	0.718	0.740	0.797	0.752	0.851	0.764	1067
A9	BAcc	0.569	0.507	0.431	0.580	0.316	0.302	0.340	0.285	0.500	0.368	0.410	0.497	0.347	0.285	0.490	0.250	0.569	0.257	0.642	0.271	1068
	Acc_1	0.569	0.507	0.431	0.580	0.316	0.302	0.340	0.285	0.500	0.368	0.410	0.497	0.347	0.285	0.490	0.250	0.569	0.257	0.642	0.271	1069
	Acc_2	0.837	0.785	0.698	0.858	0.601	0.590	0.611	0.517	0.743	0.628	0.660	0.757	0.608	0.514	0.719	0.507	0.753	0.500	0.847	0.601	1070
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B.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 11: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.665	0.920	0.748	0.748	0.913
DeepConvnet	± 0.118	± 0.049	± 0.089	± 0.089	± 0.054
	0.681	0.929	0.760	0.760	0.920
EEGNet	± 0.113	± 0.043	± 0.085	± 0.085	± 0.049
	0.501	0.846	0.626	0.626	0.839
Conformer	± 0.091	± 0.052	± 0.068	± 0.068	± 0.042
	0.725	0.947	0.794	0.794	0.938
CTNet	± 0.136	± 0.040	± 0.102	± 0.102	± 0.041
	0.254	0.689	0.440	0.440	0.699
BIOT (f)	± 0.165	± 0.098	± 0.124	± 0.124	± 0.104
	0.306	0.736	0.480	0.480	0.735
BIOT (l)	± 0.149	± 0.100	± 0.111	± 0.111	± 0.098
	0.347	0.769	0.510	0.510	0.752
BENDR (f)	± 0.119	± 0.064	± 0.089	± 0.089	± 0.063
	0.101	0.589	0.326	0.326	0.595
BENDR (l)	± 0.032	± 0.020	± 0.024	± 0.024	± 0.026
	0.528	0.871	0.646	0.646	0.868
CBraMod (f)	± 0.105	± 0.052	± 0.079	± 0.079	± 0.049
	0.131	0.634	0.348	0.348	0.623
CBraMod (l)	± 0.047	± 0.048	± 0.035	± 0.035	± 0.042
	0.245	0.698	0.434	0.434	0.706
EEGPT (f)	± 0.095	± 0.054	± 0.071	± 0.071	± 0.053
	0.428	0.815	0.571	0.571	0.816
EEGPT (l)	± 0.121	± 0.067	± 0.091	± 0.091	± 0.069
	0.164	0.617	0.373	0.373	0.625
LaBraM (f)	± 0.075	± 0.061	± 0.056	± 0.056	± 0.075
	0.085	0.581	0.314	0.313	0.583
LaBraM (l)	± 0.071	± 0.061	± 0.053	± 0.053	± 0.063
	0.634	0.896	0.725	0.725	0.897
STEEGformer-s (f)	± 0.130	± 0.060	± 0.098	± 0.098	± 0.057
	0.186	0.713	0.390	0.390	0.651
STEEGformer-s (l)	± 0.117	± 0.092	± 0.088	± 0.088	± 0.115
	0.707	0.929	0.780	0.780	0.928
STEEGformer-b (f)	± 0.119	± 0.049	± 0.089	± 0.089	± 0.051
	0.218	0.714	0.414	0.413	0.681
STEEGformer-b (l)	± 0.102	± 0.089	± 0.077	± 0.077	± 0.111
	0.744	0.937	0.808	0.808	0.931
STEEGformer-l (f)	± 0.143	± 0.057	± 0.108	± 0.108	± 0.064
	0.161	0.713	0.371	0.371	0.677
STEEGformer-l (l)	± 0.117	± 0.099	± 0.088	± 0.088	± 0.127

Table 12: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.745	0.773	0.431	0.792	0.426	0.491	0.204	0.167	0.486	0.088	0.245	0.579	0.245	0.102	0.736	0.347	0.778	0.315	0.806	0.343
	AUC	0.955	0.968	0.813	0.972	0.795	0.871	0.711	0.632	0.854	0.627	0.709	0.896	0.706	0.611	0.937	0.844	0.966	0.827	0.971	0.850
	BAcc	0.809	0.830	0.573	0.844	0.569	0.618	0.403	0.375	0.615	0.316	0.434	0.684	0.434	0.326	0.802	0.510	0.833	0.486	0.854	0.507
	Acc.1	0.809	0.830	0.573	0.844	0.569	0.618	0.403	0.375	0.615	0.316	0.434	0.684	0.434	0.326	0.802	0.510	0.833	0.486	0.854	0.510
	Acc.2	0.972	0.972	0.819	0.979	0.840	0.913	0.708	0.646	0.826	0.628	0.712	0.920	0.736	0.632	0.944	0.885	0.979	0.868	0.983	0.931
A2	κ	0.440	0.472	0.366	0.468	0.000	0.097	0.204	0.093	0.366	0.120	0.102	0.255	0.106	-0.009	0.394	0.065	0.468	0.111	0.463	0.046
	AUC	0.816	0.851	0.790	0.865	0.545	0.602	0.697	0.596	0.779	0.577	0.614	0.696	0.547	0.490	0.780	0.576	0.822	0.581	0.814	0.552
	BAcc	0.580	0.604	0.524	0.601	0.250	0.323	0.403	0.319	0.524	0.340	0.326	0.441	0.330	0.243	0.545	0.299	0.601	0.333	0.597	0.285
	Acc.1	0.580	0.604	0.524	0.601	0.250	0.323	0.403	0.319	0.524	0.340	0.326	0.441	0.330	0.243	0.545	0.302	0.601	0.330	0.597	0.285
	Acc.2	0.806	0.833	0.774	0.847	0.573	0.580	0.681	0.576	0.781	0.583	0.622	0.715	0.524	0.503	0.774	0.549	0.819	0.545	0.799	0.514
A3	κ	0.884	0.856	0.644	0.935	0.481	0.407	0.426	0.065	0.648	0.111	0.329	0.579	0.204	0.106	0.843	0.153	0.889	0.231	0.944	0.111
	AUC	0.988	0.986	0.925	0.996	0.810	0.807	0.811	0.580	0.936	0.620	0.757	0.897	0.656	0.616	0.981	0.758	0.987	0.782	0.997	0.763
	BAcc	0.913	0.892	0.733	0.951	0.611	0.556	0.569	0.299	0.736	0.333	0.497	0.684	0.403	0.330	0.882	0.365	0.917	0.424	0.958	0.333
	Acc.1	0.913	0.892	0.733	0.951	0.611	0.556	0.569	0.299	0.736	0.333	0.497	0.684	0.403	0.330	0.882	0.365	0.917	0.424	0.958	0.333
	Acc.2	0.990	0.972	0.896	0.986	0.799	0.792	0.795	0.608	0.931	0.632	0.771	0.903	0.649	0.608	0.972	0.646	0.983	0.715	1.000	0.632
A4	κ	0.644	0.685	0.514	0.759	0.199	0.218	0.431	0.083	0.495	0.088	0.347	0.435	0.153	0.106	0.514	0.074	0.676	0.190	0.593	0.171
	AUC	0.912	0.928	0.844	0.957	0.667	0.665	0.813	0.596	0.853	0.586	0.754	0.817	0.601	0.590	0.846	0.675	0.932	0.682	0.899	0.707
	BAcc	0.733	0.764	0.635	0.819	0.399	0.413	0.573	0.312	0.622	0.316	0.510	0.576	0.365	0.330	0.635	0.306	0.757	0.392	0.694	0.378
	Acc.1	0.733	0.764	0.635	0.819	0.399	0.413	0.573	0.312	0.622	0.316	0.510	0.576	0.365	0.326	0.635	0.302	0.757	0.392	0.694	0.382
	Acc.2	0.903	0.917	0.819	0.955	0.660	0.705	0.809	0.628	0.854	0.545	0.764	0.823	0.628	0.590	0.872	0.566	0.941	0.684	0.899	0.715
A5	κ	0.648	0.667	0.611	0.620	0.037	0.144	0.560	0.065	0.676	0.181	0.162	0.245	0.120	0.046	0.630	0.074	0.694	0.093	0.815	0.088
	AUC	0.932	0.936	0.920	0.930	0.570	0.608	0.882	0.585	0.943	0.656	0.652	0.738	0.585	0.531	0.908	0.612	0.930	0.621	0.959	0.636
	BAcc	0.736	0.750	0.708	0.715	0.278	0.358	0.670	0.299	0.757	0.385	0.372	0.434	0.340	0.285	0.722	0.306	0.771	0.319	0.861	0.316
	Acc.1	0.736	0.750	0.708	0.715	0.278	0.358	0.670	0.299	0.757	0.385	0.372	0.434	0.340	0.285	0.722	0.306	0.771	0.319	0.861	0.316

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A6	Acc_2	0.938	0.934	0.913	0.931	0.580	0.625	0.826	0.594	0.934	0.656	0.674	0.736	0.622	0.517	0.889	0.556	0.924	0.594	0.958	0.552
	κ	0.542	0.528	0.398	0.574	0.144	0.134	0.208	0.102	0.426	0.111	0.134	0.310	0.093	-0.023	0.509	0.097	0.574	0.120	0.620	0.037
	AUC	0.862	0.864	0.779	0.899	0.591	0.637	0.685	0.556	0.832	0.588	0.634	0.751	0.569	0.518	0.833	0.617	0.869	0.610	0.876	0.578
	BAcc	0.656	0.646	0.549	0.681	0.358	0.351	0.406	0.326	0.569	0.333	0.351	0.483	0.319	0.233	0.632	0.323	0.681	0.340	0.715	0.278
	Acc_1	0.656	0.646	0.549	0.681	0.358	0.351	0.406	0.330	0.569	0.333	0.351	0.483	0.319	0.233	0.632	0.323	0.681	0.340	0.715	0.278
A7	Acc_2	0.854	0.840	0.799	0.896	0.580	0.656	0.639	0.562	0.844	0.597	0.677	0.743	0.569	0.517	0.844	0.594	0.861	0.597	0.851	0.566
	κ	0.685	0.764	0.574	0.829	0.231	0.370	0.435	0.130	0.671	0.241	0.250	0.477	0.250	0.088	0.685	0.213	0.815	0.199	0.852	0.097
	AUC	0.943	0.957	0.891	0.989	0.683	0.816	0.825	0.576	0.929	0.733	0.702	0.846	0.672	0.577	0.934	0.765	0.973	0.754	0.984	0.782
	BAcc	0.764	0.823	0.681	0.872	0.424	0.528	0.576	0.347	0.753	0.431	0.438	0.608	0.438	0.316	0.764	0.410	0.861	0.399	0.889	0.323
	Acc_1	0.764	0.823	0.681	0.872	0.424	0.528	0.576	0.347	0.753	0.431	0.438	0.608	0.438	0.316	0.764	0.410	0.861	0.399	0.889	0.323
A8	Acc_2	0.920	0.955	0.854	0.948	0.660	0.767	0.816	0.580	0.920	0.684	0.715	0.812	0.722	0.559	0.924	0.556	0.965	0.562	0.965	0.722
	κ	0.727	0.718	0.514	0.801	0.421	0.486	0.329	0.130	0.509	0.111	0.236	0.468	0.042	0.116	0.713	0.264	0.745	0.278	0.796	0.171
	AUC	0.951	0.951	0.853	0.965	0.797	0.831	0.766	0.601	0.876	0.630	0.685	0.837	0.531	0.588	0.926	0.740	0.941	0.744	0.967	0.728
	BAcc	0.795	0.788	0.635	0.851	0.566	0.615	0.497	0.347	0.632	0.333	0.427	0.601	0.281	0.337	0.785	0.448	0.809	0.458	0.847	0.378
	Acc_1	0.795	0.788	0.635	0.851	0.566	0.615	0.497	0.347	0.632	0.333	0.427	0.601	0.281	0.337	0.785	0.448	0.809	0.455	0.847	0.375
A9	Acc_2	0.938	0.941	0.847	0.962	0.816	0.809	0.767	0.583	0.868	0.611	0.646	0.851	0.510	0.611	0.934	0.708	0.944	0.719	0.951	0.649
	κ	0.667	0.662	0.458	0.745	0.343	0.407	0.324	0.079	0.472	0.125	0.398	0.505	0.264	0.231	0.681	0.389	0.722	0.426	0.810	0.384
	AUC	0.919	0.916	0.802	0.948	0.747	0.785	0.733	0.583	0.841	0.688	0.776	0.852	0.686	0.709	0.923	0.833	0.939	0.831	0.965	0.824
	BAcc	0.750	0.747	0.594	0.809	0.507	0.556	0.493	0.309	0.604	0.344	0.549	0.628	0.448	0.424	0.760	0.542	0.792	0.569	0.858	0.538
	Acc_1	0.750	0.747	0.594	0.809	0.507	0.556	0.493	0.309	0.604	0.344	0.549	0.628	0.448	0.424	0.760	0.542	0.792	0.569	0.858	0.538
	Acc_2	0.896	0.917	0.830	0.934	0.781	0.767	0.722	0.576	0.851	0.670	0.778	0.844	0.667	0.712	0.920	0.799	0.938	0.844	0.972	0.816

B.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 13: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.256	0.098	0.192	0.192	0.125
DeepConvnet	± 0.048	± 0.020	± 0.036	± 0.036	± 0.024
	0.245	0.086	0.183	0.183	0.120
EEGNet	± 0.034	± 0.011	± 0.025	± 0.025	± 0.026
	0.097	0.047	0.073	0.073	0.054
Conformer	± 0.021	± 0.013	± 0.016	± 0.016	± 0.010
	0.323	0.113	0.242	0.242	0.146
CTNet	± 0.071	± 0.019	± 0.054	± 0.054	± 0.023
	0.089	0.050	0.067	0.067	0.064
BIOT (f)	± 0.050	± 0.022	± 0.037	± 0.037	± 0.037
	0.129	0.068	0.097	0.097	0.096
BIOT (l)	± 0.063	± 0.034	± 0.047	± 0.047	± 0.042
	0.068	0.047	0.051	0.051	0.050
BENDR (f)	± 0.029	± 0.014	± 0.022	± 0.022	± 0.012
	0.007	0.005	0.005	0.005	0.004
BENDR (l)	± 0.013	± 0.007	± 0.009	± 0.009	± 0.009
	0.103	0.054	0.077	0.077	0.055
CBraMod (f)	± 0.029	± 0.011	± 0.022	± 0.022	± 0.011
	0.043	0.043	0.032	0.033	0.047
CBraMod (l)	± 0.029	± 0.013	± 0.022	± 0.022	± 0.020
	0.031	0.018	0.023	0.023	0.024
EEGPT (f)	± 0.029	± 0.017	± 0.022	± 0.022	± 0.015
	0.267	0.146	0.200	0.200	0.161
EEGPT (l)	± 0.048	± 0.038	± 0.036	± 0.036	± 0.033
	0.012	0.003	0.009	0.009	0.018
LaBraM (f)	± 0.016	± 0.008	± 0.012	± 0.012	± 0.015
	0.017	0.021	0.013	0.013	0.029
LaBraM (l)	± 0.019	± 0.013	± 0.015	± 0.014	± 0.014
	0.176	0.063	0.132	0.132	0.102
STEEGformer-s (f)	± 0.050	± 0.009	± 0.037	± 0.038	± 0.021
	0.094	0.021	0.070	0.070	0.079
STEEGformer-s (l)	± 0.042	± 0.016	± 0.032	± 0.032	± 0.037
	0.145	0.048	0.108	0.108	0.070
STEEGformer-b (f)	± 0.034	± 0.012	± 0.025	± 0.025	± 0.017
	0.118	0.019	0.088	0.088	0.084
STEEGformer-b (l)	± 0.053	± 0.015	± 0.039	± 0.039	± 0.048
	0.146	0.044	0.109	0.109	0.070
STEEGformer-l (f)	± 0.035	± 0.017	± 0.026	± 0.026	± 0.018
	0.115	0.020	0.086	0.086	0.092
STEEGformer-l (l)	± 0.051	± 0.015	± 0.038	± 0.038	± 0.049

Table 14: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
A1	κ	0.252	0.193	0.120	0.278	0.061	0.061	0.086	0.003	0.102	0.032	0.006	0.233	0.021	0.016	0.094	0.115	0.134	0.130	0.136	0.101
		± 0.082	± 0.085	± 0.063	± 0.077	± 0.046	± 0.077	± 0.049	± 0.031	± 0.042	± 0.036	± 0.023	± 0.076	± 0.048	± 0.031	± 0.090	± 0.119	± 0.118	± 0.131	± 0.110	± 0.149
	AUC	0.085	0.066	0.057	0.105	0.037	0.011	0.050	-0.006	0.056	0.027	-0.001	0.103	-0.002	-0.002	0.047	0.022	0.036	0.032	0.021	0.021
		± 0.027	± 0.026	± 0.036	± 0.036	± 0.038	± 0.044	± 0.024	± 0.015	± 0.025	± 0.015	± 0.016	± 0.027	± 0.024	± 0.020	± 0.048	± 0.027	± 0.025	± 0.026	± 0.020	± 0.029
	BAcc	0.189	0.145	0.090	0.208	0.046	0.046	0.064	0.003	0.077	0.024	0.004	0.174	0.016	0.012	0.070	0.086	0.101	0.098	0.102	0.076
		± 0.062	± 0.063	± 0.047	± 0.058	± 0.034	± 0.058	± 0.037	± 0.023	± 0.032	± 0.027	± 0.017	± 0.057	± 0.036	± 0.023	± 0.068	± 0.089	± 0.089	± 0.099	± 0.082	± 0.112
A2	κ	0.189	0.145	0.090	0.208	0.046	0.046	0.064	0.002	0.076	0.024	0.004	0.174	0.016	0.013	0.070	0.086	0.101	0.097	0.102	0.075
		± 0.062	± 0.063	± 0.047	± 0.058	± 0.034	± 0.058	± 0.038	± 0.023	± 0.031	± 0.027	± 0.017	± 0.057	± 0.036	± 0.022	± 0.068	± 0.089	± 0.089	± 0.098	± 0.082	± 0.113
	Acc.1	0.125	0.117	0.078	0.136	0.045	0.027	0.050	-0.001	0.053	0.043	0.010	0.126	0.018	0.005	0.078	0.082	0.076	0.086	0.071	0.079
		± 0.087	± 0.098	± 0.039	± 0.058	± 0.037	± 0.068	± 0.022	± 0.032	± 0.027	± 0.026	± 0.025	± 0.048	± 0.025	± 0.026	± 0.067	± 0.118	± 0.059	± 0.117	± 0.060	± 0.116
	Acc.2	0.325	0.247	0.123	0.409	0.072	0.207	0.086	0.020	0.127	0.067	0.086	0.367	0.004	0.020	0.168	0.122	0.186	0.097	0.159	0.171
		± 0.054	± 0.064	± 0.065	± 0.113	± 0.083	± 0.126	± 0.063	± 0.028	± 0.051	± 0.045	± 0.065	± 0.107	± 0.038	± 0.036	± 0.067	± 0.097	± 0.092	± 0.061	± 0.076	± 0.117
A3	κ	0.147	0.082	0.070	0.154	0.047	0.088	0.061	-0.000	0.065	0.059	0.045	0.206	0.009	0.040	0.067	0.020	0.053	0.010	0.048	0.020
		± 0.024	± 0.017	± 0.027	± 0.022	± 0.046	± 0.069	± 0.030	± 0.011	± 0.027	± 0.034	± 0.019	± 0.048	± 0.020	± 0.026	± 0.027	± 0.024	± 0.034	± 0.016	± 0.022	± 0.017
	BAcc	0.243	0.185	0.092	0.307	0.054	0.155	0.064	0.015	0.095	0.050	0.065	0.275	0.003	0.015	0.126	0.091	0.139	0.072	0.119	0.128
		± 0.041	± 0.048	± 0.049	± 0.085	± 0.062	± 0.094	± 0.048	± 0.021	± 0.039	± 0.034	± 0.049	± 0.080	± 0.028	± 0.027	± 0.050	± 0.073	± 0.069	± 0.046	± 0.057	± 0.088
	Acc.1	0.243	0.185	0.092	0.307	0.054	0.155	0.064	0.014	0.095	0.051	0.065	0.275	0.003	0.016	0.126	0.091	0.139	0.073	0.119	0.129
		± 0.041	± 0.048	± 0.049	± 0.085	± 0.062	± 0.094	± 0.048	± 0.021	± 0.039	± 0.034	± 0.049	± 0.080	± 0.028	± 0.027	± 0.050	± 0.073	± 0.069	± 0.046	± 0.057	± 0.088
A3	κ	0.140	0.073	0.050	0.144	0.063	0.120	0.051	-0.011	0.064	0.063	0.046	0.204	0.035	0.026	0.103	0.129	0.090	0.097	0.083	0.161
		± 0.045	± 0.024	± 0.025	± 0.034	± 0.058	± 0.081	± 0.043	± 0.021	± 0.036	± 0.038	± 0.030	± 0.059	± 0.026	± 0.029	± 0.040	± 0.088	± 0.040	± 0.057	± 0.050	± 0.114
	BAcc	0.204	0.228	0.113	0.274	0.018	0.060	0.076	0.022	0.119	0.050	0.006	0.201	0.019	0.039	0.166	0.041	0.144	0.076	0.166	0.082
		± 0.080	± 0.100	± 0.050	± 0.109	± 0.046	± 0.054	± 0.057	± 0.036	± 0.081	± 0.075	± 0.063	± 0.074	± 0.037	± 0.050	± 0.109	± 0.098	± 0.087	± 0.112	± 0.093	± 0.140
	Acc.1	0.079	0.078	0.057	0.101	0.015	0.046	0.063	0.013	0.054	0.035	-0.004	0.100	0.003	0.023	0.058	-0.002	0.050	0.010	0.033	0.010
		± 0.031	± 0.034	± 0.021	± 0.042	± 0.048	± 0.038	± 0.029	± 0.018	± 0.037	± 0.024	± 0.028	± 0.034	± 0.013	± 0.030	± 0.037	± 0.022	± 0.037	± 0.011	± 0.030	± 0.025
A3	BAcc	0.153	0.171	0.085	0.206	0.013	0.045	0.057	0.016	0.089	0.038	0.004	0.151	0.014	0.030	0.124	0.030	0.108	0.057	0.124	0.062
		± 0.060	± 0.075	± 0.037	± 0.082	± 0.034	± 0.041	± 0.043	± 0.027	± 0.061	± 0.057	± 0.047	± 0.055	± 0.028	± 0.037	± 0.082	± 0.074	± 0.065	± 0.084	± 0.070	± 0.105
	Acc.1	0.153	0.171	0.085	0.206	0.013	0.045	0.058	0.016	0.089	0.038	0.004	0.151	0.014	0.030	0.124	0.029	0.108	0.058	0.124	0.062
		± 0.060	± 0.075	± 0.037	± 0.082	± 0.034	± 0.041	± 0.042	± 0.027	± 0.061	± 0.057	± 0.047	± 0.055	± 0.028	± 0.036	± 0.082	± 0.074	± 0.065	± 0.084	± 0.070	± 0.105
	Acc.2	0.103	0.115	0.054	0.139	0.003	0.067	0.058	0.007	0.064	0.019	0.016	0.119	0.003	0.039	0.093	0.041	0.061	0.045	0.079	0.081
		± 0.050	± 0.055	± 0.023	± 0.074	± 0.036	± 0.051	± 0.038	± 0.020	± 0.051	± 0.039	± 0.043	± 0.028	± 0.027	± 0.053	± 0.060	± 0.069	± 0.041	± 0.106	± 0.068	± 0.081

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
A4	κ	0.227 ± 0.073	0.192 ± 0.069	0.097 ± 0.060	0.255 ± 0.067	0.080 ± 0.056	0.103 ± 0.087	0.054 ± 0.041	0.010 ± 0.040	0.076 ± 0.055	0.069 ± 0.038	-0.001 ± 0.036	0.271 ± 0.108	-0.013 ± 0.049	0.008 ± 0.029	0.230 ± 0.099	0.074 ± 0.085	0.117 ± 0.070	0.076 ± 0.057	0.104 ± 0.037	0.047 ± 0.055
	AUC	0.108 ± 0.039	0.084 ± 0.024	0.051 ± 0.024	0.103 ± 0.037	0.054 ± 0.031	0.046 ± 0.036	0.043 ± 0.026	0.009 ± 0.017	0.049 ± 0.018	0.053 ± 0.024	0.015 ± 0.017	0.161 ± 0.061	-0.008 ± 0.017	0.017 ± 0.016	0.063 ± 0.018	0.015 ± 0.013	0.039 ± 0.013	0.015 ± 0.009	0.020 ± 0.019	0.010 ± 0.008
	BAcc	0.170 ± 0.055	0.144 ± 0.052	0.073 ± 0.045	0.191 ± 0.050	0.060 ± 0.042	0.077 ± 0.065	0.041 ± 0.031	0.008 ± 0.030	0.057 ± 0.041	0.052 ± 0.028	-0.001 ± 0.027	0.203 ± 0.081	-0.010 ± 0.037	0.006 ± 0.022	0.172 ± 0.074	0.056 ± 0.064	0.088 ± 0.053	0.057 ± 0.043	0.078 ± 0.028	0.035 ± 0.041
	Acc_1	0.170 ± 0.055	0.144 ± 0.052	0.073 ± 0.045	0.191 ± 0.050	0.060 ± 0.042	0.077 ± 0.065	0.041 ± 0.031	0.007 ± 0.031	0.057 ± 0.041	0.052 ± 0.028	-0.001 ± 0.027	0.203 ± 0.081	-0.010 ± 0.037	0.006 ± 0.021	0.172 ± 0.074	0.056 ± 0.064	0.088 ± 0.053	0.059 ± 0.042	0.078 ± 0.028	0.036 ± 0.041
	Acc_2	0.102 ± 0.043	0.100 ± 0.037	0.057 ± 0.043	0.109 ± 0.026	0.058 ± 0.032	0.084 ± 0.071	0.084 ± 0.025	0.056 ± 0.034	0.016 ± 0.032	0.043 ± 0.026	0.012 ± 0.043	0.167 ± 0.053	-0.004 ± 0.039	0.020 ± 0.030	0.119 ± 0.043	0.058 ± 0.058	0.060 ± 0.036	0.089 ± 0.070	0.048 ± 0.024	0.031 ± 0.032
A5	κ	0.352 ± 0.124	0.297 ± 0.128	0.094 ± 0.068	0.482 ± 0.169	0.207 ± 0.151	0.229 ± 0.162	0.016 ± 0.050	0.024 ± 0.032	0.073 ± 0.055	0.036 ± 0.048	0.064 ± 0.043	0.323 ± 0.070	-0.001 ± 0.045	0.000 ± 0.031	0.271 ± 0.103	0.180 ± 0.100	0.197 ± 0.051	0.231 ± 0.103	0.223 ± 0.076	0.207 ± 0.138
	AUC	0.107 ± 0.039	0.084 ± 0.028	0.035 ± 0.024	0.136 ± 0.035	0.098 ± 0.067	0.132 ± 0.090	0.027 ± 0.041	0.019 ± 0.024	0.050 ± 0.023	0.057 ± 0.039	0.039 ± 0.023	0.209 ± 0.037	0.006 ± 0.016	0.038 ± 0.019	0.078 ± 0.032	0.044 ± 0.023	0.067 ± 0.033	0.035 ± 0.022	0.069 ± 0.026	0.045 ± 0.021
	BAcc	0.264 ± 0.093	0.223 ± 0.096	0.070 ± 0.051	0.362 ± 0.127	0.155 ± 0.113	0.171 ± 0.121	0.012 ± 0.037	0.018 ± 0.024	0.055 ± 0.041	0.027 ± 0.036	0.048 ± 0.032	0.243 ± 0.052	-0.001 ± 0.034	0.000 ± 0.024	0.204 ± 0.078	0.135 ± 0.075	0.148 ± 0.039	0.173 ± 0.077	0.167 ± 0.057	0.155 ± 0.103
	Acc_1	0.264 ± 0.093	0.223 ± 0.096	0.070 ± 0.051	0.362 ± 0.127	0.155 ± 0.113	0.171 ± 0.121	0.012 ± 0.037	0.018 ± 0.024	0.055 ± 0.041	0.027 ± 0.036	0.048 ± 0.032	0.243 ± 0.052	-0.001 ± 0.034	0.000 ± 0.024	0.204 ± 0.078	0.135 ± 0.075	0.148 ± 0.039	0.173 ± 0.077	0.167 ± 0.057	0.155 ± 0.104
	Acc_2	0.176 ± 0.084	0.139 ± 0.068	0.051 ± 0.041	0.173 ± 0.057	0.148 ± 0.108	0.181 ± 0.123	0.031 ± 0.054	0.006 ± 0.024	0.045 ± 0.018	0.047 ± 0.053	0.046 ± 0.024	0.223 ± 0.040	0.025 ± 0.053	0.043 ± 0.031	0.152 ± 0.051	0.154 ± 0.096	0.095 ± 0.042	0.191 ± 0.093	0.095 ± 0.046	0.186 ± 0.089
A6	κ	0.204 ± 0.080	0.259 ± 0.112	0.114 ± 0.060	0.326 ± 0.141	0.125 ± 0.047	0.145 ± 0.123	0.117 ± 0.042	0.006 ± 0.028	0.148 ± 0.056	-0.020 ± 0.044	0.044 ± 0.068	0.269 ± 0.117	0.008 ± 0.036	-0.010 ± 0.058	0.162 ± 0.078	0.052 ± 0.081	0.126 ± 0.068	0.039 ± 0.086	0.152 ± 0.106	0.050 ± 0.164
	AUC	0.089 ± 0.033	0.095 ± 0.047	0.049 ± 0.032	0.118 ± 0.053	0.070 ± 0.022	0.077 ± 0.083	0.069 ± 0.032	0.005 ± 0.011	0.073 ± 0.020	0.027 ± 0.038	0.034 ± 0.026	0.161 ± 0.047	0.011 ± 0.023	0.027 ± 0.039	0.054 ± 0.037	-0.007 ± 0.023	0.038 ± 0.024	-0.013 ± 0.016	0.052 ± 0.033	-0.009 ± 0.015
	BAcc	0.153 ± 0.060	0.194 ± 0.084	0.086 ± 0.045	0.245 ± 0.105	0.094 ± 0.035	0.109 ± 0.092	0.088 ± 0.032	0.004 ± 0.021	0.111 ± 0.042	-0.015 ± 0.033	0.033 ± 0.051	0.201 ± 0.088	0.006 ± 0.027	-0.008 ± 0.043	0.122 ± 0.058	0.039 ± 0.061	0.095 ± 0.051	0.029 ± 0.064	0.114 ± 0.080	0.038 ± 0.123
	Acc_1	0.153 ± 0.060	0.194 ± 0.084	0.086 ± 0.045	0.245 ± 0.105	0.094 ± 0.035	0.109 ± 0.092	0.088 ± 0.032	0.004 ± 0.021	0.111 ± 0.042	-0.014 ± 0.033	0.033 ± 0.051	0.201 ± 0.088	0.006 ± 0.027	-0.007 ± 0.043	0.122 ± 0.058	0.039 ± 0.061	0.095 ± 0.051	0.029 ± 0.064	0.114 ± 0.080	0.039 ± 0.122
	Acc_2	0.092 ± 0.056	0.114 ± 0.062	0.059 ± 0.060	0.138 ± 0.057	0.091 ± 0.043	0.105 ± 0.080	0.071 ± 0.042	0.010 ± 0.028	0.075 ± 0.027	0.013 ± 0.043	0.039 ± 0.031	0.164 ± 0.049	0.026 ± 0.037	0.016 ± 0.029	0.086 ± 0.047	0.046 ± 0.047	0.055 ± 0.021	0.008 ± 0.055	0.079 ± 0.054	0.037 ± 0.086
A7	κ	0.241 ± 0.129	0.282 ± 0.151	0.057 ± 0.070	0.319 ± 0.122	0.091 ± 0.075	0.165 ± 0.135	0.034 ± 0.058	-0.010 ± 0.037	0.054 ± 0.075	0.042 ± 0.083	0.005 ± 0.032	0.254 ± 0.087	0.010 ± 0.035	0.013 ± 0.050	0.171 ± 0.087	0.106 ± 0.114	0.185 ± 0.090	0.144 ± 0.097	0.152 ± 0.082	0.141 ± 0.132

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (j)	STEEGformer-s (l)	STEEGformer-b (j)	STEEGformer-b (l)	STEEGformer-l (j)	STEEGformer-l (l)
A8	AUC	0.081	0.078	0.027	0.093	0.047	0.057	0.028	0.005	0.030	0.035	0.006	0.118	-0.012	0.018	0.069	0.033	0.066	0.034	0.067	0.040
		± 0.036	± 0.041	± 0.041	± 0.042	± 0.034	± 0.051	± 0.044	± 0.017	± 0.032	± 0.031	± 0.013	± 0.039	± 0.013	± 0.030	± 0.046	± 0.022	± 0.050	± 0.008	± 0.045	± 0.021
	BAcc	0.181	0.211	0.043	0.239	0.069	0.124	0.025	-0.008	0.041	0.032	0.003	0.191	0.007	0.010	0.128	0.079	0.138	0.108	0.114	0.106
		± 0.097	± 0.113	± 0.052	± 0.091	± 0.056	± 0.101	± 0.044	± 0.027	± 0.056	± 0.062	± 0.024	± 0.065	± 0.026	± 0.038	± 0.065	± 0.085	± 0.067	± 0.073	± 0.062	± 0.099
	Acc.1	0.181	0.211	0.043	0.239	0.069	0.124	0.025	-0.008	0.041	0.032	0.003	0.191	0.007	0.009	0.128	0.079	0.138	0.108	0.114	0.106
		± 0.097	± 0.113	± 0.052	± 0.091	± 0.056	± 0.101	± 0.044	± 0.027	± 0.056	± 0.062	± 0.024	± 0.065	± 0.026	± 0.037	± 0.065	± 0.085	± 0.067	± 0.073	± 0.062	± 0.099
	Acc.2	0.137	0.173	0.043	0.192	0.063	0.074	0.032	-0.005	0.042	0.034	0.011	0.129	0.001	0.024	0.103	0.077	0.082	0.088	0.070	0.064
		± 0.058	± 0.105	± 0.041	± 0.094	± 0.053	± 0.099	± 0.065	± 0.028	± 0.034	± 0.048	± 0.024	± 0.074	± 0.023	± 0.022	± 0.046	± 0.067	± 0.035	± 0.067	± 0.053	± 0.077
	κ	0.240	0.259	0.072	0.262	0.093	0.044	0.061	-0.001	0.134	0.024	0.041	0.225	0.010	0.011	0.123	0.047	0.100	0.116	0.119	0.099
		± 0.103	± 0.096	± 0.084	± 0.116	± 0.060	± 0.052	± 0.035	± 0.032	± 0.065	± 0.044	± 0.037	± 0.082	± 0.035	± 0.043	± 0.055	± 0.063	± 0.047	± 0.142	± 0.062	± 0.107
A9	AUC	0.091	0.106	0.037	0.105	0.040	0.056	0.039	0.001	0.057	0.057	0.010	0.125	0.008	0.010	0.057	0.024	0.048	0.025	0.044	0.020
		± 0.041	± 0.042	± 0.035	± 0.045	± 0.035	± 0.057	± 0.037	± 0.018	± 0.023	± 0.027	± 0.025	± 0.043	± 0.026	± 0.030	± 0.037	± 0.021	± 0.027	± 0.014	± 0.028	± 0.022
	BAcc	0.180	0.194	0.054	0.197	0.070	0.033	0.046	-0.001	0.101	0.018	0.031	0.169	0.008	0.008	0.092	0.035	0.075	0.087	0.089	0.074
		± 0.077	± 0.072	± 0.063	± 0.087	± 0.045	± 0.039	± 0.026	± 0.024	± 0.049	± 0.033	± 0.028	± 0.061	± 0.026	± 0.033	± 0.041	± 0.047	± 0.036	± 0.107	± 0.046	± 0.081
	Acc.1	0.180	0.194	0.054	0.197	0.070	0.033	0.045	-0.000	0.101	0.019	0.031	0.169	0.008	0.008	0.092	0.036	0.075	0.087	0.089	0.074
		± 0.077	± 0.072	± 0.063	± 0.087	± 0.045	± 0.039	± 0.025	± 0.023	± 0.049	± 0.034	± 0.028	± 0.061	± 0.026	± 0.033	± 0.041	± 0.047	± 0.036	± 0.107	± 0.046	± 0.081
	Acc.2	0.120	0.134	0.046	0.131	0.055	0.078	0.044	-0.000	0.063	0.075	0.022	0.148	0.018	0.040	0.098	0.042	0.072	0.045	0.073	0.086
		± 0.065	± 0.041	± 0.042	± 0.055	± 0.060	± 0.080	± 0.038	± 0.036	± 0.033	± 0.030	± 0.041	± 0.076	± 0.038	± 0.045	± 0.043	± 0.083	± 0.043	± 0.068	± 0.050	± 0.094
	κ	0.264	0.246	0.086	0.304	0.055	0.147	0.084	-0.012	0.095	0.087	0.026	0.260	0.046	0.058	0.197	0.108	0.112	0.151	0.101	0.134
		± 0.114	± 0.071	± 0.052	± 0.082	± 0.063	± 0.112	± 0.059	± 0.039	± 0.059	± 0.035	± 0.054	± 0.070	± 0.044	± 0.048	± 0.092	± 0.073	± 0.060	± 0.078	± 0.064	± 0.114
A9	AUC	0.096	0.097	0.041	0.102	0.044	0.103	0.045	0.003	0.051	0.035	0.016	0.135	0.010	0.015	0.070	0.036	0.034	0.026	0.040	0.026
		± 0.023	± 0.026	± 0.030	± 0.026	± 0.029	± 0.072	± 0.033	± 0.021	± 0.018	± 0.013	± 0.027	± 0.028	± 0.035	± 0.020	± 0.048	± 0.025	± 0.023	± 0.013	± 0.015	± 0.033
	BAcc	0.198	0.184	0.064	0.228	0.041	0.110	0.063	-0.009	0.071	0.066	0.020	0.195	0.035	0.043	0.148	0.081	0.084	0.113	0.076	0.100
		± 0.085	± 0.053	± 0.039	± 0.061	± 0.047	± 0.084	± 0.044	± 0.029	± 0.044	± 0.026	± 0.040	± 0.053	± 0.033	± 0.036	± 0.069	± 0.055	± 0.045	± 0.059	± 0.048	± 0.085
	Acc.1	0.198	0.184	0.064	0.228	0.041	0.110	0.063	-0.009	0.071	0.066	0.020	0.195	0.035	0.043	0.148	0.080	0.084	0.113	0.076	0.101
		± 0.085	± 0.053	± 0.039	± 0.061	± 0.047	± 0.084	± 0.044	± 0.029	± 0.044	± 0.026	± 0.040	± 0.053	± 0.033	± 0.036	± 0.069	± 0.054	± 0.045	± 0.059	± 0.048	± 0.085
	Acc.2	0.127	0.116	0.049	0.155	0.048	0.130	0.056	0.017	0.048	0.062	0.014	0.166	0.042	0.049	0.085	0.086	0.036	0.112	0.033	0.099
		± 0.047	± 0.042	± 0.035	± 0.028	± 0.021	± 0.085	± 0.026	± 0.026	± 0.029	± 0.032	± 0.041	± 0.043	± 0.043	± 0.051	± 0.050	± 0.073	± 0.024	± 0.084	± 0.028	± 0.112

C 7-MOVEMENT UPPER LIMB MOTOR EXECUTION CLASSIFICATION

C.1 POPULATION-LEVEL RESULTS

Table 15: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.289	0.780	0.391	0.391	0.598
DeepConvnet	± 0.135	± 0.064	± 0.115	± 0.115	± 0.103
	0.278	0.770	0.381	0.381	0.596
EEGNet	± 0.127	± 0.067	± 0.109	± 0.109	± 0.096
	0.286	0.758	0.388	0.388	0.594
Conformer	± 0.158	± 0.076	± 0.136	± 0.136	± 0.113
	0.293	0.785	0.394	0.394	0.611
CTNet	± 0.126	± 0.062	± 0.108	± 0.108	± 0.092
	0.110	0.592	0.237	0.237	0.398
BIOT (f)	± 0.084	± 0.061	± 0.072	± 0.072	± 0.073
	0.010	0.539	0.151	0.151	0.296
BIOT (l)	± 0.019	± 0.034	± 0.017	± 0.017	± 0.025
	0.200	0.683	0.314	0.314	0.497
BENDR (f)	± 0.079	± 0.056	± 0.068	± 0.068	± 0.074
	0.043	0.556	0.179	0.179	0.342
BENDR (l)	± 0.025	± 0.026	± 0.022	± 0.022	± 0.032
	0.145	0.625	0.267	0.267	0.440
CBraMod (f)	± 0.137	± 0.099	± 0.118	± 0.118	± 0.140
	-0.006	0.482	0.137	0.137	0.276
CBraMod (l)	± 0.010	± 0.022	± 0.008	± 0.009	± 0.014
	0.106	0.605	0.233	0.233	0.403
EEGPT (f)	± 0.096	± 0.065	± 0.082	± 0.082	± 0.078
	0.175	0.677	0.293	0.293	0.486
EEGPT (l)	± 0.088	± 0.061	± 0.076	± 0.076	± 0.085
	0.037	0.559	0.175	0.174	0.340
LaBraM (f)	± 0.015	± 0.020	± 0.013	± 0.016	± 0.022
	-0.002	0.496	0.141	0.142	0.284
LaBraM (l)	± 0.016	± 0.021	± 0.013	± 0.013	± 0.024
	0.414	0.793	0.497	0.497	0.693
STEEGformer-s (f)	± 0.192	± 0.082	± 0.165	± 0.165	± 0.119
	0.082	0.603	0.213	0.213	0.374
STEEGformer-s (l)	± 0.077	± 0.066	± 0.066	± 0.066	± 0.070
	0.426	0.802	0.508	0.508	0.698
STEEGformer-b (f)	± 0.193	± 0.083	± 0.165	± 0.165	± 0.122
	0.094	0.613	0.224	0.224	0.395
STEEGformer-b (l)	± 0.080	± 0.080	± 0.069	± 0.069	± 0.089
	0.453	0.810	0.531	0.534	0.734
STEEGformer-l (f)	± 0.184	± 0.075	± 0.157	± 0.158	± 0.104
	0.105	0.620	0.233	0.232	0.398
STEEGformer-l (l)	± 0.082	± 0.076	± 0.070	± 0.070	± 0.091

Table 16: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.217 ± 0.050	0.267 ± 0.046	0.228 ± 0.087	0.206 ± 0.018	0.078 ± 0.025	0.000 ± 0.000	0.153 ± 0.089	0.044 ± 0.030	0.061 ± 0.045	-0.006 ± 0.032	0.042 ± 0.064	0.164 ± 0.057	0.017 ± 0.023	-0.022 ± 0.015	0.344 \pm 0.043	0.072 ± 0.030	0.314 ± 0.054	0.053 ± 0.006	0.372 ± 0.067	0.056 ± 0.020
	AUC	0.725 ± 0.021	0.754 ± 0.013	0.732 ± 0.039	0.744 ± 0.018	0.575 ± 0.023	0.589 ± 0.037	0.641 ± 0.035	0.538 ± 0.019	0.570 ± 0.022	0.504 ± 0.032	0.567 ± 0.037	0.662 ± 0.029	0.550 ± 0.065	0.512 ± 0.023	0.754 \pm 0.022	0.584 ± 0.035	0.746 ± 0.021	0.552 ± 0.039	0.770 ± 0.020	0.580 ± 0.026
	BAcc	0.329 ± 0.043	0.371 ± 0.040	0.338 ± 0.075	0.319 ± 0.016	0.210 ± 0.022	0.143 ± 0.000	0.274 ± 0.076	0.181 ± 0.026	0.195 ± 0.038	0.138 ± 0.027	0.179 ± 0.055	0.283 ± 0.049	0.157 ± 0.020	0.124 ± 0.013	0.438 \pm 0.037	0.205 ± 0.026	0.412 ± 0.047	0.188 ± 0.005	0.461 ± 0.058	0.190 ± 0.017
	Acc ₁	0.329 ± 0.043	0.371 ± 0.040	0.336 ± 0.073	0.319 ± 0.016	0.210 ± 0.022	0.143 ± 0.000	0.276 ± 0.080	0.181 ± 0.026	0.195 ± 0.038	0.133 ± 0.023	0.179 ± 0.055	0.283 ± 0.049	0.155 ± 0.022	0.124 ± 0.013	0.438 \pm 0.037	0.205 ± 0.026	0.412 ± 0.047	0.186 ± 0.011	0.463 ± 0.056	0.188 ± 0.016
	Acc ₂	0.543 ± 0.059	0.576 ± 0.040	0.562 ± 0.053	0.552 ± 0.043	0.364 ± 0.014	0.286 ± 0.000	0.440 ± 0.060	0.333 ± 0.029	0.355 ± 0.028	0.283 ± 0.018	0.386 ± 0.060	0.445 ± 0.037	0.314 ± 0.051	0.288 ± 0.018	0.638 \pm 0.063	0.362 ± 0.047	0.605 ± 0.016	0.333 ± 0.017	0.679 ± 0.042	0.340 ± 0.023
	sub10	κ	0.236 ± 0.052	0.289 ± 0.074	0.331 ± 0.096	0.286 ± 0.027	0.069 ± 0.040	0.019 ± 0.035	0.242 ± 0.064	0.031 ± 0.025	0.103 ± 0.036	-0.011 ± 0.012	0.058 ± 0.086	0.133 ± 0.039	0.031 ± 0.042	-0.006 ± 0.026	0.361 ± 0.076	0.017 ± 0.060	0.450 ± 0.056	0.067 ± 0.079	0.399 \pm 0.040
AUC		0.793 ± 0.022	0.804 ± 0.013	0.816 \pm 0.025	0.807 ± 0.023	0.566 ± 0.029	0.514 ± 0.020	0.727 ± 0.031	0.574 ± 0.026	0.606 ± 0.034	0.451 ± 0.012	0.599 ± 0.028	0.658 ± 0.025	0.574 ± 0.057	0.498 ± 0.039	0.809 ± 0.022	0.555 ± 0.068	0.831 ± 0.020	0.576 ± 0.040	0.805 ± 0.019	0.581 ± 0.042
BAcc		0.345 ± 0.045	0.390 ± 0.063	0.426 ± 0.083	0.388 ± 0.023	0.202 ± 0.035	0.160 ± 0.030	0.350 ± 0.055	0.169 ± 0.021	0.231 ± 0.031	0.133 ± 0.010	0.193 ± 0.074	0.257 ± 0.033	0.169 ± 0.036	0.138 ± 0.022	0.452 ± 0.065	0.157 ± 0.051	0.529 ± 0.048	0.200 ± 0.068	0.485 \pm 0.034	0.210 ± 0.041
Acc ₁		0.345 ± 0.045	0.390 ± 0.063	0.426 ± 0.083	0.386 ± 0.022	0.202 ± 0.035	0.160 ± 0.030	0.350 ± 0.055	0.169 ± 0.021	0.231 ± 0.031	0.133 ± 0.010	0.193 ± 0.074	0.257 ± 0.033	0.171 ± 0.036	0.138 ± 0.022	0.452 ± 0.065	0.155 ± 0.052	0.529 ± 0.048	0.200 ± 0.068	0.492 \pm 0.034	0.210 ± 0.041
Acc ₂		0.605 ± 0.059	0.645 ± 0.034	0.667 ± 0.075	0.650 ± 0.064	0.371 ± 0.055	0.293 ± 0.034	0.583 ± 0.079	0.362 ± 0.059	0.398 ± 0.047	0.290 ± 0.025	0.379 ± 0.044	0.464 ± 0.063	0.345 ± 0.065	0.274 ± 0.054	0.712 ± 0.061	0.305 ± 0.099	0.750 ± 0.035	0.379 ± 0.071	0.748 \pm 0.047	0.355 ± 0.040
sub11		κ	0.211 ± 0.054	0.242 ± 0.029	0.222 ± 0.102	0.256 ± 0.045	0.089 ± 0.036	0.050 ± 0.029	0.158 ± 0.051	0.011 ± 0.036	0.094 ± 0.032	0.000 ± 0.000	0.056 ± 0.047	0.089 ± 0.021	0.053 ± 0.049	0.000 ± 0.050	0.283 \pm 0.063	0.033 ± 0.021	0.306 ± 0.031	0.056 ± 0.020	0.278 ± 0.059
	AUC	0.738 ± 0.018	0.740 ± 0.026	0.727 ± 0.056	0.757 ± 0.012	0.566 ± 0.025	0.549 ± 0.021	0.638 ± 0.038	0.514 ± 0.042	0.573 ± 0.040	0.470 ± 0.052	0.563 ± 0.039	0.605 ± 0.018	0.546 ± 0.047	0.519 ± 0.032	0.728 ± 0.029	0.568 ± 0.044	0.750 \pm 0.041	0.598 ± 0.047	0.745 ± 0.025	0.589 ± 0.045
	BAcc	0.324 ± 0.046	0.350 ± 0.025	0.333 ± 0.087	0.362 ± 0.038	0.219 ± 0.031	0.186 ± 0.025	0.279 ± 0.043	0.152 ± 0.031	0.224 ± 0.027	0.143 ± 0.000	0.190 ± 0.040	0.219 ± 0.018	0.188 ± 0.042	0.143 ± 0.043	0.386 \pm 0.054	0.171 ± 0.018	0.405 ± 0.027	0.190 ± 0.017	0.381 ± 0.051	0.200 ± 0.040
	Acc ₁	0.326 ± 0.042	0.350 ± 0.025	0.333 ± 0.087	0.362 ± 0.038	0.219 ± 0.031	0.186 ± 0.025	0.279 ± 0.043	0.152 ± 0.031	0.224 ± 0.027	0.140 ± 0.005	0.190 ± 0.040	0.219 ± 0.018	0.198 ± 0.042	0.143 ± 0.043	0.386 \pm 0.054	0.171 ± 0.018	0.405 ± 0.027	0.190 ± 0.017	0.369 ± 0.058	0.200 ± 0.040

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub12	Acc.2	0.471 ±0.043	0.545 ±0.033	0.540 ±0.076	0.531 ±0.055	0.360 ±0.044	0.326 ±0.027	0.433 ±0.078	0.271 ±0.045	0.352 ±0.043	0.281 ±0.022	0.357 ±0.027	0.383 ±0.031	0.343 ±0.050	0.319 ±0.037	0.614 ±0.040	0.338 ±0.055	0.624 ± 0.032	0.357 ±0.035	0.648 ± 0.070	0.336 ±0.059
	κ	0.211 ±0.050	0.178 ±0.051	0.167 ±0.079	0.214 ±0.033	0.042 ±0.052	0.036 ±0.038	0.175 ±0.063	0.042 ±0.014	0.147 ±0.045	-0.025 ±0.045	0.072 ±0.032	0.183 ±0.050	0.053 ±0.059	0.006 ±0.038	0.328 ± 0.046	0.083 ±0.044	0.325 ±0.038	0.094 ±0.030	0.344 ± 0.055	0.117 ±0.065
	AUC	0.735 ±0.022	0.712 ±0.026	0.683 ±0.038	0.740 ±0.037	0.545 ±0.024	0.547 ±0.047	0.667 ±0.030	0.547 ±0.030	0.639 ±0.029	0.459 ±0.035	0.586 ±0.019	0.677 ±0.013	0.553 ±0.082	0.496 ±0.032	0.599 ±0.025	0.748 ±0.026	0.599 ±0.032	0.603 ±0.021	0.753 ± 0.040	0.624 ±0.036
	BAcc	0.324 ±0.043	0.295 ±0.044	0.286 ±0.068	0.326 ±0.029	0.179 ±0.045	0.174 ±0.032	0.293 ±0.054	0.179 ±0.012	0.269 ±0.038	0.121 ±0.039	0.205 ±0.027	0.300 ±0.043	0.188 ±0.050	0.148 ±0.032	0.424 ± 0.039	0.214 ±0.038	0.421 ±0.032	0.224 ±0.026	0.438 ± 0.047	0.243 ±0.056
	Acc.1	0.326 ±0.047	0.295 ±0.044	0.286 ±0.068	0.326 ±0.029	0.179 ±0.045	0.174 ±0.032	0.293 ±0.054	0.179 ±0.012	0.269 ±0.038	0.119 ±0.037	0.205 ±0.027	0.300 ±0.043	0.183 ±0.056	0.148 ±0.032	0.424 ± 0.039	0.214 ±0.038	0.421 ±0.032	0.224 ±0.026	0.431 ± 0.045	0.243 ±0.056
	Acc.2	0.531 ±0.047	0.507 ±0.060	0.488 ±0.022	0.564 ±0.040	0.350 ±0.018	0.345 ±0.053	0.490 ±0.067	0.340 ±0.042	0.452 ±0.048	0.238 ±0.061	0.388 ±0.050	0.512 ±0.059	0.352 ±0.091	0.286 ±0.058	0.610 ±0.042	0.376 ±0.055	0.645 ± 0.075	0.405 ±0.035	0.679 ± 0.041	0.424 ±0.053
sub13	κ	0.242 ±0.069	0.208 ±0.039	0.208 ±0.045	0.203 ±0.059	0.058 ±0.055	-0.025 ±0.021	0.172 ±0.080	0.053 ±0.046	0.011 ±0.025	-0.003 ±0.006	0.022 ±0.063	0.131 ±0.088	0.019 ±0.049	-0.011 ±0.082	0.303 ± 0.095	-0.014 ±0.031	0.294 ±0.090	0.000 ±0.033	0.361 ± 0.131	-0.017 ±0.030
	AUC	0.733 ±0.034	0.739 ±0.024	0.736 ±0.038	0.740 ± 0.020	0.530 ±0.024	0.470 ±0.034	0.684 ±0.028	0.585 ±0.032	0.516 ±0.014	0.455 ±0.041	0.546 ±0.023	0.657 ±0.040	0.535 ±0.077	0.484 ±0.051	0.736 ±0.048	0.535 ±0.037	0.726 ±0.034	0.524 ±0.028	0.781 ± 0.065	0.539 ±0.051
	BAcc	0.350 ±0.059	0.321 ±0.034	0.321 ±0.039	0.317 ±0.051	0.193 ±0.047	0.121 ±0.018	0.290 ±0.068	0.188 ±0.040	0.152 ±0.021	0.140 ±0.005	0.162 ±0.054	0.255 ±0.076	0.160 ±0.042	0.133 ±0.070	0.402 ± 0.081	0.131 ±0.027	0.395 ±0.077	0.143 ±0.028	0.452 ± 0.112	0.129 ±0.026
	Acc.1	0.352 ±0.063	0.321 ±0.034	0.324 ±0.042	0.317 ±0.051	0.193 ±0.047	0.121 ±0.018	0.290 ±0.068	0.188 ±0.040	0.152 ±0.021	0.140 ±0.005	0.162 ±0.054	0.255 ±0.076	0.157 ±0.044	0.133 ±0.070	0.402 ± 0.081	0.131 ±0.027	0.395 ±0.077	0.143 ±0.028	0.458 ± 0.114	0.129 ±0.026
	Acc.2	0.548 ±0.069	0.529 ±0.043	0.531 ±0.047	0.540 ±0.059	0.338 ±0.047	0.257 ±0.034	0.476 ±0.048	0.374 ±0.056	0.302 ±0.040	0.293 ±0.018	0.331 ±0.053	0.460 ±0.027	0.324 ±0.062	0.255 ±0.081	0.610 ± 0.051	0.298 ±0.036	0.583 ±0.040	0.293 ±0.018	0.699 ± 0.100	0.286 ±0.039
	κ	0.258 ±0.029	0.289 ±0.081	0.258 ±0.059	0.311 ±0.029	0.161 ±0.054	0.003 ±0.006	0.214 ±0.049	0.042 ±0.033	0.089 ±0.059	-0.006 ±0.012	0.072 ±0.062	0.189 ±0.036	0.036 ±0.053	-0.006 ±0.022	0.336 ±0.037	0.075 ±0.051	0.347 ± 0.069	0.069 ±0.029	0.375 ± 0.036	0.075 ±0.040
sub14	AUC	0.783 ±0.010	0.782 ±0.028	0.769 ±0.033	0.802 ± 0.022	0.622 ±0.018	0.549 ±0.030	0.709 ±0.030	0.567 ±0.045	0.571 ±0.036	0.507 ±0.062	0.580 ±0.049	0.665 ±0.026	0.579 ±0.079	0.465 ±0.055	0.758 ±0.020	0.601 ±0.053	0.775 ±0.036	0.588 ±0.037	0.790 ± 0.013	0.598 ±0.041
	BAcc	0.364 ±0.025	0.390 ±0.070	0.364 ±0.051	0.410 ±0.025	0.281 ±0.047	0.145 ±0.005	0.326 ±0.042	0.179 ±0.028	0.219 ±0.051	0.138 ±0.011	0.205 ±0.054	0.305 ±0.031	0.174 ±0.045	0.138 ±0.019	0.431 ±0.032	0.207 ±0.043	0.440 ± 0.059	0.202 ±0.025	0.464 ± 0.031	0.207 ±0.034
	Acc.1	0.364 ±0.025	0.388 ±0.075	0.364 ±0.051	0.410 ±0.025	0.281 ±0.047	0.145 ±0.005	0.326 ±0.042	0.179 ±0.028	0.219 ±0.051	0.143 ±0.000	0.205 ±0.054	0.305 ±0.031	0.186 ±0.036	0.143 ±0.025	0.431 ±0.032	0.205 ±0.046	0.440 ± 0.059	0.202 ±0.025	0.466 ± 0.021	0.205 ±0.032
	Acc.2	0.531 ±0.047	0.507 ±0.060	0.488 ±0.022	0.564 ±0.040	0.350 ±0.018	0.345 ±0.053	0.490 ±0.067	0.340 ±0.042	0.452 ±0.048	0.238 ±0.061	0.388 ±0.050	0.512 ±0.059	0.352 ±0.091	0.286 ±0.058	0.610 ±0.042	0.376 ±0.055	0.645 ± 0.075	0.405 ±0.035	0.679 ± 0.041	0.424 ±0.053

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
		0.564 ±0.042	0.631 ±0.040	0.586 ±0.047	0.629 ±0.073	0.460 ±0.027	0.310 ±0.024	0.540 ±0.063	0.345 ±0.060	0.362 ±0.040	0.276 ±0.021	0.362 ±0.059	0.450 ±0.042	0.338 ±0.067	0.276 ±0.034	0.638 ±0.018	0.371 ±0.049	0.648 ±0.060	0.340 ±0.043	0.681 ±0.048	0.369 ±0.051
sub15	κ	0.264 ±0.047	0.194 ±0.044	0.239 ±0.068	0.261 ±0.060	0.072 ±0.023	0.006 ±0.025	0.144 ±0.036	0.050 ±0.060	0.133 ±0.042	-0.006 ±0.029	0.072 ±0.025	0.164 ±0.032	0.011 ±0.031	0.019 ±0.030	0.244 ±0.059	0.031 ±0.028	0.281 ±0.060	0.078 ±0.055	0.392 ±0.049	0.092 ±0.036
	AUC	0.762 ±0.025	0.743 ±0.029	0.720 ±0.046	0.757 ±0.009	0.563 ±0.026	0.536 ±0.018	0.651 ±0.036	0.563 ±0.027	0.618 ±0.023	0.489 ±0.022	0.574 ±0.026	0.670 ±0.029	0.573 ±0.063	0.493 ±0.038	0.714 ±0.039	0.561 ±0.023	0.734 ±0.036	0.570 ±0.041	0.772 ±0.028	0.586 ±0.014
	BACc	0.369 ±0.040	0.310 ±0.038	0.348 ±0.059	0.367 ±0.051	0.205 ±0.020	0.148 ±0.022	0.267 ±0.031	0.186 ±0.052	0.257 ±0.036	0.138 ±0.025	0.205 ±0.021	0.283 ±0.027	0.152 ±0.027	0.160 ±0.026	0.352 ±0.050	0.169 ±0.024	0.383 ±0.051	0.210 ±0.047	0.479 ±0.042	0.221 ±0.031
	Acc.1	0.369 ±0.040	0.310 ±0.038	0.348 ±0.059	0.367 ±0.051	0.205 ±0.020	0.148 ±0.022	0.267 ±0.031	0.186 ±0.052	0.257 ±0.036	0.150 ±0.007	0.205 ±0.021	0.283 ±0.027	0.148 ±0.023	0.162 ±0.030	0.352 ±0.050	0.171 ±0.027	0.383 ±0.051	0.210 ±0.047	0.476 ±0.036	0.219 ±0.029
	Acc.2	0.593 ±0.016	0.540 ±0.054	0.533 ±0.057	0.595 ±0.060	0.355 ±0.042	0.264 ±0.016	0.457 ±0.077	0.352 ±0.057	0.436 ±0.022	0.276 ±0.010	0.362 ±0.045	0.490 ±0.039	0.336 ±0.060	0.302 ±0.019	0.595 ±0.047	0.350 ±0.063	0.619 ±0.083	0.367 ±0.060	0.707 ±0.036	0.393 ±0.029
	κ	0.247 ±0.057	0.261 ±0.075	0.200 ±0.063	0.231 ±0.053	0.097 ±0.043	0.019 ±0.038	0.158 ±0.069	0.000 ±0.035	0.081 ±0.065	0.000 ±0.017	0.069 ±0.049	0.164 ±0.030	0.056 ±0.074	-0.025 ±0.041	0.322 ±0.048	0.069 ±0.035	0.300 ±0.066	0.058 ±0.042	0.392 ±0.047	0.114 ±0.039
sub2	AUC	0.746 ±0.025	0.736 ±0.035	0.712 ±0.037	0.755 ±0.022	0.607 ±0.033	0.589 ±0.034	0.639 ±0.050	0.515 ±0.014	0.573 ±0.051	0.491 ±0.028	0.581 ±0.031	0.664 ±0.038	0.541 ±0.075	0.507 ±0.034	0.734 ±0.034	0.570 ±0.028	0.742 ±0.033	0.596 ±0.029	0.783 ±0.023	0.611 ±0.047
	BACc	0.355 ±0.049	0.367 ±0.064	0.314 ±0.054	0.340 ±0.046	0.226 ±0.037	0.160 ±0.032	0.279 ±0.059	0.143 ±0.030	0.212 ±0.056	0.143 ±0.015	0.202 ±0.042	0.283 ±0.026	0.190 ±0.063	0.121 ±0.035	0.419 ±0.041	0.202 ±0.030	0.400 ±0.056	0.193 ±0.036	0.479 ±0.041	0.240 ±0.033
	Acc.1	0.355 ±0.049	0.367 ±0.064	0.314 ±0.054	0.343 ±0.049	0.226 ±0.037	0.160 ±0.032	0.281 ±0.059	0.143 ±0.030	0.212 ±0.056	0.143 ±0.022	0.202 ±0.042	0.283 ±0.026	0.193 ±0.063	0.126 ±0.029	0.419 ±0.041	0.205 ±0.031	0.400 ±0.056	0.193 ±0.036	0.476 ±0.034	0.238 ±0.030
	Acc.2	0.562 ±0.060	0.588 ±0.038	0.538 ±0.057	0.574 ±0.051	0.395 ±0.070	0.295 ±0.064	0.421 ±0.063	0.302 ±0.027	0.352 ±0.068	0.274 ±0.012	0.360 ±0.055	0.457 ±0.034	0.324 ±0.061	0.290 ±0.055	0.605 ±0.057	0.352 ±0.032	0.624 ±0.042	0.376 ±0.037	0.685 ±0.046	0.400 ±0.056
	κ	0.653 ±0.079	0.600 ±0.060	0.689 ±0.069	0.581 ±0.101	0.183 ±0.057	0.033 ±0.036	0.386 ±0.058	0.094 ±0.036	0.431 ±0.054	0.008 ±0.019	0.283 ±0.067	0.281 ±0.027	0.072 ±0.066	-0.014 ±0.023	0.892 ±0.033	0.239 ±0.051	0.919 ±0.015	0.281 ±0.032	0.948 ±0.017	0.272 ±0.038
	AUC	0.939 ±0.010	0.928 ±0.012	0.938 ±0.021	0.938 ±0.012	0.652 ±0.024	0.554 ±0.020	0.820 ±0.021	0.596 ±0.014	0.836 ±0.018	0.500 ±0.020	0.726 ±0.046	0.777 ±0.016	0.604 ±0.103	0.508 ±0.021	0.984 ±0.010	0.759 ±0.026	0.991 ±0.005	0.812 ±0.025	0.996 ±0.004	0.812 ±0.028
sub3	BACc	0.702 ±0.068	0.657 ±0.051	0.733 ±0.059	0.640 ±0.087	0.300 ±0.049	0.171 ±0.031	0.474 ±0.050	0.224 ±0.031	0.512 ±0.046	0.150 ±0.016	0.386 ±0.057	0.383 ±0.023	0.205 ±0.057	0.131 ±0.019	0.907 ±0.028	0.348 ±0.044	0.931 ±0.013	0.383 ±0.027	0.955 ±0.015	0.376 ±0.032
	Acc.1	0.702 ±0.068	0.657 ±0.051	0.733 ±0.059	0.640 ±0.087	0.300 ±0.049	0.171 ±0.031	0.474 ±0.050	0.224 ±0.031	0.512 ±0.046	0.145 ±0.013	0.386 ±0.057	0.383 ±0.023	0.207 ±0.058	0.131 ±0.021	0.907 ±0.028	0.348 ±0.044	0.931 ±0.013	0.386 ±0.027	0.952 ±0.016	0.376 ±0.032

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub4	Acc.2	0.867 ±0.026	0.833 ±0.056	0.874 ±0.032	0.840 ±0.043	0.474 ±0.043	0.336 ±0.034	0.664 ±0.039	0.388 ±0.052	0.743 ±0.045	0.295 ±0.016	0.560 ±0.049	0.610 ±0.026	0.398 ±0.118	0.298 ±0.021	0.976 ±0.022	0.514 ±0.042	0.983 ±0.007	0.629 ±0.064	0.979 ± 0.013	0.586 ±0.054
	κ	0.611 ±0.040	0.589 ±0.045	0.686 ±0.041	0.631 ±0.041	0.394 ±0.042	0.000 ±0.000	0.403 ±0.097	0.069 ±0.038	0.544 ±0.030	0.003 ±0.006	0.408 ±0.036	0.464 ±0.066	0.039 ±0.054	0.006 ±0.024	0.883 ±0.041	0.281 ±0.087	0.869 ±0.027	0.294 ±0.054	0.878 ± 0.029	0.317 ±0.049
	AUC	0.933 ±0.009	0.934 ±0.010	0.937 ±0.004	0.931 ±0.008	0.791 ±0.027	0.598 ±0.065	0.800 ±0.037	0.584 ±0.040	0.898 ±0.021	0.505 ±0.030	0.807 ±0.021	0.869 ±0.018	0.573 ±0.094	0.501 ±0.043	0.985 ± 0.011	0.762 ±0.037	0.979 ±0.008	0.802 ±0.023	0.988 ±0.007	0.789 ±0.037
	BACc	0.667 ±0.035	0.648 ±0.038	0.731 ±0.035	0.683 ±0.035	0.481 ±0.036	0.143 ±0.000	0.488 ±0.083	0.202 ±0.033	0.610 ±0.026	0.145 ±0.005	0.493 ±0.031	0.540 ±0.056	0.176 ±0.046	0.148 ±0.020	0.900 ±0.035	0.383 ±0.075	0.888 ±0.023	0.395 ±0.046	0.896 ± 0.025	0.414 ±0.042
	Acc.1	0.664 ±0.033	0.648 ±0.038	0.731 ±0.035	0.683 ±0.035	0.481 ±0.036	0.143 ±0.000	0.488 ±0.083	0.202 ±0.033	0.610 ±0.026	0.145 ±0.005	0.493 ±0.031	0.540 ±0.056	0.176 ±0.044	0.148 ±0.020	0.900 ± 0.035	0.381 ±0.077	0.888 ±0.023	0.395 ±0.046	0.903 ±0.016	0.414 ±0.042
	Acc.2	0.831 ±0.026	0.812 ±0.016	0.864 ±0.041	0.819 ±0.033	0.636 ±0.052	0.283 ±0.005	0.631 ±0.083	0.374 ±0.039	0.829 ±0.053	0.286 ±0.000	0.640 ±0.065	0.750 ±0.038	0.367 ±0.105	0.283 ±0.041	0.976 ± 0.028	0.552 ±0.071	0.971 ±0.014	0.595 ±0.042	0.987 ±0.010	0.638 ±0.054
	κ	0.300 ±0.027	0.233 ±0.045	0.244 ±0.029	0.278 ±0.017	0.069 ±0.060	0.014 ±0.040	0.194 ±0.067	0.058 ±0.042	0.083 ±0.026	0.006 ±0.029	0.081 ±0.051	0.178 ±0.088	0.042 ±0.056	0.022 ±0.024	0.344 ± 0.039	0.033 ±0.030	0.319 ±0.064	0.067 ±0.046	0.385 ±0.081	0.092 ±0.058
sub5	AUC	0.788 ±0.016	0.760 ±0.031	0.746 ±0.027	0.776 ± 0.033	0.554 ±0.034	0.519 ±0.042	0.675 ±0.057	0.564 ±0.024	0.567 ±0.030	0.454 ±0.043	0.606 ±0.055	0.678 ±0.023	0.555 ±0.061	0.501 ±0.026	0.773 ±0.039	0.594 ±0.048	0.749 ±0.028	0.601 ±0.048	0.772 ±0.050	0.604 ±0.043
	BACc	0.400 ±0.023	0.343 ±0.039	0.352 ±0.025	0.381 ±0.015	0.202 ±0.051	0.155 ±0.035	0.310 ±0.058	0.193 ±0.036	0.214 ±0.022	0.148 ±0.025	0.212 ±0.044	0.295 ±0.075	0.179 ±0.048	0.162 ±0.020	0.438 ± 0.033	0.171 ±0.026	0.417 ±0.055	0.200 ±0.040	0.473 ±0.070	0.221 ±0.050
	Acc.1	0.400 ±0.023	0.343 ±0.039	0.352 ±0.025	0.381 ±0.015	0.202 ±0.051	0.155 ±0.035	0.310 ±0.058	0.193 ±0.036	0.214 ±0.022	0.145 ±0.005	0.212 ±0.044	0.295 ±0.075	0.181 ±0.046	0.162 ±0.020	0.438 ± 0.033	0.171 ±0.026	0.417 ±0.055	0.198 ±0.043	0.487 ±0.077	0.221 ±0.050
	Acc.2	0.624 ±0.027	0.574 ±0.055	0.581 ±0.021	0.619 ±0.038	0.362 ±0.042	0.317 ±0.032	0.505 ±0.111	0.343 ±0.053	0.374 ±0.042	0.257 ±0.020	0.405 ±0.079	0.490 ±0.053	0.348 ±0.081	0.293 ±0.019	0.695 ±0.070	0.362 ±0.072	0.624 ±0.048	0.398 ±0.087	0.679 ± 0.052	0.395 ±0.084
	κ	0.306 ±0.024	0.269 ±0.053	0.294 ±0.072	0.319 ±0.026	0.161 ±0.021	0.006 ±0.061	0.192 ±0.051	0.067 ±0.043	0.178 ±0.043	-0.003 ±0.025	0.086 ±0.043	0.192 ±0.066	0.036 ±0.049	0.014 ±0.032	0.553 ±0.030	0.153 ±0.049	0.589 ±0.064	0.158 ±0.016	0.562 ± 0.029	0.164 ±0.045
sub6	AUC	0.806 ±0.019	0.764 ±0.033	0.773 ±0.020	0.802 ±0.012	0.632 ±0.022	0.534 ±0.043	0.686 ±0.040	0.588 ±0.040	0.669 ±0.028	0.455 ±0.036	0.575 ±0.012	0.680 ±0.044	0.566 ±0.108	0.527 ±0.028	0.875 ±0.004	0.663 ±0.034	0.915 ±0.016	0.673 ±0.041	0.876 ± 0.015	0.675 ±0.039
	BACc	0.405 ±0.021	0.374 ±0.045	0.395 ±0.062	0.417 ±0.022	0.281 ±0.018	0.148 ±0.052	0.307 ±0.044	0.200 ±0.037	0.295 ±0.037	0.140 ±0.021	0.217 ±0.037	0.307 ±0.057	0.174 ±0.042	0.155 ±0.027	0.617 ±0.026	0.274 ±0.042	0.648 ±0.055	0.279 ±0.014	0.625 ± 0.025	0.283 ±0.039
	Acc.1	0.405 ±0.021	0.374 ±0.045	0.395 ±0.062	0.417 ±0.022	0.281 ±0.018	0.148 ±0.052	0.307 ±0.044	0.200 ±0.037	0.295 ±0.037	0.133 ±0.013	0.217 ±0.037	0.307 ±0.057	0.179 ±0.039	0.155 ±0.027	0.617 ±0.026	0.274 ±0.042	0.648 ±0.055	0.279 ±0.014	0.639 ± 0.025	0.286 ±0.039
	Acc.2	0.405 ±0.021	0.374 ±0.045	0.395 ±0.062	0.417 ±0.022	0.281 ±0.018	0.148 ±0.052	0.307 ±0.044	0.200 ±0.037	0.295 ±0.037	0.133 ±0.013	0.217 ±0.037	0.307 ±0.057	0.179 ±0.039	0.155 ±0.027	0.617 ±0.026	0.274 ±0.042	0.648 ±0.055	0.279 ±0.014	0.639 ± 0.025	0.286 ±0.039

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
		Acc.2	κ	AUC	BAcc	Acc.1	Acc.2	κ	AUC	BAcc	Acc.1	Acc.2	κ	AUC	BAcc	Acc.1	Acc.2	κ	AUC	BAcc	Acc.1
sub7	κ	0.617 ±0.049	0.581 ±0.067	0.602 ±0.068	0.598 ±0.039	0.433 ±0.057	0.283 ±0.051	0.536 ±0.065	0.379 ±0.049	0.498 ±0.037	0.257 ±0.034	0.364 ±0.042	0.507 ±0.066	0.350 ±0.073	0.283 ±0.030	0.798 ±0.037	0.438 ±0.066	0.831 ±0.026	0.426 ±0.049	0.830 ±0.046	0.445 ±0.054
	κ	0.211 ±0.033	0.244 ±0.046	0.203 ±0.045	0.253 ±0.036	0.053 ±0.040	0.017 ±0.039	0.136 ±0.018	0.061 ±0.048	0.069 ±0.028	-0.011 ±0.018	0.072 ±0.030	0.100 ±0.048	0.028 ±0.040	0.017 ±0.033	0.289 ±0.059	0.069 ±0.082	0.339 ±0.071	0.069 ±0.061	0.354 ±0.099	0.072 ±0.043
	AUC	0.760 ±0.026	0.759 ±0.017	0.702 ±0.038	0.777 ±0.023	0.550 ±0.027	0.540 ±0.038	0.632 ±0.024	0.561 ±0.024	0.558 ±0.013	0.519 ±0.033	0.593 ±0.046	0.655 ±0.034	0.548 ±0.038	0.519 ±0.035	0.747 ±0.030	0.592 ±0.041	0.769 ±0.036	0.583 ±0.031	0.757 ±0.035	0.619 ±0.035
	BAcc	0.324 ±0.028	0.352 ±0.039	0.317 ±0.038	0.360 ±0.031	0.188 ±0.034	0.157 ±0.033	0.260 ±0.016	0.195 ±0.041	0.202 ±0.024	0.133 ±0.016	0.205 ±0.026	0.229 ±0.041	0.167 ±0.035	0.157 ±0.028	0.390 ±0.051	0.202 ±0.070	0.433 ±0.060	0.202 ±0.053	0.446 ±0.085	0.205 ±0.037
	Acc.1	0.324 ±0.028	0.352 ±0.039	0.317 ±0.038	0.360 ±0.031	0.188 ±0.034	0.157 ±0.033	0.260 ±0.016	0.195 ±0.041	0.202 ±0.024	0.140 ±0.010	0.205 ±0.026	0.229 ±0.041	0.164 ±0.037	0.157 ±0.028	0.390 ±0.051	0.202 ±0.070	0.433 ±0.060	0.202 ±0.053	0.453 ±0.078	0.202 ±0.035
	Acc.2	0.593 ±0.095	0.590 ±0.035	0.550 ±0.059	0.631 ±0.035	0.352 ±0.043	0.298 ±0.040	0.426 ±0.037	0.350 ±0.026	0.376 ±0.035	0.281 ±0.014	0.376 ±0.056	0.448 ±0.038	0.333 ±0.077	0.324 ±0.018	0.621 ±0.063	0.352 ±0.073	0.638 ±0.056	0.360 ±0.067	0.649 ±0.079	0.364 ±0.065
sub8	κ	0.189 ±0.084	0.169 ±0.042	0.147 ±0.053	0.175 ±0.027	0.056 ±0.055	-0.011 ±0.023	0.142 ±0.083	0.019 ±0.023	0.036 ±0.041	-0.017 ±0.046	0.117 ±0.025	0.081 ±0.056	0.031 ±0.034	-0.033 ±0.045	0.286 ±0.023	0.011 ±0.035	0.325 ±0.047	0.022 ±0.012	0.347 ±0.070	0.028 ±0.056
	AUC	0.736 ±0.033	0.718 ±0.035	0.696 ±0.023	0.723 ±0.033	0.554 ±0.029	0.489 ±0.036	0.636 ±0.049	0.540 ±0.017	0.567 ±0.038	0.479 ±0.054	0.586 ±0.029	0.621 ±0.034	0.572 ±0.073	0.449 ±0.049	0.736 ±0.023	0.536 ±0.006	0.738 ±0.035	0.541 ±0.034	0.753 ±0.047	0.539 ±0.021
	BAcc	0.305 ±0.072	0.288 ±0.036	0.269 ±0.046	0.293 ±0.023	0.190 ±0.047	0.133 ±0.020	0.264 ±0.071	0.160 ±0.020	0.174 ±0.035	0.129 ±0.040	0.243 ±0.022	0.212 ±0.048	0.169 ±0.029	0.114 ±0.039	0.388 ±0.020	0.152 ±0.030	0.421 ±0.040	0.162 ±0.011	0.440 ±0.060	0.167 ±0.048
	Acc.1	0.305 ±0.072	0.288 ±0.036	0.269 ±0.046	0.293 ±0.023	0.190 ±0.047	0.133 ±0.020	0.264 ±0.071	0.160 ±0.020	0.174 ±0.035	0.119 ±0.040	0.243 ±0.022	0.212 ±0.048	0.162 ±0.036	0.117 ±0.035	0.388 ±0.020	0.152 ±0.030	0.421 ±0.040	0.162 ±0.011	0.448 ±0.057	0.167 ±0.048
	Acc.2	0.526 ±0.047	0.517 ±0.043	0.493 ±0.071	0.510 ±0.051	0.360 ±0.046	0.290 ±0.026	0.419 ±0.068	0.324 ±0.038	0.348 ±0.059	0.269 ±0.051	0.379 ±0.021	0.390 ±0.081	0.336 ±0.058	0.217 ±0.047	0.621 ±0.051	0.281 ±0.045	0.612 ±0.061	0.317 ±0.034	0.644 ±0.043	0.319 ±0.023
sub9	κ	0.181 ±0.063	0.139 ±0.054	0.181 ±0.039	0.186 ±0.049	0.067 ±0.021	-0.022 ±0.029	0.125 ±0.048	-0.003 ±0.050	0.114 ±0.039	-0.028 ±0.039	0.072 ±0.042	0.119 ±0.056	0.033 ±0.033	0.003 ±0.034	0.436 ±0.046	0.072 ±0.041	0.417 ±0.071	0.050 ±0.064	0.410 ±0.027	0.050 ±0.054
	AUC	0.722 ±0.031	0.681 ±0.033	0.675 ±0.028	0.722 ±0.022	0.568 ±0.024	0.514 ±0.040	0.634 ±0.027	0.510 ±0.025	0.604 ±0.027	0.494 ±0.063	0.586 ±0.047	0.620 ±0.027	0.520 ±0.033	0.463 ±0.024	0.814 ±0.027	0.582 ±0.033	0.808 ±0.020	0.583 ±0.030	0.804 ±0.005	0.558 ±0.033
	BAcc	0.298 ±0.054	0.262 ±0.046	0.298 ±0.034	0.302 ±0.042	0.200 ±0.018	0.124 ±0.025	0.250 ±0.041	0.140 ±0.043	0.240 ±0.033	0.119 ±0.034	0.205 ±0.036	0.245 ±0.048	0.171 ±0.028	0.145 ±0.029	0.517 ±0.039	0.205 ±0.035	0.500 ±0.061	0.186 ±0.055	0.494 ±0.023	0.186 ±0.047
	Acc.1	0.298 ±0.054	0.264 ±0.049	0.298 ±0.034	0.302 ±0.042	0.200 ±0.018	0.124 ±0.025	0.250 ±0.041	0.140 ±0.043	0.240 ±0.033	0.124 ±0.038	0.205 ±0.036	0.245 ±0.048	0.155 ±0.033	0.143 ±0.026	0.517 ±0.039	0.205 ±0.035	0.500 ±0.061	0.186 ±0.055	0.499 ±0.028	0.186 ±0.047
	Acc.2	0.298 ±0.054	0.264 ±0.049	0.298 ±0.034	0.302 ±0.042	0.200 ±0.018	0.124 ±0.025	0.250 ±0.041	0.140 ±0.043	0.240 ±0.033	0.124 ±0.038	0.205 ±0.036	0.245 ±0.048	0.155 ±0.033	0.143 ±0.026	0.517 ±0.039	0.205 ±0.035	0.500 ±0.061	0.186 ±0.055	0.499 ±0.028	0.186 ±0.047

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SubjectMetric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-h (f)	STEGformer-h (l)	STEGformer-l (f)	STEGformer-l (l)
	0.502 ±0.016	0.476 ±0.051	0.495 ±0.007	0.517 ±0.018	0.367 ±0.039	0.257 ±0.030	0.436 ±0.062	0.286 ±0.057	0.431 ±0.042	0.279 ±0.066	0.390 ±0.067	0.433 ±0.054	0.295 ±0.041	0.276 ±0.044	0.688 ±0.016	0.360 ±0.055	0.707 ± 0.040	0.345 ±0.063	<div>0.710 ± 0.055</div>	0.319 ±0.042

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C.2 PER-SUBJECT RESULTS

C.2.1 WITHIN-SUBJECT EVALUATION

Table 17: Average ‘‘Self’’ Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.269	0.745	0.373	0.373	0.583
	± 0.173	± 0.087	± 0.148	± 0.148	± 0.115
EEGNet	0.278	0.740	0.381	0.381	0.581
	± 0.154	± 0.086	± 0.132	± 0.132	± 0.119
Conformer	0.284	0.731	0.386	0.386	0.580
	± 0.174	± 0.091	± 0.149	± 0.149	± 0.125
CTNet	0.264	0.726	0.369	0.369	0.559
	± 0.168	± 0.093	± 0.144	± 0.143	± 0.128
BIOT (f)	0.116	0.590	0.242	0.242	0.407
	± 0.150	± 0.091	± 0.129	± 0.129	± 0.130
BIOT (l)	0.016	0.538	0.157	0.157	0.308
	± 0.029	± 0.043	± 0.025	± 0.025	± 0.026
BENDR (f)	0.168	0.649	0.287	0.287	0.462
	± 0.162	± 0.103	± 0.139	± 0.139	± 0.138
BENDR (l)	0.039	0.547	0.177	0.177	0.342
	± 0.033	± 0.034	± 0.029	± 0.028	± 0.040
CBraMod (f)	0.070	0.551	0.203	0.203	0.363
	± 0.147	± 0.126	± 0.126	± 0.126	± 0.163
CBraMod (l)	-0.029	0.459	0.118	0.117	0.252
	± 0.026	± 0.034	± 0.022	± 0.022	± 0.032
EEGPT (f)	0.067	0.563	0.201	0.203	0.359
	± 0.098	± 0.080	± 0.084	± 0.085	± 0.101
EEGPT (l)	0.090	0.586	0.220	0.222	0.385
	± 0.123	± 0.095	± 0.106	± 0.108	± 0.126
LaBraM (f)	0.004	0.499	0.146	0.145	0.293
	± 0.038	± 0.037	± 0.032	± 0.032	± 0.043
LaBraM (l)	-0.013	0.474	0.132	0.131	0.259
	± 0.023	± 0.028	± 0.020	± 0.019	± 0.026
STEEGformer-s (f)	0.312	0.731	0.410	0.410	0.597
	± 0.232	± 0.116	± 0.199	± 0.199	± 0.169
STEEGformer-s (l)	0.077	0.584	0.209	0.210	0.377
	± 0.078	± 0.078	± 0.067	± 0.067	± 0.083
STEEGformer-b (f)	0.300	0.719	0.400	0.400	0.567
	± 0.250	± 0.127	± 0.214	± 0.214	± 0.183
STEEGformer-b (l)	0.090	0.592	0.220	0.220	0.386
	± 0.092	± 0.089	± 0.079	± 0.079	± 0.104
STEEGformer-l (f)	0.328	0.737	0.424	0.425	0.603
	± 0.235	± 0.114	± 0.201	± 0.202	± 0.169
STEEGformer-l (l)	0.085	0.598	0.215	0.216	0.386
	± 0.077	± 0.076	± 0.066	± 0.066	± 0.093

Table 18: Per-Subject ‘‘Self’’ Performance (trained+tested on same subject)

Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.247 ± 0.070	0.253 ± 0.039	0.239 ± 0.045	0.233 ± 0.068	0.047 ± 0.082	0.011 ± 0.023	0.111 ± 0.093	0.011 ± 0.049	-0.006 ± 0.041	-0.008 ± 0.012	0.069 ± 0.028	0.039 ± 0.046	0.022 ± 0.038	-0.008 ± 0.008	0.214 ± 0.051	0.056 ± 0.033	0.181 ± 0.082	0.047 ± 0.029	0.219 ± 0.077	0.036 ± 0.036
	AUC	0.761 ± 0.033	0.731 ± 0.015	0.720 ± 0.025	0.722 ± 0.029	0.562 ± 0.069	0.525 ± 0.027	0.631 ± 0.020	0.513 ± 0.062	0.487 ± 0.022	0.493 ± 0.028	0.537 ± 0.025	0.558 ± 0.045	0.507 ± 0.012	0.518 ± 0.029	0.687 ± 0.017	0.534 ± 0.027	0.663 ± 0.043	0.528 ± 0.026	0.697 ± 0.030	0.551 ± 0.030
	BAcc	0.355 ± 0.060	0.360 ± 0.033	0.348 ± 0.039	0.343 ± 0.058	0.183 ± 0.070	0.152 ± 0.020	0.238 ± 0.079	0.152 ± 0.042	0.138 ± 0.035	0.136 ± 0.011	0.202 ± 0.024	0.176 ± 0.040	0.162 ± 0.032	0.136 ± 0.007	0.326 ± 0.043	0.190 ± 0.028	0.298 ± 0.070	0.183 ± 0.025	0.331 ± 0.066	0.174 ± 0.031
	Acc.1	0.355 ± 0.060	0.360 ± 0.033	0.348 ± 0.039	0.345 ± 0.061	0.183 ± 0.070	0.152 ± 0.020	0.238 ± 0.079	0.152 ± 0.042	0.138 ± 0.035	0.136 ± 0.011	0.205 ± 0.022	0.177 ± 0.040	0.150 ± 0.030	0.133 ± 0.010	0.326 ± 0.043	0.190 ± 0.028	0.298 ± 0.070	0.183 ± 0.025	0.336 ± 0.063	0.174 ± 0.031
	Acc.2	0.612 ± 0.070	0.543 ± 0.026	0.545 ± 0.053	0.576 ± 0.043	0.386 ± 0.093	0.298 ± 0.035	0.429 ± 0.074	0.317 ± 0.076	0.295 ± 0.027	0.274 ± 0.012	0.341 ± 0.055	0.330 ± 0.071	0.293 ± 0.023	0.293 ± 0.016	0.540 ± 0.020	0.333 ± 0.037	0.495 ± 0.063	0.331 ± 0.045	0.563 ± 0.052	0.350 ± 0.032
sub10	κ	0.272 ± 0.061	0.328 ± 0.054	0.306 ± 0.089	0.289 ± 0.108	0.053 ± 0.051	0.033 ± 0.023	0.214 ± 0.112	0.056 ± 0.056	0.075 ± 0.039	-0.017 ± 0.035	0.081 ± 0.089	0.069 ± 0.028	0.075 ± 0.021	0.025 ± 0.043	0.247 ± 0.039	0.042 ± 0.044	0.219 ± 0.097	0.056 ± 0.010	0.281 ± 0.057	0.081 ± 0.040
	AUC	0.782 ± 0.018	0.802 ± 0.021	0.782 ± 0.026	0.760 ± 0.033	0.549 ± 0.026	0.513 ± 0.019	0.691 ± 0.061	0.602 ± 0.043	0.563 ± 0.022	0.483 ± 0.042	0.581 ± 0.037	0.575 ± 0.034	0.549 ± 0.039	0.486 ± 0.015	0.737 ± 0.043	0.550 ± 0.027	0.681 ± 0.079	0.540 ± 0.022	0.725 ± 0.023	0.576 ± 0.044
	BAcc	0.376 ± 0.052	0.424 ± 0.047	0.405 ± 0.077	0.390 ± 0.093	0.188 ± 0.044	0.188 ± 0.020	0.171 ± 0.096	0.326 ± 0.048	0.190 ± 0.033	0.129 ± 0.030	0.212 ± 0.076	0.202 ± 0.024	0.207 ± 0.018	0.164 ± 0.037	0.355 ± 0.033	0.179 ± 0.038	0.331 ± 0.084	0.190 ± 0.008	0.383 ± 0.049	0.212 ± 0.034
	Acc.1	0.376 ± 0.052	0.424 ± 0.047	0.405 ± 0.077	0.390 ± 0.093	0.188 ± 0.044	0.171 ± 0.020	0.326 ± 0.096	0.190 ± 0.048	0.207 ± 0.033	0.129 ± 0.030	0.214 ± 0.064	0.210 ± 0.030	0.207 ± 0.018	0.162 ± 0.038	0.355 ± 0.033	0.179 ± 0.038	0.331 ± 0.084	0.190 ± 0.008	0.383 ± 0.032	0.212 ± 0.034
	Acc.2	0.619 ± 0.025	0.671 ± 0.023	0.671 ± 0.040	0.612 ± 0.040	0.364 ± 0.049	0.290 ± 0.029	0.517 ± 0.069	0.386 ± 0.032	0.390 ± 0.026	0.281 ± 0.056	0.398 ± 0.063	0.357 ± 0.044	0.371 ± 0.021	0.267 ± 0.018	0.610 ± 0.065	0.329 ± 0.022	0.498 ± 0.092	0.331 ± 0.016	0.605 ± 0.033	0.357 ± 0.040
sub11	κ	0.103 ± 0.076	0.178 ± 0.085	0.178 ± 0.062	0.128 ± 0.069	0.094 ± 0.035	0.033 ± 0.042	0.050 ± 0.033	0.028 ± 0.051	-0.006 ± 0.051	-0.053 ± 0.046	0.000 ± 0.043	0.031 ± 0.058	-0.036 ± 0.030	-0.039 ± 0.033	0.181 ± 0.046	0.025 ± 0.041	0.172 ± 0.035	0.036 ± 0.048	0.197 ± 0.049	0.042 ± 0.067
	AUC	0.644 ± 0.037	0.674 ± 0.046	0.651 ± 0.021	0.629 ± 0.058	0.603 ± 0.016	0.547 ± 0.010	0.557 ± 0.035	0.536 ± 0.022	0.484 ± 0.048	0.442 ± 0.025	0.504 ± 0.067	0.524 ± 0.038	0.492 ± 0.021	0.471 ± 0.018	0.649 ± 0.029	0.563 ± 0.027	0.654 ± 0.012	0.556 ± 0.029	0.652 ± 0.040	0.575 ± 0.040
	BAcc	0.231 ± 0.066	0.295 ± 0.073	0.295 ± 0.053	0.252 ± 0.059	0.224 ± 0.030	0.171 ± 0.036	0.186 ± 0.029	0.167 ± 0.044	0.138 ± 0.043	0.098 ± 0.040	0.143 ± 0.037	0.169 ± 0.049	0.112 ± 0.026	0.110 ± 0.028	0.298 ± 0.039	0.164 ± 0.035	0.290 ± 0.030	0.174 ± 0.041	0.312 ± 0.042	0.179 ± 0.057
	Acc.1	0.233 ± 0.070	0.295 ± 0.073	0.295 ± 0.053	0.252 ± 0.059	0.224 ± 0.030	0.171 ± 0.036	0.186 ± 0.029	0.167 ± 0.044	0.138 ± 0.043	0.100 ± 0.043	0.150 ± 0.040	0.168 ± 0.040	0.112 ± 0.026	0.110 ± 0.028	0.298 ± 0.039	0.164 ± 0.035	0.290 ± 0.030	0.174 ± 0.041	0.313 ± 0.042	0.179 ± 0.057
	Acc.2	0.467 ± 0.052	0.500 ± 0.081	0.500 ± 0.033	0.448 ± 0.070	0.405 ± 0.024	0.329 ± 0.025	0.336 ± 0.060	0.333 ± 0.027	0.262 ± 0.064	0.238 ± 0.048	0.305 ± 0.081	0.335 ± 0.045	0.274 ± 0.051	0.264 ± 0.026	0.452 ± 0.048	0.355 ± 0.046	0.464 ± 0.030	0.326 ± 0.041	0.468 ± 0.048	0.345 ± 0.051

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.200 ± 0.051	0.178 ± 0.066	0.156 ± 0.032	0.128 ± 0.030	0.022 ± 0.050	0.022 ± 0.063	0.083 ± 0.044	0.028 ± 0.046	0.025 ± 0.027	-0.044 ± 0.021	0.011 ± 0.062	-0.014 ± 0.071	0.061 ± 0.039	0.000 ± 0.010	0.161 ± 0.035	0.075 ± 0.038	0.150 ± 0.074	0.069 ± 0.035	0.242 ± 0.056	0.064 ± 0.063
	AUC	0.698 ± 0.042	0.678 ± 0.035	0.657 ± 0.037	0.655 ± 0.029	0.516 ± 0.019	0.543 ± 0.036	0.598 ± 0.036	0.551 ± 0.030	0.524 ± 0.030	0.453 ± 0.020	0.513 ± 0.043	0.525 ± 0.065	0.558 ± 0.023	0.471 ± 0.019	0.661 ± 0.019	0.570 ± 0.036	0.648 ± 0.054	0.574 ± 0.050	0.702 ± 0.047	0.587 ± 0.040
	BAcc	0.314 ± 0.043	0.295 ± 0.057	0.276 ± 0.027	0.252 ± 0.026	0.162 ± 0.043	0.162 ± 0.054	0.214 ± 0.038	0.167 ± 0.039	0.164 ± 0.023	0.105 ± 0.018	0.152 ± 0.054	0.131 ± 0.061	0.195 ± 0.033	0.143 ± 0.008	0.281 ± 0.030	0.207 ± 0.032	0.271 ± 0.064	0.202 ± 0.030	0.350 ± 0.048	0.198 ± 0.054
	Acc_1	0.314 ± 0.043	0.295 ± 0.057	0.276 ± 0.027	0.252 ± 0.026	0.162 ± 0.043	0.162 ± 0.054	0.214 ± 0.038	0.167 ± 0.039	0.164 ± 0.023	0.105 ± 0.018	0.157 ± 0.054	0.133 ± 0.064	0.195 ± 0.033	0.143 ± 0.008	0.281 ± 0.030	0.210 ± 0.033	0.271 ± 0.064	0.202 ± 0.030	0.350 ± 0.047	0.200 ± 0.058
	Acc_2	0.531 ± 0.052	0.502 ± 0.042	0.474 ± 0.045	0.436 ± 0.068	0.331 ± 0.046	0.326 ± 0.068	0.400 ± 0.046	0.345 ± 0.039	0.314 ± 0.025	0.240 ± 0.037	0.299 ± 0.049	0.299 ± 0.056	0.352 ± 0.057	0.250 ± 0.028	0.460 ± 0.038	0.386 ± 0.063	0.443 ± 0.045	0.376 ± 0.043	0.527 ± 0.053	0.343 ± 0.047
sub13	κ	0.150 ± 0.036	0.183 ± 0.090	0.167 ± 0.074	0.158 ± 0.035	-0.011 ± 0.036	-0.036 ± 0.029	0.067 ± 0.037	0.003 ± 0.043	0.014 ± 0.043	-0.064 ± 0.021	0.056 ± 0.054	0.039 ± 0.068	-0.042 ± 0.033	-0.036 ± 0.025	0.100 ± 0.012	-0.003 ± 0.023	0.081 ± 0.021	0.006 ± 0.036	0.114 ± 0.032	0.003 ± 0.037
	AUC	0.695 ± 0.039	0.688 ± 0.046	0.685 ± 0.022	0.673 ± 0.038	0.474 ± 0.020	0.485 ± 0.022	0.588 ± 0.035	0.516 ± 0.029	0.504 ± 0.031	0.412 ± 0.037	0.552 ± 0.038	0.555 ± 0.030	0.467 ± 0.023	0.453 ± 0.020	0.598 ± 0.050	0.508 ± 0.025	0.555 ± 0.019	0.510 ± 0.028	0.608 ± 0.024	0.509 ± 0.027
	BAcc	0.271 ± 0.031	0.300 ± 0.077	0.286 ± 0.064	0.279 ± 0.030	0.133 ± 0.031	0.112 ± 0.025	0.200 ± 0.032	0.145 ± 0.037	0.155 ± 0.037	0.088 ± 0.018	0.190 ± 0.046	0.176 ± 0.058	0.107 ± 0.028	0.112 ± 0.022	0.229 ± 0.010	0.140 ± 0.020	0.212 ± 0.018	0.148 ± 0.031	0.240 ± 0.027	0.145 ± 0.032
	Acc_1	0.271 ± 0.031	0.300 ± 0.077	0.286 ± 0.064	0.276 ± 0.032	0.133 ± 0.031	0.112 ± 0.025	0.200 ± 0.032	0.145 ± 0.037	0.155 ± 0.037	0.088 ± 0.018	0.192 ± 0.054	0.170 ± 0.048	0.107 ± 0.028	0.112 ± 0.022	0.229 ± 0.010	0.143 ± 0.024	0.212 ± 0.018	0.148 ± 0.031	0.241 ± 0.020	0.145 ± 0.032
	Acc_2	0.490 ± 0.077	0.512 ± 0.050	0.495 ± 0.043	0.488 ± 0.062	0.248 ± 0.020	0.262 ± 0.024	0.376 ± 0.040	0.302 ± 0.056	0.302 ± 0.043	0.205 ± 0.046	0.329 ± 0.014	0.307 ± 0.032	0.257 ± 0.050	0.233 ± 0.027	0.440 ± 0.055	0.295 ± 0.037	0.371 ± 0.020	0.288 ± 0.038	0.420 ± 0.039	0.305 ± 0.031
sub14	κ	0.206 ± 0.025	0.233 ± 0.081	0.231 ± 0.080	0.167 ± 0.043	0.067 ± 0.051	-0.011 ± 0.033	0.119 ± 0.049	0.053 ± 0.049	-0.047 ± 0.032	0.000 ± 0.000	0.019 ± 0.055	0.028 ± 0.040	-0.011 ± 0.025	0.008 ± 0.021	0.214 ± 0.075	0.050 ± 0.056	0.169 ± 0.059	0.028 ± 0.033	0.206 ± 0.061	0.017 ± 0.023
	AUC	0.710 ± 0.029	0.721 ± 0.016	0.713 ± 0.032	0.677 ± 0.020	0.581 ± 0.088	0.487 ± 0.039	0.615 ± 0.042	0.550 ± 0.032	0.428 ± 0.037	0.450 ± 0.028	0.533 ± 0.026	0.539 ± 0.047	0.482 ± 0.023	0.436 ± 0.038	0.669 ± 0.034	0.549 ± 0.038	0.682 ± 0.045	0.549 ± 0.037	0.690 ± 0.036	0.544 ± 0.036
	BAcc	0.319 ± 0.021	0.343 ± 0.069	0.340 ± 0.068	0.286 ± 0.037	0.200 ± 0.044	0.133 ± 0.028	0.245 ± 0.042	0.188 ± 0.042	0.102 ± 0.027	0.143 ± 0.000	0.160 ± 0.047	0.167 ± 0.035	0.133 ± 0.021	0.150 ± 0.018	0.326 ± 0.064	0.186 ± 0.048	0.288 ± 0.051	0.167 ± 0.028	0.319 ± 0.052	0.157 ± 0.020
	Acc_1	0.319 ± 0.021	0.343 ± 0.069	0.340 ± 0.068	0.286 ± 0.037	0.200 ± 0.044	0.133 ± 0.028	0.245 ± 0.042	0.188 ± 0.042	0.102 ± 0.027	0.143 ± 0.000	0.156 ± 0.043	0.168 ± 0.037	0.133 ± 0.021	0.148 ± 0.014	0.326 ± 0.064	0.186 ± 0.048	0.288 ± 0.051	0.167 ± 0.028	0.318 ± 0.046	0.157 ± 0.020
	Acc_2	0.512 ± 0.024	0.517 ± 0.032	0.552 ± 0.054	0.490 ± 0.033	0.383 ± 0.078	0.295 ± 0.038	0.429 ± 0.092	0.355 ± 0.047	0.202 ± 0.036	0.286 ± 0.000	0.317 ± 0.035	0.343 ± 0.074	0.288 ± 0.013	0.264 ± 0.032	0.524 ± 0.081	0.331 ± 0.058	0.510 ± 0.062	0.336 ± 0.035	0.524 ± 0.024	0.298 ± 0.042
sub15	κ	0.217 ± 0.021	0.172 ± 0.063	0.164 ± 0.055	0.167 ± 0.071	0.097 ± 0.047	0.025 ± 0.023	0.072 ± 0.041	0.017 ± 0.027	0.067 ± 0.039	-0.019 ± 0.023	0.019 ± 0.032	0.067 ± 0.030	-0.025 ± 0.037	-0.011 ± 0.055	0.181 ± 0.067	0.042 ± 0.061	0.172 ± 0.059	0.047 ± 0.053	0.236 ± 0.054	0.033 ± 0.066
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	AUC	$\begin{matrix} 0.706 \\ \pm 0.008 \end{matrix}$	0.668 ± 0.047	0.652 ± 0.034	0.658 ± 0.031	0.567 ± 0.038	0.534 ± 0.044	0.562 ± 0.034	0.557 ± 0.046	0.589 ± 0.029	0.484 ± 0.022	0.536 ± 0.036	0.554 ± 0.021	0.473 ± 0.052	0.479 ± 0.062	0.675 ± 0.056	0.540 ± 0.064	0.656 ± 0.053	0.539 ± 0.058	$\begin{matrix} \mathbf{0.689} \\ \pm \mathbf{0.030} \end{matrix}$	0.546 ± 0.053
	BAcc	$\begin{matrix} \mathbf{0.329} \\ \pm \mathbf{0.018} \end{matrix}$	0.290 ± 0.054	0.283 ± 0.047	0.286 ± 0.061	0.226 ± 0.040	0.164 ± 0.020	0.205 ± 0.035	0.157 ± 0.023	0.200 ± 0.033	0.126 ± 0.020	0.160 ± 0.027	0.200 ± 0.026	0.121 ± 0.032	0.133 ± 0.047	0.298 ± 0.058	0.179 ± 0.052	0.290 ± 0.050	0.183 ± 0.046	$\begin{matrix} 0.345 \\ \pm 0.046 \end{matrix}$	0.171 ± 0.057
	Acc ₁	$\begin{matrix} \mathbf{0.329} \\ \pm \mathbf{0.018} \end{matrix}$	0.290 ± 0.054	0.283 ± 0.047	0.286 ± 0.061	0.226 ± 0.040	0.164 ± 0.020	0.205 ± 0.035	0.160 ± 0.023	0.200 ± 0.033	0.126 ± 0.020	0.158 ± 0.035	0.205 ± 0.027	0.121 ± 0.032	0.131 ± 0.049	0.298 ± 0.058	0.179 ± 0.052	0.290 ± 0.050	0.183 ± 0.046	$\begin{matrix} 0.350 \\ \pm 0.044 \end{matrix}$	0.171 ± 0.057
	Acc ₂	$\begin{matrix} \mathbf{0.538} \\ \pm \mathbf{0.018} \end{matrix}$	0.498 ± 0.076	0.469 ± 0.044	0.467 ± 0.068	0.364 ± 0.056	0.314 ± 0.045	0.350 ± 0.031	0.350 ± 0.041	0.388 ± 0.041	0.260 ± 0.021	0.297 ± 0.035	0.351 ± 0.025	0.262 ± 0.053	0.262 ± 0.033	$\begin{matrix} \mathbf{0.538} \\ \pm \mathbf{0.066} \end{matrix}$	0.329 ± 0.068	0.476 ± 0.048	0.324 ± 0.057	$\begin{matrix} 0.555 \\ \pm 0.050 \end{matrix}$	0.336 ± 0.059
	κ	$\begin{matrix} 0.178 \\ \pm 0.025 \end{matrix}$	0.192 ± 0.068	0.208 ± 0.051	0.175 ± 0.051	0.139 ± 0.035	0.000 ± 0.071	0.072 ± 0.048	-0.017 ± 0.025	-0.022 ± 0.016	-0.011 ± 0.012	0.014 ± 0.055	0.014 ± 0.028	-0.003 ± 0.025	0.003 ± 0.063	0.197 ± 0.086	0.039 ± 0.062	$\begin{matrix} \mathbf{0.225} \\ \pm \mathbf{0.043} \end{matrix}$	0.047 ± 0.041	$\begin{matrix} 0.236 \\ \pm 0.086 \end{matrix}$	0.075 ± 0.061
sub2	AUC	$\begin{matrix} 0.667 \\ \pm 0.021 \end{matrix}$	0.675 ± 0.036	$\begin{matrix} \mathbf{0.685} \\ \pm \mathbf{0.033} \end{matrix}$	0.635 ± 0.037	0.608 ± 0.030	0.548 ± 0.030	0.571 ± 0.020	0.479 ± 0.038	0.432 ± 0.028	0.448 ± 0.018	0.508 ± 0.048	0.511 ± 0.025	0.483 ± 0.035	0.476 ± 0.051	0.672 ± 0.035	0.552 ± 0.041	0.668 ± 0.017	0.568 ± 0.035	$\begin{matrix} 0.693 \\ \pm 0.056 \end{matrix}$	0.590 ± 0.025
	BAcc	$\begin{matrix} 0.295 \\ \pm 0.021 \end{matrix}$	0.307 ± 0.059	0.321 ± 0.044	0.293 ± 0.043	0.262 ± 0.030	0.143 ± 0.061	0.205 ± 0.041	0.129 ± 0.021	0.124 ± 0.014	0.133 ± 0.010	0.155 ± 0.047	0.155 ± 0.024	0.140 ± 0.021	0.145 ± 0.054	0.312 ± 0.074	0.176 ± 0.054	$\begin{matrix} \mathbf{0.336} \\ \pm \mathbf{0.037} \end{matrix}$	0.183 ± 0.035	$\begin{matrix} 0.345 \\ \pm 0.073 \end{matrix}$	0.207 ± 0.052
	Acc ₁	$\begin{matrix} 0.295 \\ \pm 0.021 \end{matrix}$	0.307 ± 0.059	0.321 ± 0.044	0.290 ± 0.039	0.262 ± 0.030	0.143 ± 0.061	0.205 ± 0.041	0.129 ± 0.021	0.126 ± 0.011	0.131 ± 0.015	0.152 ± 0.045	0.153 ± 0.018	0.138 ± 0.022	0.145 ± 0.054	0.312 ± 0.074	0.176 ± 0.054	$\begin{matrix} \mathbf{0.336} \\ \pm \mathbf{0.037} \end{matrix}$	0.183 ± 0.035	$\begin{matrix} 0.341 \\ \pm 0.082 \end{matrix}$	0.210 ± 0.051
	Acc ₂	$\begin{matrix} 0.495 \\ \pm 0.020 \end{matrix}$	0.493 ± 0.056	$\begin{matrix} \mathbf{0.521} \\ \pm \mathbf{0.051} \end{matrix}$	0.448 ± 0.036	0.405 ± 0.056	0.290 ± 0.043	0.345 ± 0.037	0.260 ± 0.042	0.248 ± 0.035	0.271 ± 0.020	0.302 ± 0.045	0.300 ± 0.017	0.286 ± 0.022	0.271 ± 0.054	0.507 ± 0.054	0.340 ± 0.034	0.510 ± 0.021	0.364 ± 0.055	$\begin{matrix} 0.529 \\ \pm 0.071 \end{matrix}$	0.395 ± 0.051
	κ	$\begin{matrix} 0.686 \\ \pm 0.066 \end{matrix}$	0.636 ± 0.040	0.706 ± 0.051	0.667 ± 0.040	0.189 ± 0.038	0.064 ± 0.021	0.583 ± 0.085	0.106 ± 0.070	0.381 ± 0.025	0.019 ± 0.074	0.133 ± 0.059	0.389 ± 0.051	0.000 ± 0.000	-0.014 ± 0.044	0.861 ± 0.029	0.239 ± 0.027	$\begin{matrix} \mathbf{0.894} \\ \pm \mathbf{0.032} \end{matrix}$	0.311 ± 0.066	$\begin{matrix} 0.925 \\ \pm 0.021 \end{matrix}$	0.256 ± 0.060
sub3	AUC	$\begin{matrix} 0.947 \\ \pm 0.014 \end{matrix}$	0.927 ± 0.021	0.933 ± 0.025	0.938 ± 0.009	0.648 ± 0.028	0.598 ± 0.032	0.897 ± 0.021	0.598 ± 0.041	0.810 ± 0.021	0.515 ± 0.051	0.630 ± 0.059	0.812 ± 0.032	0.507 ± 0.010	0.496 ± 0.021	0.986 ± 0.005	0.754 ± 0.031	$\begin{matrix} \mathbf{0.991} \\ \pm \mathbf{0.004} \end{matrix}$	0.796 ± 0.027	$\begin{matrix} 0.993 \\ \pm 0.004 \end{matrix}$	0.779 ± 0.036
	BAcc	$\begin{matrix} 0.731 \\ \pm 0.056 \end{matrix}$	0.688 ± 0.034	0.748 ± 0.044	0.714 ± 0.035	0.305 ± 0.032	0.198 ± 0.018	0.643 ± 0.073	0.233 ± 0.060	0.469 ± 0.022	0.160 ± 0.063	0.257 ± 0.051	0.476 ± 0.044	0.143 ± 0.000	0.131 ± 0.038	0.881 ± 0.025	0.348 ± 0.023	$\begin{matrix} \mathbf{0.910} \\ \pm \mathbf{0.027} \end{matrix}$	0.410 ± 0.057	$\begin{matrix} 0.936 \\ \pm 0.018 \end{matrix}$	0.362 ± 0.052
	Acc ₁	$\begin{matrix} 0.731 \\ \pm 0.056 \end{matrix}$	0.688 ± 0.034	0.748 ± 0.044	0.712 ± 0.036	0.305 ± 0.032	0.198 ± 0.018	0.640 ± 0.077	0.233 ± 0.060	0.469 ± 0.022	0.157 ± 0.059	0.265 ± 0.051	0.485 ± 0.046	0.143 ± 0.000	0.129 ± 0.042	0.881 ± 0.025	0.348 ± 0.023	$\begin{matrix} \mathbf{0.910} \\ \pm \mathbf{0.027} \end{matrix}$	0.410 ± 0.057	$\begin{matrix} 0.934 \\ \pm 0.020 \end{matrix}$	0.362 ± 0.052
	Acc ₂	$\begin{matrix} 0.833 \\ \pm 0.060 \end{matrix}$	0.843 ± 0.042	0.843 ± 0.058	0.855 ± 0.028	0.460 ± 0.034	0.371 ± 0.046	0.788 ± 0.042	0.412 ± 0.057	0.686 ± 0.043	0.312 ± 0.044	0.415 ± 0.073	0.691 ± 0.034	0.286 ± 0.000	0.267 ± 0.031	$\begin{matrix} \mathbf{0.960} \\ \pm \mathbf{0.014} \end{matrix}$	0.562 ± 0.074	0.955 ± 0.013	0.619 ± 0.028	$\begin{matrix} 0.983 \\ \pm 0.013 \end{matrix}$	0.576 ± 0.042
	κ	$\begin{matrix} 0.692 \\ \pm 0.035 \end{matrix}$	0.664 ± 0.051	0.719 ± 0.025	0.658 ± 0.049	0.639 ± 0.084	0.008 ± 0.012	0.544 ± 0.040	0.097 ± 0.064	0.469 ± 0.021	0.000 ± 0.000	0.411 ± 0.038	0.403 ± 0.058	0.078 ± 0.174	-0.003 ± 0.027	0.833 ± 0.026	0.275 ± 0.054	$\begin{matrix} 0.853 \\ \pm 0.040 \end{matrix}$	0.292 ± 0.040	$\begin{matrix} \mathbf{0.836} \\ \pm \mathbf{0.048} \end{matrix}$	0.261 ± 0.062
sub4	AUC	$\begin{matrix} 0.946 \\ \pm 0.011 \end{matrix}$	0.946 ± 0.012	0.956 ± 0.013	0.930 ± 0.019	0.893 ± 0.020	0.893 ± 0.067	0.533 ± 0.023	0.883 ± 0.060	0.533 ± 0.028	0.837 ± 0.036	0.830 ± 0.037	0.830 ± 0.023	0.584 ± 0.168	0.497 ± 0.022	$\begin{matrix} 0.983 \\ \pm 0.005 \end{matrix}$	0.771 ± 0.028	0.981 ± 0.009	0.800 ± 0.030	$\begin{matrix} \mathbf{0.982} \\ \pm \mathbf{0.008} \end{matrix}$	0.769 ± 0.042

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	
sub5	BAcc	0.736 ±0.030	0.712 ±0.044	0.760 ±0.021	0.707 ±0.042	0.690 ±0.072	0.150 ±0.011	0.610 ±0.034	0.226 ±0.055	0.545 ±0.018	0.143 ±0.000	0.495 ±0.032	0.488 ±0.050	0.210 ±0.149	0.140 ±0.023	0.857 ±0.022	0.379 ±0.046	0.874 ±0.034	0.393 ±0.035	0.860 ± 0.041	0.367 ±0.053	1761
	Acc_1	0.736 ±0.030	0.712 ±0.044	0.760 ±0.021	0.707 ±0.042	0.690 ±0.072	0.150 ±0.011	0.610 ±0.034	0.226 ±0.055	0.545 ±0.018	0.143 ±0.000	0.497 ±0.032	0.495 ±0.057	0.210 ±0.149	0.140 ±0.023	0.857 ±0.022	0.379 ±0.046	0.874 ±0.034	0.393 ±0.035	0.867 ± 0.031	0.367 ±0.053	1762
	Acc_2	0.862 ±0.026	0.871 ±0.018	0.898 ±0.034	0.850 ±0.036	0.855 ±0.033	0.310 ±0.028	0.781 ±0.041	0.393 ±0.110	0.800 ±0.043	0.286 ±0.000	0.713 ±0.087	0.703 ±0.035	0.388 ±0.229	0.283 ±0.027	0.969 ±0.018	0.583 ±0.049	0.960 ±0.016	0.621 ±0.069	0.967 ± 0.023	0.624 ±0.080	1763
	κ	0.158 ±0.049	0.203 ±0.065	0.247 ± 0.065	0.244 ±0.042	0.061 ±0.062	0.003 ±0.030	0.097 ±0.067	0.033 ±0.053	0.006 ±0.071	-0.036 ±0.041	0.017 ±0.037	0.011 ±0.049	0.003 ±0.057	-0.008 ±0.038	0.258 ±0.071	-0.008 ±0.016	0.139 ±0.049	0.014 ±0.026	0.239 ±0.058	0.036 ±0.016	1764
	AUC	0.717 ±0.039	0.718 ± 0.026	0.715 ±0.021	0.726 ±0.018	0.559 ±0.027	0.506 ±0.025	0.629 ±0.045	0.526 ±0.027	0.499 ±0.049	0.438 ±0.031	0.541 ±0.036	0.554 ±0.035	0.491 ±0.077	0.476 ±0.009	0.696 ±0.048	0.517 ±0.019	0.627 ±0.033	0.517 ±0.014	0.680 ±0.040	0.537 ±0.020	1765
	BAcc	0.279 ±0.042	0.317 ±0.056	0.355 ± 0.055	0.352 ±0.036	0.195 ±0.053	0.145 ±0.026	0.226 ±0.058	0.171 ±0.045	0.148 ±0.060	0.112 ±0.035	0.157 ±0.032	0.152 ±0.042	0.145 ±0.049	0.136 ±0.032	0.364 ±0.061	0.136 ±0.014	0.262 ±0.042	0.155 ±0.022	0.348 ±0.050	0.174 ±0.014	1766
sub6	Acc_1	0.279 ±0.042	0.317 ±0.056	0.355 ± 0.055	0.352 ±0.036	0.195 ±0.053	0.145 ±0.026	0.226 ±0.058	0.171 ±0.045	0.148 ±0.060	0.110 ±0.037	0.160 ±0.029	0.153 ±0.045	0.145 ±0.049	0.136 ±0.032	0.364 ±0.061	0.136 ±0.014	0.262 ±0.042	0.155 ±0.022	0.345 ±0.055	0.174 ±0.014	1767
	Acc_2	0.543 ±0.086	0.545 ±0.065	0.567 ±0.065	0.555 ± 0.045	0.383 ±0.042	0.305 ±0.043	0.424 ±0.052	0.302 ±0.033	0.302 ±0.059	0.243 ±0.059	0.327 ±0.066	0.325 ±0.070	0.281 ±0.064	0.281 ±0.018	0.545 ±0.054	0.300 ±0.042	0.400 ±0.032	0.279 ±0.034	0.517 ±0.054	0.312 ±0.033	1768
	κ	0.314 ±0.064	0.328 ±0.083	0.322 ±0.074	0.358 ±0.088	0.178 ±0.044	0.083 ±0.102	0.217 ±0.072	0.061 ±0.045	0.097 ±0.118	-0.042 ±0.035	0.039 ±0.021	0.108 ±0.028	0.000 ±0.000	0.000 ±0.073	0.519 ±0.062	0.111 ±0.064	0.531 ± 0.015	0.161 ±0.036	0.544 ±0.077	0.156 ±0.023	1769
	AUC	0.789 ±0.027	0.783 ±0.048	0.754 ±0.038	0.788 ±0.057	0.633 ±0.025	0.576 ±0.042	0.703 ±0.055	0.559 ±0.036	0.618 ±0.135	0.434 ±0.026	0.561 ±0.014	0.596 ±0.015	0.490 ±0.022	0.468 ±0.039	0.868 ±0.029	0.639 ±0.027	0.877 ± 0.014	0.650 ±0.022	0.890 ±0.030	0.640 ±0.015	1770
	BAcc	0.412 ±0.055	0.424 ±0.071	0.419 ±0.063	0.450 ±0.075	0.295 ±0.038	0.214 ±0.087	0.329 ±0.062	0.195 ±0.038	0.226 ±0.101	0.107 ±0.030	0.176 ±0.018	0.236 ±0.024	0.143 ±0.000	0.143 ±0.062	0.588 ±0.053	0.238 ±0.055	0.598 ± 0.013	0.281 ±0.031	0.610 ±0.066	0.276 ±0.020	1771
	Acc_1	0.412 ±0.055	0.424 ±0.071	0.417 ±0.066	0.450 ±0.075	0.295 ±0.038	0.214 ±0.087	0.329 ±0.062	0.195 ±0.038	0.224 ±0.106	0.105 ±0.030	0.180 ±0.023	0.241 ±0.022	0.143 ±0.000	0.143 ±0.062	0.588 ±0.053	0.238 ±0.055	0.598 ± 0.013	0.281 ±0.031	0.618 ±0.065	0.276 ±0.020	1772
sub7	Acc_2	0.660 ±0.040	0.629 ±0.077	0.605 ±0.039	0.633 ±0.097	0.448 ±0.040	0.350 ±0.060	0.529 ±0.068	0.355 ±0.044	0.419 ±0.145	0.217 ±0.042	0.342 ±0.022	0.397 ±0.028	0.286 ±0.000	0.248 ±0.062	0.812 ± 0.033	0.400 ±0.054	0.798 ±0.017	0.476 ±0.022	0.826 ±0.044	0.424 ±0.035	1773
	κ	0.186 ±0.070	0.192 ±0.072	0.189 ± 0.067	0.164 ±0.074	0.014 ±0.037	0.022 ±0.066	0.058 ±0.089	0.028 ±0.080	-0.014 ±0.033	-0.033 ±0.032	0.008 ±0.025	0.047 ±0.029	-0.011 ±0.018	-0.006 ±0.049	0.186 ±0.045	0.050 ±0.040	0.156 ±0.058	0.075 ±0.012	0.192 ±0.027	0.050 ±0.049	1774
	AUC	0.689 ±0.042	0.678 ±0.063	0.683 ± 0.045	0.665 ±0.068	0.538 ±0.032	0.530 ±0.038	0.563 ±0.069	0.535 ±0.062	0.480 ±0.028	0.458 ±0.033	0.503 ±0.042	0.533 ±0.031	0.492 ±0.036	0.516 ±0.041	0.669 ±0.062	0.559 ±0.041	0.654 ±0.032	0.579 ±0.046	0.680 ±0.040	0.570 ±0.044	1775
	BAcc	0.302 ±0.060	0.307 ±0.062	0.305 ± 0.057	0.283 ±0.063	0.155 ±0.031	0.162 ±0.056	0.193 ±0.076	0.167 ±0.068	0.131 ±0.028	0.114 ±0.027	0.150 ±0.022	0.183 ±0.025	0.133 ±0.016	0.138 ±0.042	0.302 ±0.038	0.186 ±0.034	0.276 ±0.050	0.207 ±0.011	0.307 ±0.023	0.186 ±0.042	1776

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub8	Acc.1	0.302 ±0.060	0.307 ± 0.062	0.305 ±0.057	0.283 ±0.063	0.155 ±0.031	0.162 ±0.056	0.193 ±0.076	0.164 ±0.069	0.131 ±0.028	0.114 ±0.027	0.147 ±0.025	0.180 ±0.025	0.133 ±0.016	0.138 ±0.042	0.302 ±0.038	0.188 ±0.035	0.276 ±0.050	0.210 ±0.016	0.312 ± 0.019	0.188 ±0.040
	Acc.2	0.519 ± 0.066	0.493 ±0.054	0.500 ±0.074	0.507 ± 0.083	0.326 ±0.068	0.307 ±0.054	0.355 ±0.121	0.314 ±0.078	0.260 ±0.057	0.240 ±0.042	0.292 ±0.068	0.316 ±0.057	0.302 ±0.023	0.290 ±0.056	0.505 ±0.094	0.362 ±0.080	0.476 ±0.025	0.348 ±0.041	0.504 ±0.063	0.333 ±0.039
	κ	0.256 ± 0.061	0.219 ±0.069	0.222 ±0.051	0.244 ± 0.077	0.039 ±0.043	-0.019 ±0.021	0.119 ±0.075	0.014 ±0.038	-0.056 ±0.026	-0.067 ±0.023	0.064 ±0.107	0.047 ±0.040	-0.036 ±0.041	-0.075 ±0.032	0.147 ±0.046	0.042 ±0.022	0.158 ±0.049	0.036 ±0.029	0.228 ±0.043	0.061 ±0.025
	AUC	0.718 ± 0.061	0.705 ±0.048	0.689 ±0.030	0.725 ± 0.034	0.551 ±0.029	0.500 ±0.021	0.619 ±0.021	0.519 ±0.046	0.406 ±0.045	0.415 ±0.021	0.538 ±0.051	0.555 ±0.035	0.446 ±0.034	0.410 ±0.010	0.644 ±0.042	0.535 ±0.034	0.648 ±0.025	0.532 ±0.022	0.696 ±0.030	0.577 ±0.014
	BAcc	0.362 ± 0.052	0.331 ±0.059	0.333 ±0.044	0.352 ± 0.066	0.176 ±0.037	0.126 ±0.018	0.245 ±0.064	0.155 ±0.033	0.095 ±0.022	0.086 ±0.020	0.198 ±0.092	0.183 ±0.034	0.112 ±0.035	0.079 ±0.027	0.269 ±0.039	0.179 ±0.019	0.279 ±0.042	0.174 ±0.025	0.338 ±0.037	0.195 ±0.022
	Acc.1	0.362 ± 0.052	0.331 ±0.059	0.333 ±0.044	0.355 ± 0.066	0.176 ±0.037	0.126 ±0.018	0.245 ±0.064	0.155 ±0.033	0.095 ±0.022	0.086 ±0.020	0.194 ±0.089	0.183 ±0.039	0.112 ±0.035	0.079 ±0.027	0.269 ±0.039	0.179 ±0.019	0.279 ±0.042	0.174 ±0.025	0.333 ±0.042	0.195 ±0.022
sub9	Acc.2	0.548 ± 0.061	0.524 ±0.058	0.536 ± 0.073	0.524 ±0.039	0.343 ±0.063	0.281 ±0.034	0.421 ±0.043	0.319 ±0.091	0.202 ±0.048	0.217 ±0.049	0.332 ±0.057	0.328 ±0.030	0.231 ±0.043	0.190 ±0.022	0.469 ±0.053	0.338 ±0.031	0.474 ±0.021	0.331 ±0.026	0.525 ±0.043	0.355 ±0.033
	κ	0.167 ±0.051	0.211 ±0.071	0.206 ±0.018	0.178 ±0.058	0.106 ±0.073	0.003 ±0.021	0.117 ±0.038	0.072 ±0.033	0.072 ±0.045	-0.064 ±0.021	0.069 ±0.056	0.067 ±0.062	-0.017 ±0.033	-0.028 ±0.045	0.378 ± 0.057	0.125 ±0.061	0.394 ± 0.098	0.131 ±0.074	0.222 ±0.057	0.100 ±0.072
	AUC	0.705 ±0.032	0.708 ±0.038	0.686 ±0.016	0.704 ±0.011	0.568 ±0.052	0.519 ±0.035	0.627 ±0.030	0.563 ±0.033	0.580 ±0.031	0.427 ±0.022	0.569 ±0.037	0.571 ±0.033	0.458 ±0.015	0.449 ±0.022	0.764 ± 0.026	0.626 ±0.042	0.803 ± 0.037	0.637 ±0.050	0.678 ±0.031	0.623 ±0.047
	BAcc	0.286 ±0.044	0.324 ±0.061	0.319 ±0.016	0.295 ±0.049	0.233 ±0.062	0.145 ±0.018	0.243 ±0.032	0.205 ±0.028	0.205 ±0.039	0.088 ±0.018	0.202 ±0.048	0.200 ±0.053	0.129 ±0.028	0.119 ±0.039	0.467 ± 0.049	0.250 ±0.052	0.481 ± 0.084	0.255 ±0.063	0.333 ±0.049	0.229 ±0.062
	Acc.1	0.286 ±0.044	0.324 ±0.061	0.321 ±0.015	0.295 ±0.049	0.233 ±0.062	0.145 ±0.018	0.243 ±0.032	0.205 ±0.028	0.205 ±0.039	0.088 ±0.018	0.211 ±0.052	0.207 ±0.056	0.129 ±0.028	0.117 ±0.035	0.467 ± 0.049	0.250 ±0.052	0.481 ± 0.084	0.255 ±0.063	0.337 ±0.054	0.229 ±0.062
	Acc.2	0.514 ±0.036	0.569 ±0.037	0.519 ±0.050	0.498 ±0.031	0.407 ±0.072	0.298 ±0.046	0.445 ±0.048	0.386 ±0.072	0.376 ±0.014	0.207 ±0.040	0.375 ±0.048	0.385 ±0.063	0.245 ±0.027	0.224 ±0.042	0.624 ± 0.027	0.414 ±0.062	0.681 ± 0.064	0.438 ±0.057	0.540 ±0.043	0.436 ±0.094

C.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 19: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.061	0.575	0.195	0.195	0.361
DeepConvnet	± 0.015	± 0.020	± 0.013	± 0.013	± 0.022
	0.062	0.576	0.196	0.196	0.366
EEGNet	± 0.015	± 0.018	± 0.013	± 0.013	± 0.019
	0.065	0.567	0.199	0.199	0.364
Conformer	± 0.016	± 0.019	± 0.014	± 0.014	± 0.023
	0.062	0.573	0.196	0.196	0.360
CTNet	± 0.014	± 0.016	± 0.012	± 0.012	± 0.018
	0.007	0.512	0.149	0.149	0.294
BIOT (f)	± 0.007	± 0.011	± 0.006	± 0.006	± 0.008
	0.004	0.512	0.147	0.147	0.290
BIOT (l)	± 0.004	± 0.011	± 0.003	± 0.003	± 0.004
	0.036	0.538	0.174	0.174	0.327
BENDR (f)	± 0.013	± 0.012	± 0.011	± 0.011	± 0.014
	0.013	0.514	0.154	0.154	0.300
BENDR (l)	± 0.008	± 0.005	± 0.006	± 0.006	± 0.008
	0.005	0.505	0.147	0.147	0.290
CBraMod (f)	± 0.008	± 0.010	± 0.007	± 0.007	± 0.008
	-0.002	0.499	0.141	0.141	0.284
CBraMod (l)	± 0.003	± 0.006	± 0.003	± 0.003	± 0.003
	0.008	0.510	0.150	0.150	0.296
EEGPT (f)	± 0.004	± 0.005	± 0.004	± 0.004	± 0.005
	0.009	0.516	0.151	0.151	0.299
EEGPT (l)	± 0.005	± 0.008	± 0.005	± 0.005	± 0.009
	0.002	0.504	0.145	0.144	0.287
LaBraM (f)	± 0.004	± 0.007	± 0.004	± 0.004	± 0.007
	0.003	0.503	0.145	0.145	0.287
LaBraM (l)	± 0.003	± 0.006	± 0.003	± 0.003	± 0.003
	0.070	0.566	0.203	0.203	0.364
STEEGformer-s (f)	± 0.019	± 0.014	± 0.016	± 0.016	± 0.025
	0.015	0.525	0.155	0.155	0.302
STEEGformer-s (l)	± 0.008	± 0.012	± 0.007	± 0.007	± 0.007
	0.061	0.564	0.195	0.195	0.349
STEEGformer-b (f)	± 0.020	± 0.019	± 0.017	± 0.017	± 0.021
	0.016	0.530	0.157	0.157	0.305
STEEGformer-b (l)	± 0.008	± 0.013	± 0.007	± 0.007	± 0.009
	0.071	0.572	0.204	0.204	0.366
STEEGformer-l (f)	± 0.021	± 0.019	± 0.018	± 0.018	± 0.027
	0.015	0.533	0.156	0.156	0.306
STEEGformer-l (l)	± 0.008	± 0.016	± 0.007	± 0.007	± 0.009

Table 20: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.056 ± 0.030	0.048 ± 0.018	0.059 ± 0.029	0.061 ± 0.032	0.008 ± 0.011	0.005 ± 0.009	0.033 ± 0.029	0.000 ± 0.021	0.003 ± 0.005	-0.001 ± 0.003	0.001 ± 0.021	0.010 ± 0.017	-0.001 ± 0.006	0.000 ± 0.006	0.081 ± 0.028	0.021 ± 0.017	0.054 ± 0.042	0.016 ± 0.021	0.080 ± 0.044	0.017 ± 0.021
	AUC	0.573 ± 0.026	0.569 ± 0.022	0.555 ± 0.026	0.575 ± 0.024	0.512 ± 0.021	0.518 ± 0.017	0.538 ± 0.022	0.511 ± 0.017	0.500 ± 0.023	0.504 ± 0.021	0.501 ± 0.013	0.513 ± 0.016	0.493 ± 0.012	0.495 ± 0.020	0.567 ± 0.023	0.532 ± 0.027	0.557 ± 0.030	0.531 ± 0.026	0.576 ± 0.034	0.542 ± 0.033
	BAcc	0.191 ± 0.025	0.184 ± 0.016	0.193 ± 0.025	0.195 ± 0.028	0.149 ± 0.009	0.147 ± 0.008	0.171 ± 0.025	0.143 ± 0.018	0.145 ± 0.004	0.142 ± 0.002	0.144 ± 0.018	0.151 ± 0.014	0.142 ± 0.005	0.143 ± 0.005	0.212 ± 0.024	0.161 ± 0.015	0.189 ± 0.036	0.157 ± 0.018	0.212 ± 0.038	0.157 ± 0.018
	Acc ₁	0.191 ± 0.026	0.184 ± 0.016	0.193 ± 0.025	0.195 ± 0.027	0.149 ± 0.009	0.147 ± 0.008	0.171 ± 0.025	0.143 ± 0.018	0.145 ± 0.004	0.142 ± 0.002	0.143 ± 0.018	0.152 ± 0.016	0.142 ± 0.006	0.143 ± 0.005	0.213 ± 0.024	0.161 ± 0.015	0.189 ± 0.036	0.157 ± 0.018	0.213 ± 0.038	0.157 ± 0.018
	Acc ₂	0.368 ± 0.028	0.356 ± 0.031	0.353 ± 0.027	0.363 ± 0.028	0.293 ± 0.018	0.287 ± 0.012	0.335 ± 0.031	0.295 ± 0.024	0.287 ± 0.011	0.286 ± 0.001	0.288 ± 0.026	0.300 ± 0.017	0.285 ± 0.006	0.283 ± 0.006	0.376 ± 0.034	0.306 ± 0.012	0.347 ± 0.035	0.302 ± 0.016	0.381 ± 0.050	0.310 ± 0.020
sub10	κ	0.079 ± 0.029	0.078 ± 0.028	0.071 ± 0.040	0.079 ± 0.033	-0.001 ± 0.015	-0.001 ± 0.008	0.044 ± 0.021	0.022 ± 0.029	0.001 ± 0.020	-0.002 ± 0.008	0.008 ± 0.023	0.005 ± 0.016	0.012 ± 0.013	0.006 ± 0.009	0.083 ± 0.032	0.008 ± 0.018	0.054 ± 0.029	0.014 ± 0.011	0.061 ± 0.031	0.009 ± 0.017
	AUC	0.590 ± 0.028	0.594 ± 0.025	0.573 ± 0.034	0.590 ± 0.024	0.501 ± 0.010	0.497 ± 0.014	0.549 ± 0.020	0.518 ± 0.012	0.500 ± 0.016	0.499 ± 0.033	0.511 ± 0.019	0.507 ± 0.015	0.513 ± 0.015	0.497 ± 0.015	0.574 ± 0.023	0.510 ± 0.015	0.561 ± 0.025	0.520 ± 0.020	0.562 ± 0.027	0.515 ± 0.022
	BAcc	0.211 ± 0.025	0.210 ± 0.024	0.204 ± 0.034	0.211 ± 0.028	0.142 ± 0.013	0.142 ± 0.007	0.181 ± 0.018	0.161 ± 0.025	0.144 ± 0.017	0.141 ± 0.007	0.150 ± 0.019	0.147 ± 0.014	0.153 ± 0.011	0.148 ± 0.008	0.214 ± 0.027	0.149 ± 0.015	0.189 ± 0.025	0.155 ± 0.010	0.195 ± 0.026	0.150 ± 0.015
	Acc ₁	0.211 ± 0.025	0.210 ± 0.024	0.203 ± 0.034	0.211 ± 0.028	0.142 ± 0.013	0.142 ± 0.007	0.181 ± 0.018	0.161 ± 0.025	0.144 ± 0.017	0.141 ± 0.007	0.151 ± 0.019	0.147 ± 0.014	0.153 ± 0.011	0.149 ± 0.008	0.214 ± 0.027	0.149 ± 0.015	0.189 ± 0.024	0.155 ± 0.010	0.196 ± 0.029	0.150 ± 0.015
	Acc ₂	0.375 ± 0.034	0.388 ± 0.031	0.374 ± 0.042	0.381 ± 0.026	0.279 ± 0.015	0.284 ± 0.009	0.337 ± 0.022	0.308 ± 0.025	0.286 ± 0.024	0.285 ± 0.007	0.294 ± 0.027	0.285 ± 0.020	0.296 ± 0.016	0.290 ± 0.009	0.379 ± 0.034	0.298 ± 0.016	0.351 ± 0.029	0.297 ± 0.011	0.353 ± 0.037	0.299 ± 0.019
sub11	κ	0.062 ± 0.024	0.079 ± 0.034	0.075 ± 0.031	0.065 ± 0.024	0.002 ± 0.016	0.006 ± 0.012	0.024 ± 0.020	0.008 ± 0.020	0.009 ± 0.016	0.001 ± 0.010	0.011 ± 0.016	0.004 ± 0.015	-0.004 ± 0.013	0.003 ± 0.008	0.069 ± 0.057	0.002 ± 0.013	0.058 ± 0.048	0.005 ± 0.022	0.051 ± 0.045	0.005 ± 0.020
	AUC	0.593 ± 0.022	0.590 ± 0.033	0.583 ± 0.030	0.579 ± 0.018	0.505 ± 0.016	0.499 ± 0.019	0.533 ± 0.016	0.512 ± 0.016	0.500 ± 0.016	0.510 ± 0.021	0.518 ± 0.011	0.504 ± 0.016	0.499 ± 0.019	0.505 ± 0.017	0.563 ± 0.046	0.517 ± 0.021	0.551 ± 0.040	0.528 ± 0.018	0.549 ± 0.033	0.521 ± 0.021
	BAcc	0.196 ± 0.021	0.211 ± 0.029	0.207 ± 0.026	0.198 ± 0.021	0.144 ± 0.014	0.148 ± 0.010	0.163 ± 0.017	0.149 ± 0.017	0.151 ± 0.014	0.144 ± 0.008	0.152 ± 0.014	0.146 ± 0.013	0.140 ± 0.011	0.145 ± 0.007	0.202 ± 0.048	0.144 ± 0.011	0.193 ± 0.041	0.147 ± 0.019	0.187 ± 0.039	0.147 ± 0.017
	Acc ₁	0.196 ± 0.021	0.211 ± 0.029	0.207 ± 0.026	0.198 ± 0.021	0.144 ± 0.014	0.148 ± 0.010	0.163 ± 0.017	0.149 ± 0.017	0.151 ± 0.014	0.144 ± 0.009	0.152 ± 0.014	0.145 ± 0.013	0.140 ± 0.011	0.145 ± 0.007	0.202 ± 0.048	0.144 ± 0.011	0.193 ± 0.041	0.147 ± 0.019	0.187 ± 0.040	0.147 ± 0.017
	Acc ₂	0.364 ± 0.024	0.384 ± 0.049	0.379 ± 0.037	0.372 ± 0.036	0.287 ± 0.016	0.287 ± 0.010	0.321 ± 0.022	0.293 ± 0.020	0.287 ± 0.013	0.289 ± 0.011	0.292 ± 0.011	0.283 ± 0.022	0.274 ± 0.013	0.286 ± 0.007	0.356 ± 0.046	0.290 ± 0.014	0.342 ± 0.046	0.307 ± 0.018	0.336 ± 0.051	0.297 ± 0.010

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.061 ± 0.033	0.058 ± 0.036	0.066 ± 0.038	0.059 ± 0.033	0.011 ± 0.016	0.005 ± 0.014	0.035 ± 0.023	0.009 ± 0.018	0.007 ± 0.013	-0.003 ± 0.009	0.003 ± 0.012	0.006 ± 0.021	0.007 ± 0.011	0.008 ± 0.013	0.065 ± 0.043	0.016 ± 0.020	0.054 ± 0.031	0.027 ± 0.024	0.073 ± 0.041	0.026 ± 0.024
	AUC	0.572 ± 0.035	0.570 ± 0.029	0.567 ± 0.029	0.572 ± 0.027	0.517 ± 0.011	0.527 ± 0.018	0.538 ± 0.022	0.516 ± 0.017	0.512 ± 0.017	0.507 ± 0.025	0.506 ± 0.017	0.514 ± 0.015	0.521 ± 0.016	0.515 ± 0.014	0.565 ± 0.030	0.529 ± 0.021	0.573 ± 0.026	0.534 ± 0.022	0.581 ± 0.033	0.539 ± 0.027
	BAcc	0.195 ± 0.028	0.193 ± 0.031	0.200 ± 0.032	0.194 ± 0.028	0.152 ± 0.014	0.147 ± 0.012	0.173 ± 0.020	0.151 ± 0.015	0.148 ± 0.011	0.140 ± 0.008	0.146 ± 0.010	0.148 ± 0.018	0.148 ± 0.010	0.150 ± 0.011	0.199 ± 0.037	0.157 ± 0.017	0.189 ± 0.026	0.166 ± 0.020	0.205 ± 0.035	0.165 ± 0.021
	Acc_1	0.195 ± 0.028	0.193 ± 0.031	0.200 ± 0.032	0.194 ± 0.028	0.152 ± 0.014	0.147 ± 0.012	0.173 ± 0.020	0.150 ± 0.015	0.149 ± 0.011	0.140 ± 0.008	0.147 ± 0.009	0.151 ± 0.019	0.148 ± 0.010	0.150 ± 0.011	0.199 ± 0.037	0.156 ± 0.017	0.189 ± 0.026	0.166 ± 0.020	0.205 ± 0.037	0.165 ± 0.021
	Acc_2	0.357 ± 0.038	0.357 ± 0.033	0.355 ± 0.036	0.358 ± 0.027	0.295 ± 0.019	0.290 ± 0.011	0.330 ± 0.032	0.296 ± 0.019	0.293 ± 0.011	0.285 ± 0.007	0.299 ± 0.020	0.298 ± 0.025	0.304 ± 0.013	0.292 ± 0.012	0.349 ± 0.050	0.306 ± 0.015	0.338 ± 0.034	0.314 ± 0.021	0.373 ± 0.041	0.316 ± 0.023
	sub13	κ	0.069 ± 0.024	0.069 ± 0.022	0.067 ± 0.023	0.056 ± 0.024	0.010 ± 0.015	0.002 ± 0.005	0.032 ± 0.019	0.012 ± 0.020	-0.005 ± 0.020	-0.003 ± 0.012	0.011 ± 0.022	-0.001 ± 0.015	0.004 ± 0.008	0.004 ± 0.008	0.035 ± 0.020	0.007 ± 0.013	0.019 ± 0.021	0.010 ± 0.012	0.052 ± 0.027
AUC		0.585 ± 0.029	0.592 ± 0.027	0.577 ± 0.025	0.573 ± 0.021	0.510 ± 0.020	0.504 ± 0.018	0.538 ± 0.017	0.519 ± 0.013	0.496 ± 0.013	0.500 ± 0.016	0.507 ± 0.020	0.508 ± 0.014	0.504 ± 0.012	0.506 ± 0.014	0.544 ± 0.021	0.511 ± 0.018	0.526 ± 0.017	0.512 ± 0.017	0.561 ± 0.028	0.519 ± 0.018
BAcc		0.202 ± 0.020	0.202 ± 0.019	0.201 ± 0.020	0.191 ± 0.020	0.151 ± 0.012	0.145 ± 0.004	0.170 ± 0.016	0.153 ± 0.017	0.139 ± 0.017	0.141 ± 0.010	0.152 ± 0.019	0.142 ± 0.013	0.147 ± 0.007	0.146 ± 0.007	0.173 ± 0.017	0.149 ± 0.011	0.159 ± 0.018	0.152 ± 0.010	0.187 ± 0.023	0.147 ± 0.016
Acc_1		0.202 ± 0.020	0.203 ± 0.019	0.201 ± 0.020	0.191 ± 0.020	0.151 ± 0.012	0.145 ± 0.004	0.170 ± 0.016	0.154 ± 0.017	0.138 ± 0.016	0.141 ± 0.010	0.156 ± 0.019	0.141 ± 0.016	0.147 ± 0.007	0.147 ± 0.007	0.173 ± 0.017	0.149 ± 0.011	0.159 ± 0.018	0.151 ± 0.010	0.187 ± 0.024	0.147 ± 0.016
Acc_2		0.376 ± 0.033	0.385 ± 0.039	0.381 ± 0.035	0.369 ± 0.026	0.292 ± 0.021	0.282 ± 0.010	0.319 ± 0.019	0.306 ± 0.019	0.284 ± 0.014	0.283 ± 0.014	0.296 ± 0.022	0.285 ± 0.019	0.293 ± 0.017	0.288 ± 0.009	0.339 ± 0.025	0.291 ± 0.024	0.316 ± 0.021	0.288 ± 0.013	0.347 ± 0.030	0.293 ± 0.015
sub14		κ	0.068 ± 0.019	0.054 ± 0.024	0.066 ± 0.023	0.062 ± 0.025	0.004 ± 0.013	0.003 ± 0.013	0.051 ± 0.021	0.015 ± 0.017	-0.002 ± 0.010	-0.001 ± 0.004	0.011 ± 0.023	0.012 ± 0.020	0.004 ± 0.007	0.002 ± 0.008	0.075 ± 0.034	0.012 ± 0.017	0.081 ± 0.036	0.010 ± 0.029	0.096 ± 0.027
	AUC	0.583 ± 0.019	0.576 ± 0.021	0.575 ± 0.017	0.584 ± 0.027	0.519 ± 0.014	0.499 ± 0.026	0.554 ± 0.017	0.518 ± 0.012	0.493 ± 0.031	0.490 ± 0.029	0.506 ± 0.016	0.516 ± 0.023	0.502 ± 0.011	0.500 ± 0.009	0.571 ± 0.025	0.526 ± 0.024	0.588 ± 0.035	0.522 ± 0.025	0.598 ± 0.026	0.538 ± 0.027
	BAcc	0.201 ± 0.016	0.189 ± 0.021	0.200 ± 0.019	0.196 ± 0.022	0.146 ± 0.011	0.145 ± 0.011	0.186 ± 0.018	0.156 ± 0.015	0.141 ± 0.009	0.142 ± 0.003	0.152 ± 0.020	0.153 ± 0.017	0.146 ± 0.006	0.145 ± 0.007	0.207 ± 0.029	0.153 ± 0.015	0.212 ± 0.031	0.151 ± 0.025	0.226 ± 0.023	0.157 ± 0.017
	Acc_1	0.201 ± 0.017	0.189 ± 0.021	0.199 ± 0.019	0.196 ± 0.022	0.146 ± 0.011	0.145 ± 0.011	0.186 ± 0.018	0.156 ± 0.015	0.141 ± 0.008	0.142 ± 0.003	0.152 ± 0.021	0.153 ± 0.017	0.146 ± 0.007	0.144 ± 0.007	0.207 ± 0.029	0.153 ± 0.015	0.212 ± 0.031	0.151 ± 0.025	0.225 ± 0.025	0.158 ± 0.017
	Acc_2	0.373 ± 0.019	0.369 ± 0.029	0.377 ± 0.022	0.369 ± 0.030	0.294 ± 0.019	0.290 ± 0.013	0.348 ± 0.027	0.312 ± 0.015	0.279 ± 0.013	0.282 ± 0.007	0.298 ± 0.024	0.296 ± 0.026	0.288 ± 0.007	0.286 ± 0.008	0.376 ± 0.026	0.301 ± 0.028	0.373 ± 0.034	0.296 ± 0.027	0.407 ± 0.040	0.309 ± 0.025
	sub15	κ	0.071 ± 0.019	0.067 ± 0.026	0.066 ± 0.024	0.069 ± 0.033	0.010 ± 0.013	0.006 ± 0.016	0.028 ± 0.020	0.017 ± 0.022	0.016 ± 0.021	0.000 ± 0.005	0.010 ± 0.022	0.005 ± 0.019	-0.000 ± 0.007	0.004 ± 0.011	0.088 ± 0.038	0.015 ± 0.015	0.062 ± 0.027	0.018 ± 0.014	0.082 ± 0.048
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	1947
																						1948
sub1	AUC	0.585 ± 0.022	0.580 ±0.014	0.569 ±0.022	0.575 ±0.024	0.518 ±0.016	0.521 ±0.023	0.533 ±0.015	0.518 ±0.021	0.523 ±0.021	0.499 ±0.019	0.509 ±0.022	0.514 ±0.016	0.505 ±0.011	0.504 ±0.018	0.580 ±0.033	0.529 ±0.020	0.555 ±0.023	0.530 ±0.018	0.585 ± 0.033	0.541 ±0.023	1947
	BAcc	0.204 ±0.017	0.200 ±0.022	0.199 ±0.021	0.202 ±0.029	0.151 ±0.011	0.148 ±0.014	0.167 ±0.017	0.157 ±0.019	0.156 ±0.018	0.143 ±0.004	0.151 ±0.019	0.147 ±0.016	0.143 ±0.006	0.147 ±0.009	0.218 ± 0.033	0.156 ±0.013	0.196 ±0.023	0.159 ±0.012	0.213 ± 0.041	0.156 ±0.017	1948
	Acc.1	0.204 ±0.017	0.200 ±0.022	0.199 ±0.021	0.202 ±0.029	0.151 ±0.011	0.148 ±0.014	0.167 ±0.017	0.157 ±0.019	0.156 ±0.018	0.143 ±0.004	0.151 ±0.019	0.145 ±0.017	0.143 ±0.006	0.147 ±0.009	0.218 ± 0.033	0.156 ±0.013	0.196 ±0.023	0.158 ±0.012	0.213 ± 0.041	0.156 ±0.017	1949
	Acc.2	0.376 ±0.034	0.367 ±0.017	0.364 ±0.028	0.364 ±0.027	0.300 ±0.023	0.295 ±0.015	0.322 ±0.021	0.306 ±0.030	0.305 ±0.027	0.286 ±0.003	0.299 ±0.027	0.305 ±0.019	0.286 ±0.006	0.287 ±0.013	0.392 ± 0.044	0.299 ±0.017	0.344 ±0.031	0.307 ±0.012	0.384 ± 0.038	0.307 ±0.018	1950
	κ	0.058 ±0.036	0.062 ±0.034	0.080 ± 0.029	0.058 ±0.028	0.024 ±0.018	0.011 ±0.018	0.039 ±0.029	0.002 ±0.018	-0.002 ±0.013	0.002 ±0.007	0.010 ±0.020	0.017 ±0.020	0.001 ±0.007	-0.002 ±0.008	0.078 ± 0.046	0.025 ±0.020	0.073 ±0.049	0.026 ±0.022	0.073 ±0.045	0.025 ±0.022	1951
sub2	AUC	0.580 ± 0.029	0.572 ±0.026	0.584 ± 0.021	0.577 ±0.024	0.529 ±0.025	0.526 ±0.024	0.547 ±0.022	0.506 ±0.012	0.502 ±0.011	0.496 ±0.017	0.511 ±0.015	0.519 ±0.019	0.503 ±0.013	0.500 ±0.019	0.575 ±0.038	0.528 ±0.025	0.576 ±0.035	0.533 ±0.024	0.580 ±0.037	0.540 ±0.028	1952
	BAcc	0.193 ±0.031	0.196 ±0.029	0.212 ± 0.025	0.193 ±0.024	0.163 ±0.015	0.152 ±0.015	0.176 ±0.025	0.144 ±0.016	0.141 ±0.011	0.145 ±0.006	0.151 ±0.017	0.157 ±0.017	0.144 ±0.006	0.141 ±0.007	0.210 ± 0.039	0.165 ±0.017	0.205 ±0.042	0.165 ±0.019	0.206 ±0.038	0.164 ±0.019	1953
	Acc.1	0.193 ±0.031	0.196 ±0.029	0.212 ± 0.025	0.193 ±0.024	0.163 ±0.015	0.152 ±0.015	0.176 ±0.025	0.144 ±0.016	0.141 ±0.011	0.145 ±0.006	0.153 ±0.018	0.160 ±0.019	0.144 ±0.006	0.141 ±0.007	0.210 ± 0.039	0.165 ±0.017	0.205 ±0.042	0.165 ±0.019	0.206 ±0.039	0.164 ±0.019	1954
	Acc.2	0.364 ±0.043	0.354 ±0.028	0.374 ±0.030	0.369 ±0.032	0.314 ±0.022	0.295 ±0.015	0.335 ±0.028	0.286 ±0.019	0.288 ±0.009	0.285 ±0.004	0.299 ±0.021	0.305 ±0.024	0.286 ±0.008	0.292 ±0.021	0.378 ± 0.041	0.309 ±0.022	0.368 ±0.047	0.315 ±0.024	0.384 ± 0.053	0.312 ±0.025	1955
	κ	0.053 ±0.039	0.070 ±0.034	0.059 ±0.037	0.055 ±0.022	0.012 ±0.021	0.002 ±0.014	0.034 ±0.027	0.011 ±0.026	0.017 ±0.017	0.000 ±0.002	0.002 ±0.026	0.008 ±0.023	-0.000 ±0.004	0.004 ±0.017	0.087 ± 0.135	0.021 ±0.026	0.099 ± 0.129	0.016 ±0.023	0.063 ±0.118	0.014 ±0.023	1956
sub3	AUC	0.559 ±0.040	0.566 ±0.031	0.548 ±0.028	0.555 ±0.026	0.526 ±0.022	0.513 ±0.010	0.527 ±0.021	0.509 ±0.016	0.511 ±0.014	0.498 ±0.015	0.512 ±0.027	0.534 ±0.039	0.501 ±0.007	0.504 ±0.015	0.567 ± 0.093	0.533 ±0.046	0.570 ± 0.090	0.547 ±0.053	0.562 ±0.086	0.548 ±0.041	1957
	BAcc	0.188 ±0.033	0.203 ±0.029	0.193 ±0.032	0.190 ±0.019	0.153 ±0.018	0.144 ±0.012	0.172 ±0.023	0.152 ±0.022	0.157 ±0.015	0.143 ±0.002	0.145 ±0.022	0.149 ±0.020	0.143 ±0.004	0.146 ±0.014	0.217 ± 0.116	0.161 ±0.022	0.228 ± 0.110	0.157 ±0.020	0.197 ±0.102	0.155 ±0.020	1958
	Acc.1	0.188 ±0.033	0.203 ±0.029	0.193 ±0.032	0.190 ±0.019	0.153 ±0.018	0.144 ±0.012	0.172 ±0.023	0.152 ±0.022	0.157 ±0.015	0.143 ±0.001	0.146 ±0.023	0.150 ±0.019	0.142 ±0.003	0.145 ±0.014	0.217 ± 0.116	0.161 ±0.022	0.228 ± 0.110	0.157 ±0.020	0.199 ±0.102	0.155 ±0.019	1959
	Acc.2	0.341 ±0.044	0.356 ±0.039	0.339 ±0.035	0.335 ±0.031	0.299 ±0.026	0.295 ±0.013	0.314 ±0.022	0.302 ±0.021	0.299 ±0.016	0.284 ±0.005	0.288 ±0.019	0.307 ±0.030	0.286 ±0.006	0.287 ±0.011	0.372 ± 0.132	0.308 ±0.018	0.369 ± 0.115	0.307 ±0.017	0.355 ±0.125	0.307 ±0.029	1960
	κ	0.059 ±0.031	0.067 ±0.033	0.065 ±0.030	0.067 ±0.026	-0.004 ±0.017	0.012 ±0.014	0.048 ±0.020	0.022 ±0.021	0.010 ±0.020	0.001 ±0.002	0.015 ±0.019	0.014 ±0.022	-0.001 ±0.005	0.004 ±0.009	0.065 ±0.059	0.023 ±0.022	0.069 ± 0.105	0.033 ±0.036	0.103 ± 0.120	0.032 ±0.041	1961
sub4	AUC	0.562 ±0.022	0.578 ±0.024	0.561 ±0.023	0.570 ±0.020	0.495 ±0.011	0.517 ±0.020	0.541 ±0.018	0.519 ±0.018	0.510 ±0.024	0.502 ±0.012	0.512 ±0.015	0.528 ±0.035	0.502 ±0.010	0.509 ±0.020	0.577 ±0.057	0.543 ±0.046	0.584 ± 0.076	0.553 ±0.055	0.579 ± 0.089	0.552 ±0.053	1962
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.194 ±0.026	0.201 ±0.029	0.198 ±0.026	0.201 ±0.023	0.139 ±0.014	0.153 ±0.012	0.184 ±0.017	0.162 ±0.018	0.152 ±0.017	0.144 ±0.001	0.156 ±0.016	0.155 ±0.019	0.142 ±0.004	0.146 ±0.007	0.199 ±0.051	0.162 ±0.019	0.202 ± 0.090	0.171 ±0.031	<div>0.231 ± 0.103</div>	0.170 ±0.035
	Acc_1	0.194 ±0.026	0.201 ±0.028	0.198 ±0.026	0.201 ±0.023	0.139 ±0.014	0.153 ±0.012	0.184 ±0.016	0.162 ±0.018	0.152 ±0.017	0.144 ±0.002	0.157 ±0.016	0.156 ±0.019	0.141 ±0.005	0.146 ±0.008	0.199 ±0.051	0.162 ±0.019	0.202 ± 0.090	0.171 ±0.031	<div>0.232 ± 0.103</div>	0.171 ±0.035
	Acc_2	0.337 ±0.019	<div>0.372 ± 0.032</div>	0.356 ±0.028	0.355 ±0.028	0.284 ±0.014	0.298 ±0.012	0.331 ±0.025	0.308 ±0.018	0.290 ±0.020	0.285 ±0.002	0.292 ±0.018	0.305 ±0.019	0.285 ±0.004	0.288 ±0.008	0.328 ±0.077	0.306 ±0.027	0.332 ±0.106	0.312 ±0.030	0.367 ± 0.103	0.321 ±0.031
	κ	0.075 ±0.029	0.075 ±0.022	0.087 ±0.029	0.088 ± 0.031	0.002 ±0.015	-0.001 ±0.012	0.058 ±0.033	0.016 ±0.022	-0.008 ±0.011	-0.005 ±0.013	0.008 ±0.025	0.012 ±0.014	0.010 ±0.011	0.004 ±0.009	0.082 ±0.032	0.019 ±0.018	0.080 ±0.036	0.026 ±0.024	<div>0.103 ± 0.043</div>	0.024 ±0.018
	AUC	0.598 ± 0.028	0.595 ±0.020	0.588 ±0.025	0.594 ±0.028	0.508 ±0.015	0.511 ±0.018	0.555 ±0.027	0.514 ±0.014	0.502 ±0.015	0.500 ±0.025	0.515 ±0.020	0.520 ±0.013	0.510 ±0.018	0.506 ±0.023	0.580 ±0.024	0.540 ±0.025	0.582 ±0.035	0.544 ±0.023	<div>0.600 ± 0.033</div>	0.551 ±0.025
	BAcc	0.207 ±0.025	0.207 ±0.019	0.217 ±0.025	0.218 ± 0.027	0.145 ±0.013	0.142 ±0.011	0.193 ±0.028	0.156 ±0.019	0.136 ±0.010	0.139 ±0.011	0.150 ±0.022	0.153 ±0.012	0.151 ±0.009	0.147 ±0.008	0.213 ±0.028	0.159 ±0.015	0.211 ±0.031	0.165 ±0.021	<div>0.231 ± 0.036</div>	0.163 ±0.015
	Acc_1	0.207 ±0.025	0.208 ±0.019	0.217 ±0.025	0.218 ± 0.027	0.145 ±0.013	0.142 ±0.011	0.192 ±0.028	0.156 ±0.019	0.136 ±0.010	0.139 ±0.011	0.149 ±0.022	0.155 ±0.012	0.151 ±0.009	0.147 ±0.008	0.213 ±0.028	0.159 ±0.015	0.211 ±0.031	0.165 ±0.021	<div>0.231 ± 0.037</div>	0.163 ±0.015
	Acc_2	0.386 ±0.032	0.384 ±0.026	0.393 ±0.036	0.384 ±0.038	0.294 ±0.011	0.287 ±0.011	0.340 ±0.031	0.293 ±0.020	0.282 ±0.014	0.280 ±0.010	0.303 ±0.029	0.303 ±0.017	0.291 ±0.013	0.290 ±0.013	0.397 ± 0.037	0.311 ±0.020	0.378 ±0.037	0.315 ±0.025	<div>0.404 ± 0.045</div>	0.317 ±0.021
sub6	κ	0.050 ±0.030	0.062 ±0.030	0.065 ±0.033	0.064 ±0.020	0.014 ±0.017	-0.001 ±0.015	0.049 ±0.025	0.030 ±0.023	0.021 ±0.022	-0.011 ±0.016	0.012 ±0.022	0.008 ±0.021	0.000 ±0.000	0.003 ±0.012	<div>0.074 ± 0.049</div>	0.026 ±0.014	0.057 ±0.037	0.015 ±0.022	0.072 ± 0.043	0.016 ±0.020
	AUC	0.561 ±0.033	0.567 ± 0.029	0.559 ±0.024	<div>0.567 ± 0.031</div>	0.532 ±0.020	0.522 ±0.023	0.548 ±0.029	0.526 ±0.011	0.525 ±0.024	0.486 ±0.036	0.511 ±0.010	0.512 ±0.013	0.498 ±0.006	0.507 ±0.014	0.561 ±0.035	0.536 ±0.036	0.564 ±0.030	0.538 ±0.038	0.566 ±0.033	0.536 ±0.032
	BAcc	0.186 ±0.025	0.196 ±0.026	0.199 ±0.029	0.198 ±0.017	0.155 ±0.014	0.142 ±0.013	0.185 ±0.022	0.168 ±0.020	0.161 ±0.019	0.134 ±0.014	0.153 ±0.019	0.149 ±0.018	0.143 ±0.000	0.145 ±0.010	<div>0.206 ± 0.042</div>	0.165 ±0.012	0.192 ±0.031	0.156 ±0.019	0.204 ± 0.037	0.157 ±0.017
	Acc_1	0.186 ±0.025	0.196 ±0.026	0.198 ±0.028	0.198 ±0.017	0.155 ±0.014	0.142 ±0.013	0.185 ±0.022	0.168 ±0.020	0.161 ±0.019	0.134 ±0.014	0.153 ±0.020	0.150 ±0.020	0.143 ±0.000	0.146 ±0.010	<div>0.206 ± 0.042</div>	0.165 ±0.012	0.192 ±0.032	0.156 ±0.019	0.202 ± 0.036	0.157 ±0.017
	Acc_2	0.347 ±0.034	0.354 ±0.036	0.365 ± 0.033	0.358 ±0.032	0.306 ±0.020	0.290 ±0.019	0.337 ±0.034	0.316 ±0.016	0.311 ±0.023	0.277 ±0.019	0.294 ±0.022	0.293 ±0.018	0.286 ±0.004	0.287 ±0.011	<div>0.369 ± 0.048</div>	0.310 ±0.022	0.351 ±0.038	0.316 ±0.032	0.356 ±0.042	0.308 ±0.025
	κ	0.090 ± 0.038	0.075 ±0.037	0.088 ±0.039	0.076 ±0.037	0.005 ±0.015	0.005 ±0.015	0.033 ±0.023	0.011 ±0.024	0.004 ±0.021	0.001 ±0.006	0.007 ±0.015	0.019 ±0.011	0.003 ±0.007	0.005 ±0.010	<div>0.090 ± 0.041</div>	0.012 ±0.023	0.087 ±0.040	0.009 ±0.017	0.084 ±0.043	0.008 ±0.019
sub7	AUC	<div>0.606 ± 0.038</div>	0.596 ± 0.039	0.593 ±0.035	0.594 ±0.034	0.505 ±0.016	0.519 ±0.023	0.538 ±0.013	0.513 ±0.014	0.510 ±0.021	0.505 ±0.016	0.517 ±0.011	0.524 ±0.015	0.500 ±0.019	0.504 ±0.016	0.586 ±0.034	0.528 ±0.019	0.590 ±0.031	0.530 ±0.022	0.595 ±0.037	0.539 ±0.021
	BAcc	0.220 ± 0.033	0.207 ±0.032	0.218 ±0.034	0.208 ±0.032	0.147 ±0.013	0.147 ±0.013	0.171 ±0.020	0.152 ±0.021	0.146 ±0.018	0.143 ±0.005	0.148 ±0.013	0.160 ±0.009	0.145 ±0.006	0.147 ±0.008	<div>0.220 ± 0.035</div>	0.153 ±0.020	0.218 ±0.034	0.150 ±0.014	0.215 ±0.037	0.149 ±0.016

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																				2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (f)	STEGformer-l (l)																															
		0.220 ± 0.033	0.207 ± 0.032	0.218 ± 0.034	0.208 ± 0.031	0.147 ± 0.013	0.147 ± 0.013	0.171 ± 0.020	0.152 ± 0.021	0.146 ± 0.018	0.144 ± 0.005	0.150 ± 0.013	0.161 ± 0.009	0.144 ± 0.007	0.147 ± 0.009	0.220 ± 0.035	0.153 ± 0.021	0.218 ± 0.034	0.150 ± 0.014	0.214 ± 0.037	0.149 ± 0.016																															
	Acc.1	0.401 ± 0.048	0.389 ± 0.046	0.401 ± 0.047	0.379 ± 0.042	0.296 ± 0.022	0.290 ± 0.017	0.328 ± 0.026	0.298 ± 0.022	0.291 ± 0.024	0.288 ± 0.010	0.299 ± 0.012	0.312 ± 0.015	0.284 ± 0.011	0.288 ± 0.010	0.402 ± 0.042	0.304 ± 0.020	0.381 ± 0.038	0.301 ± 0.017	0.394 ± 0.045	0.305 ± 0.020																															
sub8	κ	0.043 ± 0.033	0.050 ± 0.034	0.051 ± 0.037	0.050 ± 0.033	0.002 ± 0.012	0.002 ± 0.017	0.031 ± 0.018	0.007 ± 0.018	-0.002 ± 0.014	-0.007 ± 0.024	-0.000 ± 0.022	0.007 ± 0.029	-0.001 ± 0.010	0.003 ± 0.015	0.024 ± 0.021	-0.000 ± 0.021	0.033 ± 0.019	0.010 ± 0.029	0.048 ± 0.036	0.006 ± 0.024																															
	AUC	0.555 ± 0.024	0.566 ± 0.028	0.560 ± 0.023	0.554 ± 0.021	0.498 ± 0.015	0.491 ± 0.019	0.534 ± 0.021	0.510 ± 0.013	0.491 ± 0.021	0.492 ± 0.037	0.504 ± 0.019	0.511 ± 0.016	0.508 ± 0.017	0.497 ± 0.028	0.532 ± 0.023	0.499 ± 0.024	0.528 ± 0.024	0.499 ± 0.023	0.556 ± 0.031	0.496 ± 0.025																															
	BAcc	0.179 ± 0.028	0.185 ± 0.029	0.187 ± 0.032	0.185 ± 0.028	0.145 ± 0.010	0.145 ± 0.014	0.170 ± 0.015	0.149 ± 0.016	0.141 ± 0.012	0.137 ± 0.021	0.143 ± 0.019	0.149 ± 0.025	0.142 ± 0.008	0.145 ± 0.013	0.164 ± 0.018	0.143 ± 0.018	0.171 ± 0.016	0.152 ± 0.025	0.184 ± 0.031	0.148 ± 0.020																															
	Acc.1	0.179 ± 0.028	0.185 ± 0.029	0.187 ± 0.032	0.185 ± 0.028	0.145 ± 0.010	0.145 ± 0.014	0.170 ± 0.015	0.149 ± 0.016	0.141 ± 0.011	0.136 ± 0.021	0.143 ± 0.022	0.147 ± 0.025	0.142 ± 0.008	0.145 ± 0.013	0.164 ± 0.018	0.143 ± 0.018	0.171 ± 0.016	0.152 ± 0.025	0.184 ± 0.033	0.148 ± 0.020																															
	Acc.2	0.344 ± 0.029	0.362 ± 0.032	0.355 ± 0.030	0.336 ± 0.026	0.287 ± 0.011	0.291 ± 0.015	0.317 ± 0.026	0.292 ± 0.014	0.285 ± 0.016	0.280 ± 0.022	0.291 ± 0.024	0.299 ± 0.025	0.284 ± 0.010	0.287 ± 0.016	0.322 ± 0.038	0.289 ± 0.022	0.312 ± 0.024	0.292 ± 0.026	0.351 ± 0.043	0.285 ± 0.028																															
	sub9	κ	0.024 ± 0.031	0.018 ± 0.023	0.017 ± 0.025	0.025 ± 0.019	0.006 ± 0.018	0.011 ± 0.016	0.000 ± 0.020	0.010 ± 0.020	0.001 ± 0.015	-0.003 ± 0.011	0.014 ± 0.018	0.015 ± 0.026	-0.001 ± 0.009	-0.004 ± 0.015	0.054 ± 0.040	0.013 ± 0.024	0.042 ± 0.035	0.011 ± 0.021	0.026 ± 0.021	0.012 ± 0.023																														
AUC		0.523 ± 0.021	0.524 ± 0.023	0.514 ± 0.017	0.532 ± 0.018	0.506 ± 0.015	0.511 ± 0.021	0.504 ± 0.020	0.508 ± 0.020	0.501 ± 0.015	0.495 ± 0.038	0.516 ± 0.018	0.513 ± 0.018	0.496 ± 0.016	0.492 ± 0.024	0.551 ± 0.032	0.516 ± 0.024	0.555 ± 0.036	0.522 ± 0.024	0.525 ± 0.020	0.513 ± 0.026																															
BAcc		0.163 ± 0.026	0.158 ± 0.020	0.157 ± 0.021	0.164 ± 0.016	0.148 ± 0.016	0.152 ± 0.014	0.143 ± 0.017	0.152 ± 0.017	0.143 ± 0.013	0.141 ± 0.009	0.155 ± 0.016	0.156 ± 0.022	0.142 ± 0.008	0.139 ± 0.013	0.189 ± 0.035	0.154 ± 0.020	0.179 ± 0.030	0.152 ± 0.018	0.165 ± 0.018	0.153 ± 0.019																															
Acc.1		0.163 ± 0.026	0.158 ± 0.020	0.157 ± 0.021	0.164 ± 0.016	0.148 ± 0.016	0.152 ± 0.014	0.143 ± 0.017	0.152 ± 0.018	0.143 ± 0.013	0.141 ± 0.009	0.155 ± 0.015	0.156 ± 0.022	0.142 ± 0.008	0.139 ± 0.014	0.189 ± 0.035	0.154 ± 0.020	0.179 ± 0.030	0.152 ± 0.018	0.165 ± 0.016	0.153 ± 0.019																															
Acc.2		0.311 ± 0.027	0.313 ± 0.027	0.299 ± 0.025	0.315 ± 0.025	0.291 ± 0.023	0.293 ± 0.016	0.287 ± 0.025	0.293 ± 0.027	0.286 ± 0.018	0.283 ± 0.017	0.307 ± 0.024	0.307 ± 0.022	0.282 ± 0.012	0.280 ± 0.017	0.326 ± 0.034	0.302 ± 0.025	0.329 ± 0.033	0.304 ± 0.023	0.301 ± 0.030	0.300 ± 0.021																															

C.3 LEAVE-ONE-OUT RESULTS

C.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 21: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.187	0.715	0.303	0.304	0.502
DeepConvnet	± 0.034	± 0.026	± 0.029	± 0.029	± 0.038
	0.164	0.700	0.283	0.283	0.486
EEGNet	± 0.046	± 0.037	± 0.040	± 0.039	± 0.053
	0.163	0.679	0.283	0.283	0.486
Conformer	± 0.050	± 0.039	± 0.042	± 0.042	± 0.048
	0.197	0.721	0.311	0.312	0.514
CTNet	± 0.048	± 0.033	± 0.041	± 0.041	± 0.050
	0.039	0.537	0.176	0.177	0.323
BIOT (f)	± 0.021	± 0.021	± 0.018	± 0.018	± 0.023
	0.019	0.535	0.159	0.159	0.299
BIOT (l)	± 0.019	± 0.037	± 0.016	± 0.016	± 0.014
	0.129	0.626	0.253	0.253	0.425
BENDR (f)	± 0.034	± 0.024	± 0.029	± 0.029	± 0.033
	0.037	0.537	0.174	0.174	0.334
BENDR (l)	± 0.019	± 0.014	± 0.016	± 0.016	± 0.015
	0.043	0.542	0.180	0.179	0.332
CBraMod (f)	± 0.023	± 0.020	± 0.019	± 0.019	± 0.027
	-0.001	0.500	0.142	0.143	0.281
CBraMod (l)	± 0.007	± 0.034	± 0.006	± 0.005	± 0.009
	0.039	0.550	0.177	0.175	0.343
EEGPT (f)	± 0.025	± 0.016	± 0.021	± 0.022	± 0.024
	0.071	0.591	0.204	0.202	0.370
EEGPT (l)	± 0.037	± 0.025	± 0.032	± 0.033	± 0.035
	0.006	0.512	0.148	0.147	0.293
LaBraM (f)	± 0.007	± 0.021	± 0.006	± 0.006	± 0.011
	0.010	0.510	0.151	0.152	0.297
LaBraM (l)	± 0.015	± 0.012	± 0.013	± 0.012	± 0.015
	0.240	0.701	0.348	0.348	0.546
STEEGformer-s (f)	± 0.111	± 0.067	± 0.095	± 0.095	± 0.093
	0.053	0.583	0.189	0.189	0.337
STEEGformer-s (l)	± 0.043	± 0.045	± 0.037	± 0.037	± 0.039
	0.246	0.705	0.354	0.354	0.549
STEEGformer-b (f)	± 0.119	± 0.070	± 0.102	± 0.103	± 0.091
	0.051	0.593	0.187	0.187	0.342
STEEGformer-b (l)	± 0.047	± 0.061	± 0.040	± 0.040	± 0.041
	0.277	0.712	0.380	0.382	0.568
STEEGformer-l (f)	± 0.123	± 0.073	± 0.105	± 0.107	± 0.102
	0.061	0.600	0.195	0.195	0.359
STEEGformer-l (l)	± 0.062	± 0.061	± 0.053	± 0.055	± 0.059

Table 22: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.172 ± 0.052	0.181 ± 0.034	0.136 ± 0.041	0.164 ± 0.032	0.017 ± 0.039	0.006 ± 0.008	0.122 ± 0.074	0.044 ± 0.049	0.069 ± 0.040	-0.006 ± 0.012	0.031 ± 0.018	0.097 ± 0.057	0.000 ± 0.000	0.000 ± 0.020	0.153 ± 0.050	0.081 ± 0.042	0.158 ± 0.047	0.050 ± 0.029	0.186 ± 0.040	0.050 ± 0.030
	AUC	0.701 ± 0.023	0.695 ± 0.013	0.654 ± 0.036	0.706 ± 0.020	0.500 ± 0.025	0.602 ± 0.049	0.634 ± 0.045	0.522 ± 0.053	0.546 ± 0.030	0.502 ± 0.007	0.546 ± 0.036	0.609 ± 0.012	0.498 ± 0.009	0.507 ± 0.026	0.649 ± 0.029	0.586 ± 0.036	0.658 ± 0.031	0.560 ± 0.039	0.671 ± 0.025	0.580 ± 0.037
	BAcc	0.290 ± 0.044	0.298 ± 0.029	0.260 ± 0.035	0.283 ± 0.027	0.157 ± 0.033	0.148 ± 0.007	0.248 ± 0.064	0.181 ± 0.042	0.202 ± 0.035	0.138 ± 0.011	0.169 ± 0.016	0.226 ± 0.049	0.143 ± 0.000	0.143 ± 0.017	0.274 ± 0.043	0.212 ± 0.036	0.279 ± 0.040	0.186 ± 0.025	0.302 ± 0.034	0.186 ± 0.026
	Acc ₁	0.290 ± 0.044	0.298 ± 0.029	0.260 ± 0.035	0.283 ± 0.027	0.157 ± 0.033	0.148 ± 0.007	0.248 ± 0.064	0.181 ± 0.042	0.202 ± 0.035	0.140 ± 0.005	0.165 ± 0.020	0.228 ± 0.054	0.143 ± 0.000	0.143 ± 0.017	0.274 ± 0.043	0.212 ± 0.036	0.279 ± 0.040	0.186 ± 0.025	0.297 ± 0.034	0.190 ± 0.026
	Acc ₂	0.498 ± 0.024	0.498 ± 0.033	0.455 ± 0.032	0.490 ± 0.031	0.271 ± 0.027	0.310 ± 0.035	0.414 ± 0.050	0.317 ± 0.056	0.336 ± 0.032	0.286 ± 0.000	0.318 ± 0.056	0.406 ± 0.024	0.283 ± 0.005	0.276 ± 0.010	0.481 ± 0.031	0.362 ± 0.048	0.486 ± 0.063	0.326 ± 0.030	0.525 ± 0.023	0.341 ± 0.029
sub10	κ	0.161 ± 0.058	0.178 ± 0.052	0.200 ± 0.050	0.217 ± 0.066	0.044 ± 0.037	0.017 ± 0.037	0.175 ± 0.050	0.064 ± 0.041	0.006 ± 0.023	-0.014 ± 0.014	0.039 ± 0.039	0.033 ± 0.032	0.003 ± 0.015	0.019 ± 0.042	0.217 ± 0.049	-0.003 ± 0.073	0.203 ± 0.027	0.017 ± 0.039	0.242 ± 0.089	0.011 ± 0.068
	AUC	0.715 ± 0.035	0.733 ± 0.029	0.728 ± 0.025	0.749 ± 0.026	0.520 ± 0.020	0.504 ± 0.019	0.659 ± 0.006	0.567 ± 0.036	0.519 ± 0.027	0.515 ± 0.030	0.550 ± 0.038	0.563 ± 0.030	0.493 ± 0.014	0.513 ± 0.039	0.689 ± 0.037	0.526 ± 0.067	0.699 ± 0.037	0.548 ± 0.037	0.705 ± 0.034	0.557 ± 0.054
	BAcc	0.281 ± 0.050	0.295 ± 0.045	0.314 ± 0.043	0.329 ± 0.056	0.181 ± 0.032	0.157 ± 0.032	0.293 ± 0.043	0.198 ± 0.035	0.148 ± 0.020	0.131 ± 0.012	0.176 ± 0.033	0.171 ± 0.027	0.145 ± 0.013	0.160 ± 0.036	0.329 ± 0.042	0.140 ± 0.063	0.317 ± 0.023	0.157 ± 0.033	0.350 ± 0.077	0.152 ± 0.058
	Acc ₁	0.281 ± 0.050	0.295 ± 0.045	0.314 ± 0.043	0.329 ± 0.056	0.181 ± 0.032	0.157 ± 0.032	0.293 ± 0.043	0.198 ± 0.035	0.148 ± 0.020	0.136 ± 0.016	0.178 ± 0.035	0.171 ± 0.026	0.152 ± 0.021	0.160 ± 0.036	0.329 ± 0.042	0.140 ± 0.063	0.317 ± 0.023	0.155 ± 0.037	0.356 ± 0.077	0.152 ± 0.058
	Acc ₂	0.517 ± 0.032	0.521 ± 0.033	0.538 ± 0.049	0.540 ± 0.059	0.312 ± 0.041	0.293 ± 0.039	0.457 ± 0.011	0.357 ± 0.047	0.310 ± 0.045	0.298 ± 0.028	0.343 ± 0.048	0.330 ± 0.043	0.288 ± 0.013	0.283 ± 0.036	0.550 ± 0.062	0.269 ± 0.082	0.540 ± 0.063	0.355 ± 0.075	0.570 ± 0.080	0.319 ± 0.068
sub11	κ	0.161 ± 0.050	0.200 ± 0.036	0.172 ± 0.064	0.203 ± 0.046	0.044 ± 0.028	0.011 ± 0.051	0.114 ± 0.090	0.019 ± 0.063	0.042 ± 0.042	0.011 ± 0.025	0.017 ± 0.057	0.100 ± 0.067	0.011 ± 0.025	0.014 ± 0.055	0.153 ± 0.031	0.017 ± 0.012	0.225 ± 0.062	0.014 ± 0.024	0.208 ± 0.024	0.028 ± 0.042
	AUC	0.721 ± 0.025	0.705 ± 0.010	0.689 ± 0.034	0.727 ± 0.018	0.553 ± 0.019	0.505 ± 0.020	0.622 ± 0.066	0.525 ± 0.033	0.554 ± 0.044	0.535 ± 0.028	0.524 ± 0.025	0.587 ± 0.036	0.497 ± 0.018	0.527 ± 0.042	0.661 ± 0.026	0.567 ± 0.045	0.672 ± 0.030	0.597 ± 0.046	0.659 ± 0.023	0.581 ± 0.047
	BAcc	0.281 ± 0.043	0.314 ± 0.031	0.290 ± 0.055	0.317 ± 0.039	0.181 ± 0.024	0.152 ± 0.044	0.240 ± 0.077	0.160 ± 0.054	0.179 ± 0.036	0.152 ± 0.021	0.157 ± 0.049	0.229 ± 0.057	0.152 ± 0.021	0.155 ± 0.047	0.274 ± 0.027	0.157 ± 0.010	0.336 ± 0.054	0.155 ± 0.021	0.321 ± 0.021	0.167 ± 0.036
	Acc ₁	0.281 ± 0.043	0.314 ± 0.031	0.290 ± 0.055	0.317 ± 0.039	0.181 ± 0.024	0.152 ± 0.044	0.243 ± 0.082	0.160 ± 0.054	0.179 ± 0.036	0.150 ± 0.016	0.152 ± 0.051	0.226 ± 0.057	0.140 ± 0.040	0.155 ± 0.048	0.274 ± 0.027	0.157 ± 0.010	0.333 ± 0.049	0.155 ± 0.021	0.318 ± 0.024	0.166 ± 0.044
	Acc ₂	0.452 ± 0.052	0.471 ± 0.025	0.481 ± 0.039	0.469 ± 0.034	0.345 ± 0.048	0.295 ± 0.040	0.429 ± 0.077	0.314 ± 0.052	0.350 ± 0.040	0.286 ± 0.008	0.302 ± 0.054	0.369 ± 0.065	0.293 ± 0.031	0.329 ± 0.068	0.462 ± 0.027	0.326 ± 0.026	0.518 ± 0.037	0.324 ± 0.031	0.490 ± 0.015	0.343 ± 0.069

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.172 ± 0.053	0.092 ± 0.041	0.128 ± 0.055	0.158 ± 0.050	0.011 ± 0.012	0.053 ± 0.045	0.106 ± 0.088	0.025 ± 0.035	0.028 ± 0.035	-0.011 ± 0.027	0.022 ± 0.059	0.092 ± 0.021	0.000 ± 0.020	0.019 ± 0.045	0.192 ± 0.041	0.064 ± 0.038	0.158 ± 0.016	0.078 ± 0.029	0.194 ± 0.035	0.064 ± 0.030
	AUC	0.699 ± 0.029	0.671 ± 0.028	0.637 ± 0.041	0.695 ± 0.031	0.518 ± 0.016	0.537 ± 0.052	0.611 ± 0.037	0.547 ± 0.040	0.552 ± 0.050	0.526 ± 0.046	0.538 ± 0.040	0.575 ± 0.022	0.511 ± 0.040	0.515 ± 0.051	0.653 ± 0.032	0.575 ± 0.015	0.668 ± 0.016	0.593 ± 0.005	0.659 ± 0.027	0.608 ± 0.036
	BAcc	0.290 ± 0.046	0.221 ± 0.035	0.252 ± 0.047	0.279 ± 0.043	0.152 ± 0.010	0.188 ± 0.039	0.233 ± 0.075	0.164 ± 0.030	0.167 ± 0.030	0.133 ± 0.023	0.162 ± 0.051	0.221 ± 0.018	0.143 ± 0.017	0.160 ± 0.038	0.307 ± 0.035	0.198 ± 0.032	0.279 ± 0.014	0.210 ± 0.025	0.310 ± 0.030	0.198 ± 0.026
	Acc ₁	0.290 ± 0.046	0.221 ± 0.035	0.252 ± 0.047	0.281 ± 0.042	0.152 ± 0.010	0.188 ± 0.039	0.233 ± 0.075	0.164 ± 0.030	0.167 ± 0.030	0.136 ± 0.023	0.159 ± 0.046	0.217 ± 0.015	0.152 ± 0.010	0.160 ± 0.038	0.307 ± 0.035	0.198 ± 0.032	0.274 ± 0.015	0.207 ± 0.027	0.317 ± 0.036	0.200 ± 0.029
	Acc ₂	0.486 ± 0.054	0.436 ± 0.057	0.448 ± 0.082	0.479 ± 0.055	0.324 ± 0.051	0.307 ± 0.057	0.398 ± 0.071	0.350 ± 0.041	0.350 ± 0.064	0.271 ± 0.026	0.306 ± 0.068	0.367 ± 0.026	0.299 ± 0.037	0.317 ± 0.052	0.471 ± 0.052	0.338 ± 0.046	0.477 ± 0.048	0.376 ± 0.018	0.493 ± 0.065	0.388 ± 0.050
sub13	κ	0.161 ± 0.053	0.136 ± 0.027	0.206 ± 0.036	0.172 ± 0.025	0.017 ± 0.049	-0.003 ± 0.037	0.125 ± 0.045	0.025 ± 0.042	0.036 ± 0.042	0.003 ± 0.006	0.050 ± 0.073	0.061 ± 0.047	0.011 ± 0.025	0.011 ± 0.050	0.175 ± 0.078	-0.006 ± 0.036	0.186 ± 0.067	-0.003 ± 0.041	0.258 ± 0.056	-0.011 ± 0.018
	AUC	0.689 ± 0.029	0.674 ± 0.034	0.699 ± 0.025	0.687 ± 0.019	0.517 ± 0.020	0.496 ± 0.037	0.642 ± 0.015	0.535 ± 0.057	0.525 ± 0.035	0.498 ± 0.042	0.541 ± 0.037	0.614 ± 0.030	0.500 ± 0.005	0.501 ± 0.049	0.669 ± 0.038	0.534 ± 0.037	0.671 ± 0.041	0.524 ± 0.018	0.702 ± 0.030	0.540 ± 0.057
	BAcc	0.281 ± 0.045	0.260 ± 0.023	0.319 ± 0.031	0.290 ± 0.022	0.157 ± 0.042	0.140 ± 0.032	0.250 ± 0.039	0.164 ± 0.036	0.174 ± 0.036	0.145 ± 0.005	0.186 ± 0.062	0.195 ± 0.040	0.152 ± 0.021	0.152 ± 0.043	0.293 ± 0.067	0.138 ± 0.031	0.302 ± 0.057	0.140 ± 0.035	0.364 ± 0.048	0.133 ± 0.016
	Acc ₁	0.281 ± 0.045	0.260 ± 0.023	0.319 ± 0.031	0.290 ± 0.022	0.160 ± 0.051	0.140 ± 0.032	0.250 ± 0.039	0.164 ± 0.036	0.172 ± 0.036	0.145 ± 0.005	0.181 ± 0.064	0.190 ± 0.043	0.144 ± 0.018	0.152 ± 0.043	0.293 ± 0.067	0.138 ± 0.031	0.308 ± 0.059	0.140 ± 0.035	0.375 ± 0.049	0.130 ± 0.012
	Acc ₂	0.486 ± 0.047	0.443 ± 0.028	0.536 ± 0.031	0.464 ± 0.031	0.290 ± 0.042	0.274 ± 0.062	0.424 ± 0.031	0.324 ± 0.057	0.321 ± 0.052	0.288 ± 0.005	0.338 ± 0.055	0.370 ± 0.066	0.284 ± 0.013	0.286 ± 0.061	0.490 ± 0.051	0.286 ± 0.034	0.490 ± 0.075	0.283 ± 0.023	0.581 ± 0.077	0.287 ± 0.027
sub14	κ	0.242 ± 0.076	0.239 ± 0.065	0.206 ± 0.085	0.314 ± 0.032	0.061 ± 0.035	0.014 ± 0.024	0.158 ± 0.036	0.050 ± 0.035	0.086 ± 0.075	0.000 ± 0.000	0.019 ± 0.059	0.114 ± 0.041	0.006 ± 0.012	0.025 ± 0.012	0.242 ± 0.048	0.078 ± 0.038	0.264 ± 0.054	0.011 ± 0.023	0.317 ± 0.065	0.033 ± 0.012
	AUC	0.750 ± 0.031	0.750 ± 0.019	0.716 ± 0.030	0.776 ± 0.028	0.550 ± 0.020	0.548 ± 0.025	0.638 ± 0.027	0.541 ± 0.020	0.556 ± 0.051	0.436 ± 0.029	0.556 ± 0.018	0.608 ± 0.031	0.528 ± 0.062	0.503 ± 0.066	0.723 ± 0.029	0.595 ± 0.056	0.684 ± 0.037	0.580 ± 0.025	0.733 ± 0.025	0.595 ± 0.031
	BAcc	0.350 ± 0.066	0.348 ± 0.055	0.319 ± 0.073	0.412 ± 0.027	0.195 ± 0.030	0.155 ± 0.021	0.279 ± 0.031	0.186 ± 0.030	0.217 ± 0.064	0.143 ± 0.000	0.160 ± 0.050	0.240 ± 0.035	0.148 ± 0.011	0.164 ± 0.010	0.350 ± 0.041	0.210 ± 0.032	0.369 ± 0.046	0.152 ± 0.020	0.414 ± 0.055	0.171 ± 0.011
	Acc ₁	0.350 ± 0.066	0.345 ± 0.055	0.319 ± 0.073	0.410 ± 0.032	0.195 ± 0.030	0.155 ± 0.021	0.279 ± 0.031	0.186 ± 0.030	0.217 ± 0.064	0.145 ± 0.005	0.166 ± 0.057	0.239 ± 0.037	0.148 ± 0.011	0.160 ± 0.014	0.350 ± 0.041	0.210 ± 0.032	0.369 ± 0.046	0.152 ± 0.020	0.410 ± 0.045	0.170 ± 0.011
	Acc ₂	0.538 ± 0.057	0.562 ± 0.047	0.507 ± 0.043	0.605 ± 0.030	0.329 ± 0.037	0.288 ± 0.010	0.445 ± 0.039	0.352 ± 0.018	0.367 ± 0.087	0.271 ± 0.032	0.375 ± 0.037	0.420 ± 0.058	0.298 ± 0.027	0.298 ± 0.027	0.583 ± 0.069	0.357 ± 0.044	0.519 ± 0.068	0.319 ± 0.036	0.596 ± 0.037	0.351 ± 0.043
sub15	κ	0.239 ± 0.049	0.172 ± 0.054	0.197 ± 0.035	0.200 ± 0.039	0.042 ± 0.048	0.028 ± 0.026	0.156 ± 0.049	0.036 ± 0.068	0.064 ± 0.047	-0.006 ± 0.012	0.008 ± 0.070	0.072 ± 0.049	0.008 ± 0.027	0.000 ± 0.010	0.217 ± 0.070	0.031 ± 0.042	0.211 ± 0.060	0.067 ± 0.070	0.272 ± 0.112	0.072 ± 0.043

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.290 ±0.059	0.310 ±0.055	0.362 ±0.047	0.307 ±0.035	0.205 ±0.045	0.138 ±0.018	0.288 ±0.075	0.176 ±0.035	0.169 ±0.027	0.143 ±0.000	0.217 ±0.013	0.219 ±0.043	0.143 ±0.000	0.140 ±0.026	0.548 ±0.073	0.260 ±0.055	0.605 ±0.097	0.269 ±0.031	0.598 ±0.059	0.288 ±0.031
	Acc_1	0.290 ±0.059	0.310 ±0.055	0.362 ±0.047	0.307 ±0.035	0.205 ±0.045	0.138 ±0.018	0.288 ±0.075	0.176 ±0.035	0.169 ±0.027	0.143 ±0.000	0.217 ±0.017	0.215 ±0.040	0.145 ±0.005	0.143 ±0.021	0.548 ±0.073	0.260 ±0.055	0.605 ±0.097	0.269 ±0.031	0.603 ±0.062	0.296 ±0.036
	Acc_2	0.519 ±0.074	0.555 ±0.041	0.569 ±0.069	0.571 ±0.019	0.348 ±0.028	0.293 ±0.007	0.481 ±0.062	0.326 ±0.023	0.295 ±0.031	0.295 ±0.021	0.379 ±0.097	0.397 ±0.026	0.293 ±0.016	0.279 ±0.022	0.717 ±0.041	0.405 ±0.048	0.774 ±0.058	0.440 ±0.035	0.759 ±0.034	0.508 ±0.043
	κ	0.231 ±0.038	0.189 ±0.045	0.178 ±0.068	0.239 ±0.039	0.042 ±0.028	0.014 ±0.035	0.192 ±0.043	0.061 ±0.049	0.053 ±0.041	0.000 ±0.000	0.067 ±0.045	0.058 ±0.066	-0.003 ±0.006	0.003 ±0.025	0.253 ±0.108	0.061 ±0.035	0.242 ±0.040	0.069 ±0.031	0.311 ±0.064	0.078 ±0.056
	AUC	0.737 ±0.023	0.716 ±0.021	0.693 ±0.034	0.745 ±0.025	0.532 ±0.026	0.517 ±0.037	0.645 ±0.030	0.553 ±0.029	0.544 ±0.025	0.531 ±0.019	0.581 ±0.017	0.571 ±0.065	0.500 ±0.001	0.509 ±0.038	0.706 ±0.077	0.598 ±0.048	0.698 ±0.040	0.600 ±0.052	0.751 ±0.041	0.611 ±0.047
	BAcc	0.340 ±0.032	0.305 ±0.038	0.295 ±0.058	0.348 ±0.033	0.179 ±0.024	0.155 ±0.030	0.307 ±0.037	0.195 ±0.042	0.188 ±0.035	0.143 ±0.000	0.200 ±0.039	0.193 ±0.057	0.140 ±0.005	0.145 ±0.021	0.360 ±0.093	0.195 ±0.030	0.350 ±0.034	0.202 ±0.027	0.410 ±0.055	0.210 ±0.048
	Acc_1	0.340 ±0.032	0.302 ±0.040	0.295 ±0.058	0.348 ±0.033	0.184 ±0.026	0.154 ±0.034	0.307 ±0.037	0.195 ±0.042	0.186 ±0.039	0.143 ±0.000	0.200 ±0.033	0.193 ±0.056	0.141 ±0.009	0.145 ±0.021	0.360 ±0.093	0.195 ±0.030	0.351 ±0.043	0.205 ±0.031	0.411 ±0.070	0.206 ±0.053
	Acc_2	0.550 ±0.028	0.510 ±0.031	0.502 ±0.032	0.574 ±0.042	0.307 ±0.035	0.304 ±0.020	0.479 ±0.047	0.360 ±0.042	0.348 ±0.050	0.286 ±0.000	0.359 ±0.038	0.343 ±0.069	0.281 ±0.015	0.302 ±0.034	0.583 ±0.104	0.357 ±0.047	0.547 ±0.046	0.383 ±0.063	0.618 ±0.075	0.393 ±0.075
sub6	κ	0.219 ±0.065	0.169 ±0.045	0.167 ±0.040	0.247 ±0.095	0.019 ±0.036	0.014 ±0.022	0.114 ±0.048	0.053 ±0.067	0.056 ±0.050	0.006 ±0.035	0.042 ±0.044	0.094 ±0.042	0.022 ±0.021	0.006 ±0.033	0.217 ±0.050	0.122 ±0.028	0.217 ±0.041	0.086 ±0.045	0.217 ±0.032	0.144 ±0.030
	AUC	0.722 ±0.034	0.706 ±0.027	0.703 ±0.029	0.744 ±0.025	0.533 ±0.025	0.496 ±0.066	0.631 ±0.054	0.534 ±0.049	0.580 ±0.014	0.438 ±0.037	0.553 ±0.017	0.607 ±0.035	0.580 ±0.077	0.525 ±0.047	0.692 ±0.047	0.651 ±0.034	0.684 ±0.030	0.641 ±0.049	0.688 ±0.011	0.653 ±0.047
	BAcc	0.331 ±0.055	0.288 ±0.039	0.286 ±0.035	0.355 ±0.081	0.160 ±0.031	0.155 ±0.019	0.240 ±0.041	0.188 ±0.057	0.190 ±0.043	0.148 ±0.030	0.179 ±0.038	0.224 ±0.036	0.162 ±0.018	0.148 ±0.029	0.329 ±0.043	0.248 ±0.024	0.329 ±0.035	0.217 ±0.039	0.329 ±0.027	0.267 ±0.026
	Acc_1	0.331 ±0.055	0.288 ±0.039	0.286 ±0.035	0.360 ±0.086	0.160 ±0.031	0.155 ±0.019	0.240 ±0.041	0.188 ±0.057	0.190 ±0.043	0.150 ±0.026	0.177 ±0.039	0.227 ±0.039	0.160 ±0.018	0.148 ±0.029	0.329 ±0.043	0.248 ±0.024	0.329 ±0.035	0.217 ±0.039	0.328 ±0.029	0.267 ±0.026
	Acc_2	0.517 ±0.068	0.498 ±0.042	0.490 ±0.055	0.519 ±0.053	0.331 ±0.041	0.286 ±0.048	0.410 ±0.071	0.331 ±0.060	0.350 ±0.038	0.274 ±0.008	0.373 ±0.042	0.400 ±0.060	0.326 ±0.060	0.290 ±0.026	0.540 ±0.050	0.412 ±0.047	0.521 ±0.055	0.383 ±0.030	0.502 ±0.049	0.431 ±0.053
sub7	κ	0.194 ±0.043	0.197 ±0.053	0.150 ±0.057	0.208 ±0.042	0.019 ±0.065	0.036 ±0.085	0.094 ±0.023	0.069 ±0.038	0.017 ±0.039	-0.006 ±0.012	0.039 ±0.018	0.042 ±0.043	0.017 ±0.037	0.050 ±0.032	0.269 ±0.066	0.075 ±0.058	0.239 ±0.065	0.042 ±0.056	0.286 ±0.072	0.081 ±0.045
	AUC	0.736 ±0.033	0.729 ±0.017	0.680 ±0.040	0.748 ±0.016	0.523 ±0.031	0.517 ±0.049	0.627 ±0.024	0.555 ±0.024	0.529 ±0.035	0.563 ±0.033	0.569 ±0.036	0.581 ±0.033	0.507 ±0.023	0.535 ±0.041	0.725 ±0.039	0.588 ±0.041	0.708 ±0.026	0.572 ±0.028	0.731 ±0.042	0.618 ±0.030
	BAcc	0.310 ±0.037	0.312 ±0.046	0.271 ±0.049	0.321 ±0.036	0.160 ±0.056	0.174 ±0.073	0.224 ±0.020	0.202 ±0.033	0.157 ±0.033	0.138 ±0.011	0.176 ±0.016	0.179 ±0.037	0.157 ±0.032	0.186 ±0.027	0.374 ±0.056	0.207 ±0.050	0.348 ±0.055	0.179 ±0.048	0.388 ±0.062	0.212 ±0.039

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (j)	STEEGformer-s (l)	STEEGformer-b (j)	STEEGformer-b (l)	STEEGformer-l (j)	STEEGformer-l (l)
sub8	Acc.1	0.312 ±0.040	0.312 ±0.046	0.271 ±0.049	0.321 ±0.036	0.160 ±0.056	0.174 ±0.073	0.224 ±0.020	0.202 ±0.033	0.157 ±0.033	0.136 ±0.016	0.168 ±0.012	0.181 ±0.035	0.157 ±0.032	0.188 ±0.028	0.374 ± 0.056	0.207 ±0.050	0.348 ±0.055	0.179 ±0.048	0.398 ±0.060	0.212 ±0.042
	Acc.2	0.550 ±0.084	0.552 ±0.031	0.495 ±0.052	0.552 ±0.027	0.305 ±0.061	0.302 ±0.059	0.426 ±0.052	0.338 ±0.052	0.300 ±0.055	0.276 ±0.013	0.341 ±0.039	0.378 ±0.050	0.302 ±0.026	0.312 ±0.035	0.598 ± 0.039	0.345 ±0.066	0.583 ±0.039	0.331 ±0.035	0.602 ±0.072	0.348 ±0.057
	κ	0.142 ±0.039	0.086 ±0.045	0.078 ±0.032	0.125 ±0.064	0.014 ±0.058	0.006 ±0.053	0.097 ±0.058	0.017 ±0.039	0.011 ±0.045	-0.006 ±0.025	0.008 ±0.027	0.008 ±0.050	0.006 ±0.021	-0.011 ±0.051	0.111 ±0.064	0.006 ±0.032	0.125 ±0.104	0.022 ±0.023	0.131 ± 0.041	0.000 ±0.022
	AUC	0.693 ±0.023	0.684 ±0.021	0.642 ±0.035	0.688 ± 0.037	0.537 ±0.041	0.498 ±0.033	0.614 ±0.039	0.535 ±0.045	0.520 ±0.032	0.465 ±0.024	0.543 ±0.028	0.556 ±0.022	0.516 ±0.023	0.489 ±0.048	0.634 ±0.046	0.521 ±0.013	0.637 ±0.036	0.532 ±0.028	0.628 ±0.028	0.526 ±0.023
	BAcc	0.264 ±0.033	0.217 ±0.039	0.210 ±0.027	0.250 ±0.055	0.155 ±0.050	0.148 ±0.046	0.226 ±0.050	0.157 ±0.033	0.152 ±0.039	0.138 ±0.022	0.150 ±0.023	0.150 ±0.043	0.148 ±0.018	0.133 ±0.044	0.238 ±0.055	0.148 ±0.027	0.250 ±0.089	0.162 ±0.020	0.255 ± 0.035	0.143 ±0.019
	Acc.1	0.264 ±0.033	0.217 ±0.039	0.210 ±0.027	0.250 ±0.055	0.155 ±0.050	0.148 ±0.046	0.226 ±0.050	0.157 ±0.033	0.152 ±0.039	0.140 ±0.018	0.151 ±0.023	0.146 ±0.037	0.148 ±0.018	0.140 ±0.035	0.238 ±0.055	0.148 ±0.027	0.250 ±0.089	0.162 ±0.020	0.253 ± 0.032	0.143 ±0.019
	Acc.2	0.450 ±0.054	0.429 ±0.037	0.424 ±0.077	0.488 ±0.055	0.310 ±0.050	0.295 ±0.036	0.424 ±0.052	0.324 ±0.047	0.305 ±0.029	0.262 ±0.028	0.319 ±0.030	0.322 ±0.045	0.293 ±0.023	0.293 ±0.063	0.455 ±0.063	0.283 ±0.024	0.481 ± 0.089	0.300 ±0.042	0.448 ±0.044	0.293 ±0.031
	κ	0.133 ±0.027	0.078 ±0.054	0.058 ±0.023	0.108 ±0.035	0.042 ±0.046	0.000 ±0.035	0.058 ±0.057	0.006 ±0.021	0.031 ±0.042	0.011 ±0.025	0.025 ±0.044	0.069 ±0.029	0.000 ±0.000	0.006 ±0.038	0.172 ± 0.082	0.011 ±0.030	0.161 ±0.048	-0.008 ±0.040	0.186 ±0.041	-0.047 ±0.033
	AUC	0.643 ± 0.042	0.614 ±0.025	0.594 ±0.020	0.640 ±0.034	0.525 ±0.047	0.512 ±0.051	0.566 ±0.054	0.516 ±0.025	0.513 ±0.018	0.479 ±0.025	0.525 ±0.033	0.564 ±0.023	0.495 ±0.010	0.502 ±0.029	0.642 ±0.050	0.555 ±0.036	0.653 ±0.021	0.536 ±0.037	0.641 ±0.046	0.501 ±0.027
	BAcc	0.257 ±0.023	0.210 ±0.047	0.193 ±0.020	0.236 ±0.030	0.179 ±0.039	0.143 ±0.030	0.193 ±0.049	0.148 ±0.018	0.169 ±0.036	0.152 ±0.021	0.164 ±0.038	0.202 ±0.025	0.143 ±0.000	0.148 ±0.032	0.290 ± 0.070	0.152 ±0.026	0.281 ±0.041	0.136 ±0.034	0.302 ±0.035	0.102 ±0.029
sub9	Acc.1	0.257 ±0.023	0.210 ±0.047	0.193 ±0.020	0.236 ±0.030	0.177 ±0.038	0.143 ±0.030	0.193 ±0.049	0.148 ±0.018	0.165 ±0.030	0.150 ±0.016	0.161 ±0.038	0.207 ±0.024	0.138 ±0.006	0.150 ±0.037	0.290 ± 0.070	0.152 ±0.026	0.278 ±0.040	0.136 ±0.034	0.303 ±0.033	0.098 ±0.027
	Acc.2	0.417 ±0.061	0.405 ±0.048	0.371 ±0.034	0.424 ±0.051	0.324 ±0.081	0.286 ±0.044	0.338 ±0.062	0.314 ±0.045	0.293 ±0.021	0.279 ±0.035	0.328 ±0.026	0.345 ±0.046	0.284 ±0.012	0.295 ±0.010	0.481 ±0.060	0.324 ±0.032	0.451 ±0.047	0.293 ±0.030	0.460 ± 0.047	0.261 ±0.041

C.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 23: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.351	0.795	0.444	0.444	0.653
DeepConvnet	± 0.146	± 0.068	± 0.125	± 0.125	± 0.107
	0.363	0.806	0.454	0.453	0.669
EEGNet	± 0.156	± 0.065	± 0.133	± 0.133	± 0.105
	0.353	0.784	0.445	0.445	0.645
Conformer	± 0.145	± 0.073	± 0.124	± 0.124	± 0.106
	0.373	0.801	0.463	0.463	0.657
CTNet	± 0.151	± 0.068	± 0.129	± 0.129	± 0.106
	0.099	0.588	0.227	0.227	0.383
BIOT (f)	± 0.065	± 0.052	± 0.055	± 0.056	± 0.062
	0.026	0.540	0.165	0.165	0.309
BIOT (l)	± 0.032	± 0.042	± 0.028	± 0.027	± 0.029
	0.229	0.704	0.339	0.339	0.529
BENDR (f)	± 0.092	± 0.053	± 0.079	± 0.079	± 0.066
	0.055	0.561	0.190	0.190	0.352
BENDR (l)	± 0.041	± 0.025	± 0.035	± 0.035	± 0.037
	0.121	0.616	0.247	0.246	0.423
CBraMod (f)	± 0.097	± 0.076	± 0.083	± 0.081	± 0.099
	0.000	0.498	0.143	0.143	0.286
CBraMod (l)	± 0.001	± 0.004	± 0.001	± 0.001	± 0.002
	0.093	0.593	0.223	0.225	0.392
EEGPT (f)	± 0.087	± 0.060	± 0.074	± 0.075	± 0.074
	0.112	0.606	0.239	0.242	0.411
EEGPT (l)	± 0.131	± 0.091	± 0.112	± 0.114	± 0.122
	0.010	0.510	0.151	0.151	0.294
LaBraM (f)	± 0.026	± 0.030	± 0.022	± 0.023	± 0.026
	-0.009	0.475	0.135	0.135	0.264
LaBraM (l)	± 0.021	± 0.027	± 0.018	± 0.018	± 0.025
	0.416	0.796	0.499	0.499	0.683
STEEGformer-s (f)	± 0.191	± 0.080	± 0.164	± 0.164	± 0.121
	0.082	0.598	0.213	0.213	0.378
STEEGformer-s (l)	± 0.060	± 0.067	± 0.051	± 0.051	± 0.076
	0.411	0.800	0.496	0.495	0.689
STEEGformer-b (f)	± 0.187	± 0.080	± 0.161	± 0.161	± 0.120
	0.111	0.612	0.238	0.238	0.392
STEEGformer-b (l)	± 0.084	± 0.079	± 0.072	± 0.072	± 0.099
	0.455	0.823	0.533	0.534	0.728
STEEGformer-l (f)	± 0.190	± 0.074	± 0.163	± 0.163	± 0.109
	0.081	0.611	0.212	0.213	0.390
STEEGformer-l (l)	± 0.060	± 0.062	± 0.051	± 0.051	± 0.067

Table 24: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.325 ± 0.073	0.358 ± 0.051	0.375 ± 0.075	0.331 ± 0.058	0.111 ± 0.049	0.003 ± 0.035	0.178 ± 0.048	-0.044 ± 0.055	0.092 ± 0.070	0.003 ± 0.006	0.064 ± 0.040	0.050 ± 0.038	-0.003 ± 0.006	-0.006 ± 0.008	0.325 ± 0.095	0.058 ± 0.027	0.306 ± 0.026	0.067 ± 0.018	0.397 ± 0.092	0.025 ± 0.025
	AUC	0.792 ± 0.017	0.811 ± 0.011	0.790 ± 0.032	0.789 ± 0.019	0.577 ± 0.026	0.545 ± 0.033	0.675 ± 0.034	0.512 ± 0.080	0.595 ± 0.030	0.496 ± 0.015	0.554 ± 0.025	0.553 ± 0.031	0.494 ± 0.033	0.498 ± 0.024	0.780 ± 0.045	0.559 ± 0.023	0.762 ± 0.031	0.546 ± 0.027	0.803 ± 0.041	0.562 ± 0.018
	BAcc	0.421 ± 0.062	0.450 ± 0.044	0.464 ± 0.065	0.426 ± 0.050	0.238 ± 0.042	0.145 ± 0.030	0.295 ± 0.041	0.105 ± 0.047	0.221 ± 0.060	0.145 ± 0.005	0.198 ± 0.034	0.186 ± 0.032	0.140 ± 0.005	0.138 ± 0.007	0.421 ± 0.081	0.193 ± 0.023	0.405 ± 0.022	0.200 ± 0.016	0.483 ± 0.079	0.164 ± 0.021
	Acc ₁	0.421 ± 0.062	0.450 ± 0.044	0.464 ± 0.065	0.426 ± 0.050	0.238 ± 0.042	0.145 ± 0.030	0.295 ± 0.041	0.105 ± 0.047	0.224 ± 0.061	0.145 ± 0.005	0.202 ± 0.031	0.186 ± 0.033	0.143 ± 0.008	0.140 ± 0.005	0.421 ± 0.081	0.193 ± 0.023	0.405 ± 0.022	0.200 ± 0.016	0.485 ± 0.072	0.170 ± 0.016
	Acc ₂	0.655 ± 0.047	0.655 ± 0.022	0.631 ± 0.045	0.624 ± 0.056	0.393 ± 0.015	0.300 ± 0.033	0.500 ± 0.057	0.274 ± 0.098	0.419 ± 0.037	0.290 ± 0.007	0.345 ± 0.030	0.345 ± 0.025	0.283 ± 0.005	0.286 ± 0.008	0.652 ± 0.078	0.348 ± 0.051	0.636 ± 0.056	0.324 ± 0.021	0.706 ± 0.053	0.336 ± 0.035
sub10	κ	0.361 ± 0.069	0.375 ± 0.056	0.425 ± 0.045	0.403 ± 0.051	0.047 ± 0.016	0.083 ± 0.066	0.289 ± 0.039	0.133 ± 0.049	0.125 ± 0.043	0.000 ± 0.000	0.078 ± 0.061	0.081 ± 0.052	0.039 ± 0.057	0.008 ± 0.052	0.389 ± 0.040	0.031 ± 0.027	0.411 ± 0.042	0.053 ± 0.073	0.436 ± 0.078	0.044 ± 0.060
	AUC	0.822 ± 0.036	0.854 ± 0.023	0.835 ± 0.018	0.837 ± 0.028	0.559 ± 0.028	0.550 ± 0.035	0.752 ± 0.024	0.608 ± 0.042	0.620 ± 0.036	0.501 ± 0.009	0.592 ± 0.040	0.589 ± 0.054	0.537 ± 0.048	0.487 ± 0.024	0.804 ± 0.007	0.566 ± 0.030	0.814 ± 0.036	0.575 ± 0.024	0.846 ± 0.017	0.591 ± 0.023
	BAcc	0.452 ± 0.059	0.464 ± 0.048	0.507 ± 0.038	0.488 ± 0.044	0.183 ± 0.014	0.214 ± 0.056	0.390 ± 0.033	0.257 ± 0.042	0.250 ± 0.037	0.143 ± 0.000	0.210 ± 0.052	0.212 ± 0.045	0.176 ± 0.049	0.150 ± 0.044	0.476 ± 0.035	0.169 ± 0.023	0.495 ± 0.036	0.188 ± 0.063	0.517 ± 0.067	0.181 ± 0.051
	Acc ₁	0.450 ± 0.061	0.464 ± 0.048	0.507 ± 0.038	0.488 ± 0.044	0.183 ± 0.014	0.214 ± 0.056	0.390 ± 0.033	0.257 ± 0.042	0.250 ± 0.037	0.143 ± 0.000	0.212 ± 0.058	0.215 ± 0.044	0.181 ± 0.046	0.150 ± 0.044	0.476 ± 0.035	0.169 ± 0.023	0.495 ± 0.036	0.188 ± 0.063	0.522 ± 0.063	0.181 ± 0.051
	Acc ₂	0.693 ± 0.055	0.717 ± 0.023	0.721 ± 0.032	0.698 ± 0.036	0.350 ± 0.054	0.355 ± 0.053	0.586 ± 0.080	0.400 ± 0.063	0.445 ± 0.056	0.286 ± 0.000	0.382 ± 0.091	0.393 ± 0.069	0.321 ± 0.055	0.276 ± 0.031	0.702 ± 0.024	0.317 ± 0.014	0.724 ± 0.043	0.329 ± 0.052	0.751 ± 0.033	0.350 ± 0.057
sub11	κ	0.236 ± 0.056	0.269 ± 0.042	0.250 ± 0.033	0.269 ± 0.066	0.094 ± 0.049	-0.011 ± 0.060	0.169 ± 0.070	0.019 ± 0.023	0.103 ± 0.080	0.000 ± 0.000	0.028 ± 0.035	0.031 ± 0.027	-0.006 ± 0.008	-0.011 ± 0.023	0.331 ± 0.069	0.056 ± 0.053	0.317 ± 0.065	0.103 ± 0.035	0.364 ± 0.054	0.097 ± 0.050
	AUC	0.740 ± 0.036	0.770 ± 0.033	0.731 ± 0.032	0.747 ± 0.037	0.573 ± 0.043	0.513 ± 0.017	0.656 ± 0.033	0.522 ± 0.027	0.592 ± 0.057	0.500 ± 0.000	0.543 ± 0.029	0.550 ± 0.038	0.487 ± 0.012	0.482 ± 0.013	0.764 ± 0.029	0.577 ± 0.036	0.745 ± 0.019	0.607 ± 0.033	0.782 ± 0.027	0.600 ± 0.044
	BAcc	0.345 ± 0.048	0.374 ± 0.036	0.357 ± 0.028	0.374 ± 0.057	0.224 ± 0.042	0.133 ± 0.051	0.288 ± 0.060	0.160 ± 0.020	0.231 ± 0.069	0.143 ± 0.000	0.167 ± 0.030	0.169 ± 0.023	0.138 ± 0.007	0.133 ± 0.020	0.426 ± 0.059	0.190 ± 0.045	0.414 ± 0.056	0.231 ± 0.030	0.455 ± 0.046	0.226 ± 0.043
	Acc ₁	0.345 ± 0.048	0.374 ± 0.036	0.357 ± 0.028	0.374 ± 0.057	0.224 ± 0.042	0.133 ± 0.051	0.288 ± 0.060	0.160 ± 0.020	0.231 ± 0.069	0.143 ± 0.000	0.165 ± 0.031	0.173 ± 0.029	0.129 ± 0.020	0.133 ± 0.020	0.426 ± 0.059	0.190 ± 0.045	0.419 ± 0.057	0.231 ± 0.030	0.448 ± 0.045	0.228 ± 0.043
	Acc ₂	0.557 ± 0.070	0.638 ± 0.054	0.531 ± 0.045	0.576 ± 0.053	0.360 ± 0.046	0.288 ± 0.050	0.474 ± 0.067	0.293 ± 0.023	0.381 ± 0.066	0.286 ± 0.000	0.314 ± 0.037	0.328 ± 0.053	0.271 ± 0.026	0.271 ± 0.016	0.626 ± 0.048	0.357 ± 0.025	0.619 ± 0.065	0.367 ± 0.023	0.656 ± 0.071	0.380 ± 0.059

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.219 ± 0.083	0.253 ± 0.067	0.239 ± 0.027	0.258 ± 0.061	0.075 ± 0.025	0.022 ± 0.046	0.181 ± 0.035	0.050 ± 0.042	0.086 ± 0.054	0.000 ± 0.000	0.058 ± 0.027	0.044 ± 0.032	-0.011 ± 0.033	0.008 ± 0.023	0.339 ± 0.049	0.097 ± 0.033	0.314 ± 0.065	0.125 ± 0.037	0.328 ± 0.072	0.097 ± 0.052
	AUC	0.741 ± 0.026	0.740 ± 0.027	0.725 ± 0.044	0.744 ± 0.028	0.561 ± 0.031	0.536 ± 0.033	0.656 ± 0.021	0.551 ± 0.032	0.599 ± 0.079	0.498 ± 0.003	0.566 ± 0.015	0.547 ± 0.046	0.479 ± 0.056	0.476 ± 0.025	0.743 ± 0.013	0.601 ± 0.020	0.763 ± 0.031	0.615 ± 0.024	0.760 ± 0.048	0.617 ± 0.040
	BACc	0.331 ± 0.071	0.360 ± 0.057	0.348 ± 0.023	0.364 ± 0.052	0.207 ± 0.022	0.162 ± 0.039	0.298 ± 0.030	0.186 ± 0.036	0.217 ± 0.046	0.143 ± 0.000	0.193 ± 0.023	0.181 ± 0.027	0.133 ± 0.028	0.150 ± 0.020	0.433 ± 0.042	0.226 ± 0.028	0.412 ± 0.056	0.250 ± 0.031	0.424 ± 0.062	0.226 ± 0.045
	Acc_1	0.331 ± 0.071	0.360 ± 0.057	0.348 ± 0.023	0.364 ± 0.052	0.207 ± 0.022	0.162 ± 0.039	0.298 ± 0.030	0.186 ± 0.036	0.217 ± 0.046	0.143 ± 0.000	0.200 ± 0.030	0.181 ± 0.022	0.132 ± 0.024	0.150 ± 0.020	0.433 ± 0.042	0.229 ± 0.030	0.410 ± 0.066	0.250 ± 0.031	0.421 ± 0.070	0.230 ± 0.050
	Acc_2	0.576 ± 0.089	0.576 ± 0.064	0.543 ± 0.055	0.598 ± 0.060	0.357 ± 0.044	0.314 ± 0.060	0.476 ± 0.028	0.360 ± 0.042	0.390 ± 0.088	0.286 ± 0.000	0.352 ± 0.042	0.305 ± 0.044	0.275 ± 0.062	0.238 ± 0.048	0.602 ± 0.020	0.405 ± 0.038	0.612 ± 0.052	0.417 ± 0.040	0.615 ± 0.063	0.432 ± 0.045
sub13	κ	0.278 ± 0.061	0.297 ± 0.085	0.289 ± 0.055	0.294 ± 0.067	0.028 ± 0.035	-0.003 ± 0.036	0.203 ± 0.040	0.042 ± 0.058	0.031 ± 0.032	0.000 ± 0.000	0.031 ± 0.089	0.025 ± 0.051	-0.033 ± 0.040	-0.017 ± 0.045	0.314 ± 0.047	0.031 ± 0.030	0.303 ± 0.081	0.017 ± 0.042	0.322 ± 0.030	0.011 ± 0.027
	AUC	0.768 ± 0.041	0.770 ± 0.031	0.766 ± 0.020	0.755 ± 0.031	0.538 ± 0.020	0.471 ± 0.042	0.702 ± 0.039	0.550 ± 0.043	0.542 ± 0.018	0.501 ± 0.005	0.568 ± 0.043	0.548 ± 0.024	0.476 ± 0.037	0.445 ± 0.026	0.742 ± 0.027	0.532 ± 0.029	0.758 ± 0.048	0.526 ± 0.027	0.782 ± 0.020	0.547 ± 0.047
	BACc	0.381 ± 0.053	0.398 ± 0.073	0.390 ± 0.047	0.395 ± 0.057	0.167 ± 0.030	0.140 ± 0.031	0.317 ± 0.034	0.179 ± 0.050	0.169 ± 0.027	0.143 ± 0.000	0.169 ± 0.076	0.164 ± 0.044	0.114 ± 0.034	0.129 ± 0.039	0.412 ± 0.040	0.169 ± 0.026	0.402 ± 0.069	0.157 ± 0.036	0.419 ± 0.026	0.152 ± 0.023
	Acc_1	0.381 ± 0.053	0.398 ± 0.073	0.390 ± 0.047	0.395 ± 0.057	0.166 ± 0.026	0.140 ± 0.031	0.317 ± 0.034	0.179 ± 0.050	0.165 ± 0.030	0.143 ± 0.000	0.163 ± 0.069	0.157 ± 0.041	0.111 ± 0.033	0.129 ± 0.039	0.412 ± 0.040	0.169 ± 0.026	0.398 ± 0.064	0.157 ± 0.036	0.425 ± 0.030	0.158 ± 0.028
	Acc_2	0.598 ± 0.054	0.605 ± 0.039	0.633 ± 0.035	0.602 ± 0.057	0.343 ± 0.040	0.276 ± 0.053	0.507 ± 0.054	0.333 ± 0.038	0.324 ± 0.054	0.286 ± 0.000	0.362 ± 0.056	0.322 ± 0.056	0.242 ± 0.046	0.245 ± 0.029	0.607 ± 0.072	0.321 ± 0.042	0.623 ± 0.086	0.298 ± 0.012	0.677 ± 0.034	0.322 ± 0.046
sub14	κ	0.342 ± 0.053	0.325 ± 0.038	0.378 ± 0.078	0.317 ± 0.050	0.117 ± 0.053	0.003 ± 0.025	0.211 ± 0.012	0.078 ± 0.033	0.050 ± 0.073	0.000 ± 0.000	0.061 ± 0.049	0.025 ± 0.049	0.036 ± 0.073	-0.028 ± 0.026	0.333 ± 0.022	0.067 ± 0.058	0.350 ± 0.051	0.100 ± 0.057	0.331 ± 0.081	0.053 ± 0.037
	AUC	0.780 ± 0.010	0.803 ± 0.026	0.790 ± 0.032	0.788 ± 0.017	0.589 ± 0.051	0.521 ± 0.063	0.711 ± 0.024	0.563 ± 0.033	0.593 ± 0.046	0.500 ± 0.000	0.573 ± 0.033	0.562 ± 0.038	0.537 ± 0.061	0.439 ± 0.033	0.766 ± 0.033	0.580 ± 0.044	0.757 ± 0.028	0.584 ± 0.040	0.773 ± 0.035	0.587 ± 0.036
	BACc	0.436 ± 0.045	0.421 ± 0.032	0.467 ± 0.067	0.414 ± 0.043	0.243 ± 0.045	0.145 ± 0.021	0.324 ± 0.010	0.210 ± 0.029	0.186 ± 0.063	0.143 ± 0.000	0.195 ± 0.042	0.164 ± 0.042	0.174 ± 0.063	0.119 ± 0.022	0.429 ± 0.019	0.200 ± 0.050	0.443 ± 0.044	0.229 ± 0.049	0.426 ± 0.069	0.188 ± 0.032
	Acc_1	0.436 ± 0.045	0.419 ± 0.027	0.467 ± 0.067	0.414 ± 0.043	0.243 ± 0.045	0.145 ± 0.021	0.324 ± 0.010	0.210 ± 0.029	0.186 ± 0.063	0.143 ± 0.000	0.196 ± 0.046	0.165 ± 0.042	0.174 ± 0.063	0.121 ± 0.018	0.429 ± 0.019	0.200 ± 0.050	0.443 ± 0.044	0.229 ± 0.049	0.425 ± 0.070	0.189 ± 0.027
	Acc_2	0.638 ± 0.027	0.657 ± 0.028	0.657 ± 0.030	0.624 ± 0.054	0.383 ± 0.057	0.283 ± 0.010	0.517 ± 0.041	0.369 ± 0.034	0.369 ± 0.065	0.286 ± 0.000	0.353 ± 0.055	0.360 ± 0.055	0.312 ± 0.059	0.269 ± 0.011	0.652 ± 0.053	0.343 ± 0.057	0.617 ± 0.062	0.367 ± 0.044	0.660 ± 0.084	0.340 ± 0.051
sub15	κ	0.250 ± 0.028	0.247 ± 0.066	0.289 ± 0.056	0.247 ± 0.049	0.100 ± 0.032	0.058 ± 0.066	0.208 ± 0.094	0.047 ± 0.063	0.114 ± 0.093	0.000 ± 0.000	0.056 ± 0.033	0.092 ± 0.052	0.050 ± 0.071	0.019 ± 0.055	0.294 ± 0.089	0.028 ± 0.033	0.289 ± 0.084	0.042 ± 0.054	0.319 ± 0.049	0.047 ± 0.057

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
2385	AUC	0.725	0.758	0.758	0.747	0.601	0.553	0.687	0.552	0.615	0.500	0.564	0.598	0.549	0.490	0.744	0.554	0.741	0.559	0.758	0.571
		± 0.012	± 0.037	± 0.021	± 0.020	± 0.017	± 0.027	± 0.039	± 0.041	± 0.047	± 0.003	± 0.044	± 0.033	± 0.073	± 0.037	± 0.046	± 0.041	± 0.066	± 0.037	± 0.041	± 0.043
		0.357	0.355	0.390	0.355	0.229	0.193	0.321	0.183	0.240	0.143	0.190	0.221	0.186	0.160	0.395	0.167	0.390	0.179	0.417	0.183
		± 0.024	± 0.057	± 0.048	± 0.042	± 0.027	± 0.057	± 0.080	± 0.054	± 0.080	± 0.000	± 0.028	± 0.044	± 0.061	± 0.047	± 0.076	± 0.028	± 0.072	± 0.046	± 0.042	± 0.049
	BAcc	0.355	0.357	0.390	0.355	0.229	0.193	0.321	0.183	0.240	0.143	0.203	0.227	0.186	0.157	0.395	0.167	0.390	0.179	0.430	0.183
		± 0.027	± 0.060	± 0.048	± 0.042	± 0.027	± 0.057	± 0.080	± 0.054	± 0.080	± 0.000	± 0.028	± 0.051	± 0.061	± 0.042	± 0.076	± 0.030	± 0.072	± 0.046	± 0.047	± 0.049
		0.560	0.619	0.619	0.588	0.379	0.312	0.521	0.324	0.419	0.286	0.380	0.399	0.336	0.293	0.583	0.321	0.598	0.326	0.664	0.350
		± 0.033	± 0.066	± 0.033	± 0.038	± 0.024	± 0.065	± 0.075	± 0.074	± 0.080	± 0.000	± 0.079	± 0.044	± 0.069	± 0.044	± 0.073	± 0.062	± 0.090	± 0.049	± 0.075	± 0.043
2386	κ	0.261	0.325	0.219	0.308	0.114	0.003	0.142	0.036	0.044	0.000	0.069	0.092	0.003	0.003	0.267	0.053	0.286	0.081	0.353	0.064
		± 0.037	± 0.049	± 0.006	± 0.039	± 0.042	± 0.039	± 0.045	± 0.046	± 0.077	± 0.000	± 0.064	± 0.046	± 0.048	± 0.039	± 0.073	± 0.057	± 0.045	± 0.033	± 0.045	± 0.053
		0.730	0.755	0.714	0.745	0.603	0.571	0.637	0.565	0.563	0.499	0.562	0.569	0.508	0.488	0.719	0.568	0.752	0.584	0.785	0.595
		± 0.013	± 0.020	± 0.028	± 0.018	± 0.051	± 0.036	± 0.039	± 0.024	± 0.058	± 0.003	± 0.029	± 0.028	± 0.050	± 0.052	± 0.046	± 0.039	± 0.040	± 0.043	± 0.032	± 0.043
	BAcc	0.367	0.421	0.331	0.407	0.240	0.145	0.264	0.174	0.181	0.143	0.202	0.221	0.145	0.145	0.371	0.188	0.388	0.212	0.445	0.198
		± 0.032	± 0.042	± 0.005	± 0.033	± 0.036	± 0.033	± 0.039	± 0.039	± 0.066	± 0.000	± 0.055	± 0.039	± 0.041	± 0.033	± 0.063	± 0.049	± 0.038	± 0.028	± 0.038	± 0.046
		0.367	0.421	0.331	0.407	0.240	0.145	0.264	0.174	0.181	0.143	0.206	0.220	0.143	0.145	0.371	0.188	0.388	0.212	0.441	0.198
		± 0.032	± 0.042	± 0.005	± 0.033	± 0.036	± 0.033	± 0.039	± 0.039	± 0.066	± 0.000	± 0.056	± 0.043	± 0.039	± 0.033	± 0.063	± 0.049	± 0.038	± 0.028	± 0.040	± 0.046
2387	BAcc	0.550	0.602	0.543	0.576	0.402	0.288	0.445	0.326	0.343	0.286	0.364	0.378	0.288	0.281	0.586	0.345	0.614	0.350	0.659	0.388
		± 0.039	± 0.036	± 0.045	± 0.018	± 0.082	± 0.071	± 0.077	± 0.035	± 0.055	± 0.000	± 0.030	± 0.083	± 0.042	± 0.051	± 0.067	± 0.022	± 0.081	± 0.055	± 0.073	± 0.050
		0.711	0.756	0.678	0.767	0.083	0.089	0.367	0.081	0.378	0.000	0.183	0.467	0.000	-0.019	0.894	0.206	0.881	0.306	0.933	0.208
		± 0.041	± 0.040	± 0.072	± 0.068	± 0.043	± 0.046	± 0.069	± 0.060	± 0.077	± 0.000	± 0.133	± 0.081	± 0.000	± 0.023	± 0.023	± 0.039	± 0.019	± 0.042	± 0.012	± 0.056
	AUC	0.952	0.956	0.947	0.962	0.589	0.599	0.786	0.577	0.813	0.501	0.658	0.832	0.500	0.496	0.989	0.748	0.985	0.797	0.995	0.760
		± 0.002	± 0.010	± 0.014	± 0.016	± 0.035	± 0.029	± 0.040	± 0.028	± 0.026	± 0.006	± 0.084	± 0.032	± 0.001	± 0.030	± 0.005	± 0.029	± 0.005	± 0.036	± 0.003	± 0.032
		0.752	0.790	0.724	0.800	0.214	0.219	0.457	0.212	0.467	0.143	0.300	0.543	0.143	0.126	0.910	0.319	0.898	0.405	0.943	0.321
		± 0.035	± 0.034	± 0.062	± 0.059	± 0.037	± 0.039	± 0.059	± 0.051	± 0.066	± 0.000	± 0.114	± 0.069	± 0.000	± 0.020	± 0.020	± 0.033	± 0.016	± 0.036	± 0.010	± 0.048
2388	BAcc	0.752	0.790	0.724	0.800	0.214	0.212	0.457	0.212	0.455	0.143	0.297	0.550	0.149	0.124	0.910	0.319	0.898	0.405	0.940	0.319
		± 0.035	± 0.034	± 0.062	± 0.059	± 0.025	± 0.041	± 0.059	± 0.051	± 0.060	± 0.000	± 0.122	± 0.075	± 0.008	± 0.022	± 0.020	± 0.033	± 0.017	± 0.036	± 0.010	± 0.048
		0.888	0.914	0.886	0.907	0.381	0.376	0.626	0.398	0.664	0.286	0.484	0.708	0.287	0.283	0.967	0.524	0.963	0.631	0.972	0.539
		± 0.018	± 0.045	± 0.042	± 0.048	± 0.041	± 0.025	± 0.046	± 0.033	± 0.053	± 0.000	± 0.127	± 0.057	± 0.013	± 0.023	± 0.023	± 0.055	± 0.021	± 0.064	± 0.011	± 0.055
	AUC	0.683	0.728	0.694	0.708	0.306	0.019	0.492	0.119	0.322	0.000	0.389	0.408	-0.022	0.003	0.858	0.222	0.836	0.306	0.892	0.219
		± 0.039	± 0.033	± 0.064	± 0.044	± 0.095	± 0.042	± 0.078	± 0.046	± 0.186	± 0.000	± 0.113	± 0.038	± 0.050	± 0.015	± 0.012	± 0.056	± 0.039	± 0.067	± 0.027	± 0.048
		0.946	0.952	0.950	0.951	0.746	0.639	0.838	0.601	0.770	0.500	0.794	0.837	0.483	0.497	0.978	0.758	0.979	0.794	0.985	0.748
		± 0.012	± 0.011	± 0.022	± 0.006	± 0.076	± 0.039	± 0.032	± 0.025	± 0.153	± 0.000	± 0.042	± 0.015	± 0.054	± 0.037	± 0.009	± 0.034	± 0.010	± 0.033	± 0.008	± 0.048

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub5	BAcc	0.729 ±0.033	0.767 ±0.029	0.738 ±0.055	0.750 ±0.038	0.405 ±0.082	0.160 ±0.036	0.564 ±0.067	0.245 ±0.039	0.419 ±0.159	0.143 ±0.000	0.476 ±0.097	0.493 ±0.032	0.124 ±0.043	0.145 ±0.013	0.879 ± 0.010	0.333 ±0.048	0.860 ±0.033	0.405 ±0.057	0.907 ± 0.023	0.331 ±0.041
	Acc_1	0.729 ±0.033	0.767 ±0.029	0.738 ±0.055	0.748 ±0.039	0.405 ±0.082	0.160 ±0.036	0.564 ±0.067	0.245 ±0.039	0.419 ±0.159	0.143 ±0.000	0.479 ±0.096	0.500 ±0.032	0.124 ±0.043	0.145 ±0.013	0.879 ± 0.010	0.333 ±0.048	0.860 ±0.033	0.405 ±0.057	0.912 ± 0.019	0.335 ±0.044
	Acc_2	0.898 ±0.020	0.902 ±0.035	0.876 ±0.043	0.905 ±0.028	0.579 ±0.080	0.317 ±0.018	0.710 ±0.052	0.400 ±0.032	0.643 ±0.210	0.286 ±0.000	0.636 ±0.081	0.719 ±0.035	0.267 ±0.057	0.267 ±0.018	0.964 ± 0.022	0.581 ±0.047	0.962 ±0.030	0.619 ±0.038	0.975 ± 0.015	0.543 ±0.025
	κ	0.272 ±0.012	0.253 ±0.081	0.250 ±0.056	0.342 ± 0.063	0.033 ±0.038	0.017 ±0.050	0.236 ±0.038	0.053 ±0.065	0.094 ±0.027	0.000 ±0.000	0.056 ±0.022	0.078 ±0.049	0.000 ±0.000	-0.006 ±0.016	0.297 ±0.114	0.033 ±0.025	0.333 ±0.057	0.044 ±0.032	0.394 ± 0.066	0.067 ±0.021
	AUC	0.769 ±0.022	0.773 ±0.042	0.743 ±0.025	0.793 ± 0.024	0.519 ±0.027	0.505 ±0.057	0.717 ±0.037	0.572 ±0.037	0.569 ±0.019	0.500 ±0.000	0.583 ±0.026	0.587 ±0.048	0.490 ±0.023	0.474 ±0.020	0.750 ±0.058	0.552 ±0.038	0.753 ±0.014	0.574 ±0.040	0.794 ± 0.033	0.580 ±0.034
	BAcc	0.376 ±0.011	0.360 ±0.069	0.357 ±0.048	0.436 ± 0.054	0.171 ±0.032	0.157 ±0.043	0.345 ±0.033	0.188 ±0.056	0.224 ±0.023	0.143 ±0.000	0.190 ±0.019	0.210 ±0.042	0.143 ±0.000	0.138 ±0.014	0.398 ±0.098	0.171 ±0.022	0.429 ±0.049	0.181 ±0.027	0.481 ± 0.057	0.200 ±0.018
sub6	Acc_1	0.376 ±0.011	0.357 ±0.069	0.357 ±0.048	0.438 ± 0.056	0.170 ±0.029	0.158 ±0.045	0.345 ±0.033	0.188 ±0.056	0.221 ±0.024	0.143 ±0.000	0.190 ±0.022	0.217 ±0.049	0.150 ±0.008	0.138 ±0.014	0.398 ±0.098	0.171 ±0.022	0.424 ±0.059	0.181 ±0.027	0.490 ± 0.066	0.205 ±0.024
	Acc_2	0.612 ±0.066	0.600 ±0.091	0.588 ±0.065	0.638 ±0.057	0.300 ±0.043	0.314 ±0.077	0.545 ±0.067	0.348 ±0.066	0.367 ±0.051	0.286 ±0.000	0.385 ±0.028	0.402 ±0.062	0.291 ±0.013	0.252 ±0.043	0.621 ±0.080	0.317 ±0.032	0.655 ± 0.036	0.329 ±0.033	0.688 ± 0.053	0.407 ±0.028
	κ	0.439 ±0.075	0.400 ±0.096	0.397 ±0.033	0.425 ±0.067	0.147 ±0.046	0.075 ±0.071	0.269 ±0.102	0.061 ±0.076	0.172 ±0.051	0.000 ±0.000	0.100 ±0.043	0.122 ±0.041	0.025 ±0.087	-0.022 ±0.045	0.525 ± 0.070	0.111 ±0.053	0.514 ±0.022	0.161 ±0.057	0.544 ± 0.043	0.117 ±0.016
	AUC	0.848 ±0.028	0.834 ±0.019	0.807 ±0.027	0.838 ±0.021	0.643 ±0.019	0.580 ±0.031	0.737 ±0.049	0.582 ±0.036	0.675 ±0.033	0.500 ±0.000	0.602 ±0.034	0.597 ±0.031	0.583 ±0.136	0.469 ±0.037	0.858 ±0.028	0.644 ±0.024	0.872 ± 0.025	0.655 ±0.030	0.891 ± 0.025	0.654 ±0.022
	BAcc	0.519 ±0.064	0.486 ±0.082	0.483 ±0.029	0.507 ±0.057	0.269 ±0.039	0.207 ±0.061	0.374 ±0.087	0.195 ±0.065	0.290 ±0.043	0.143 ±0.000	0.229 ±0.037	0.248 ±0.035	0.164 ±0.075	0.124 ±0.038	0.593 ± 0.060	0.238 ±0.045	0.583 ±0.019	0.281 ±0.049	0.610 ± 0.037	0.243 ±0.014
	Acc_1	0.519 ±0.064	0.486 ±0.082	0.483 ±0.029	0.507 ±0.057	0.269 ±0.039	0.207 ±0.061	0.374 ±0.087	0.195 ±0.065	0.293 ±0.045	0.143 ±0.000	0.228 ±0.046	0.258 ±0.037	0.157 ±0.078	0.124 ±0.038	0.593 ± 0.060	0.238 ±0.045	0.583 ±0.019	0.279 ±0.050	0.617 ± 0.035	0.240 ±0.010
sub7	Acc_2	0.740 ±0.036	0.736 ±0.049	0.700 ±0.054	0.714 ±0.031	0.436 ±0.046	0.355 ±0.050	0.555 ±0.054	0.390 ±0.036	0.481 ±0.022	0.286 ±0.000	0.380 ±0.053	0.403 ±0.059	0.326 ±0.157	0.252 ±0.073	0.781 ±0.022	0.398 ±0.066	0.802 ± 0.051	0.438 ±0.054	0.838 ± 0.045	0.395 ±0.027
	κ	0.278 ±0.080	0.286 ±0.058	0.242 ±0.051	0.322 ±0.075	0.036 ±0.066	0.014 ±0.039	0.136 ±0.043	0.019 ±0.078	0.056 ±0.049	0.000 ±0.000	0.053 ±0.025	0.058 ±0.051	-0.003 ±0.006	0.025 ±0.051	0.378 ± 0.032	0.067 ±0.033	0.294 ±0.037	0.092 ±0.030	0.375 ± 0.055	0.075 ±0.051
	AUC	0.765 ±0.032	0.775 ± 0.035	0.713 ±0.061	0.763 ±0.044	0.539 ±0.038	0.515 ±0.016	0.665 ±0.023	0.562 ±0.045	0.558 ±0.047	0.496 ±0.010	0.570 ±0.031	0.567 ±0.018	0.501 ±0.035	0.524 ±0.042	0.771 ±0.027	0.589 ±0.043	0.761 ±0.016	0.590 ±0.049	0.790 ± 0.028	0.606 ±0.060
	BAcc	0.381 ±0.069	0.388 ±0.050	0.350 ±0.043	0.419 ±0.064	0.174 ±0.057	0.155 ±0.034	0.260 ±0.037	0.160 ±0.067	0.190 ±0.042	0.143 ±0.000	0.188 ±0.021	0.193 ±0.044	0.140 ±0.005	0.164 ±0.044	0.467 ± 0.027	0.200 ±0.028	0.395 ±0.032	0.221 ±0.026	0.464 ± 0.047	0.207 ±0.043

Continued on next page

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	Acc.1	0.381 ±0.069	0.388 ±0.050	0.350 ±0.043	0.419 ±0.064	0.174 ±0.057	0.155 ±0.034	0.257 ±0.036	0.160 ±0.067	0.190 ±0.042	0.143 ±0.000	0.190 ±0.022	0.194 ±0.045	0.140 ±0.005	0.164 ±0.044	0.467 ± 0.027	0.200 ±0.028	0.395 ±0.032	0.221 ±0.026	0.460 ± 0.047	0.207 ±0.043
	Acc.2	0.619 ±0.045	0.662 ± 0.046	0.571 ±0.055	0.607 ±0.090	0.314 ±0.098	0.283 ±0.046	0.471 ±0.042	0.364 ±0.073	0.352 ±0.067	0.286 ±0.000	0.381 ±0.040	0.358 ±0.044	0.279 ±0.016	0.302 ±0.058	0.648 ±0.025	0.367 ±0.070	0.621 ±0.037	0.369 ±0.079	0.680 ± 0.058	0.362 ±0.035
	κ	0.322 ± 0.071	0.250 ±0.074	0.261 ±0.043	0.314 ±0.075	0.089 ±0.050	0.019 ±0.025	0.194 ±0.022	0.075 ±0.079	0.086 ±0.044	0.000 ±0.000	0.097 ±0.039	0.061 ±0.036	0.058 ±0.096	-0.058 ±0.023	0.283 ±0.056	0.039 ±0.018	0.281 ±0.039	0.064 ±0.048	0.342 ± 0.053	0.014 ±0.024
	AUC	0.768 ± 0.031	0.761 ±0.038	0.728 ±0.016	0.764 ±0.039	0.587 ±0.041	0.492 ±0.034	0.668 ±0.042	0.568 ±0.047	0.590 ±0.028	0.490 ±0.023	0.590 ±0.047	0.597 ±0.023	0.532 ±0.073	0.412 ±0.008	0.741 ±0.038	0.531 ±0.027	0.740 ±0.028	0.550 ±0.048	0.772 ± 0.035	0.550 ±0.034
	BAcc	0.419 ± 0.061	0.357 ±0.064	0.367 ±0.037	0.412 ±0.064	0.219 ±0.043	0.160 ±0.022	0.310 ±0.019	0.207 ±0.068	0.217 ±0.038	0.143 ±0.000	0.226 ±0.034	0.195 ±0.031	0.193 ±0.083	0.093 ±0.020	0.386 ±0.048	0.176 ±0.016	0.383 ±0.033	0.198 ±0.041	0.436 ± 0.046	0.155 ±0.021
	Acc.1	0.419 ± 0.061	0.357 ±0.064	0.367 ±0.037	0.412 ±0.064	0.219 ±0.043	0.160 ±0.022	0.310 ±0.019	0.207 ±0.068	0.214 ±0.037	0.143 ±0.000	0.238 ±0.037	0.186 ±0.023	0.193 ±0.083	0.093 ±0.020	0.386 ±0.048	0.174 ±0.018	0.383 ±0.033	0.198 ±0.041	0.432 ± 0.047	0.155 ±0.021
sub8	Acc.2	0.583 ±0.062	0.567 ±0.059	0.581 ±0.036	0.569 ±0.060	0.383 ±0.045	0.293 ±0.056	0.500 ±0.064	0.364 ±0.053	0.407 ±0.046	0.286 ±0.000	0.400 ±0.040	0.393 ±0.040	0.336 ±0.081	0.210 ±0.022	0.598 ± 0.082	0.317 ±0.057	0.595 ±0.038	0.319 ±0.018	0.645 ± 0.064	0.324 ±0.042
	κ	0.294 ±0.056	0.317 ±0.070	0.308 ±0.057	0.289 ±0.067	0.097 ±0.089	-0.000 ±0.033	0.156 ±0.039	0.061 ±0.025	0.061 ±0.092	-0.003 ±0.006	0.072 ±0.027	0.047 ±0.053	0.014 ±0.031	-0.039 ±0.027	0.411 ±0.061	0.128 ±0.065	0.458 ± 0.069	0.103 ±0.029	0.489 ± 0.058	0.072 ±0.050
	AUC	0.778 ±0.028	0.771 ±0.012	0.758 ±0.025	0.788 ±0.014	0.592 ±0.035	0.507 ±0.029	0.673 ±0.033	0.536 ±0.017	0.545 ±0.068	0.485 ±0.048	0.576 ±0.023	0.560 ±0.037	0.501 ±0.042	0.453 ±0.022	0.798 ±0.023	0.609 ±0.051	0.823 ± 0.019	0.616 ±0.053	0.834 ± 0.043	0.591 ±0.034
	BAcc	0.395 ±0.048	0.414 ±0.060	0.407 ±0.049	0.390 ±0.057	0.226 ±0.077	0.143 ±0.028	0.276 ±0.033	0.195 ±0.022	0.195 ±0.079	0.140 ±0.005	0.205 ±0.023	0.183 ±0.045	0.155 ±0.027	0.110 ±0.023	0.495 ±0.052	0.252 ±0.056	0.536 ± 0.059	0.231 ±0.025	0.562 ± 0.049	0.205 ±0.043
	Acc.1	0.395 ±0.048	0.414 ±0.060	0.407 ±0.049	0.390 ±0.057	0.231 ±0.084	0.143 ±0.028	0.276 ±0.033	0.195 ±0.022	0.198 ±0.078	0.140 ±0.005	0.204 ±0.028	0.194 ±0.050	0.154 ±0.025	0.107 ±0.022	0.495 ±0.052	0.252 ±0.056	0.534 ± 0.056	0.231 ±0.025	0.567 ± 0.046	0.204 ±0.038
	Acc.2	0.629 ±0.063	0.588 ±0.023	0.600 ±0.050	0.624 ±0.039	0.383 ±0.057	0.286 ±0.025	0.507 ±0.058	0.336 ±0.042	0.345 ±0.080	0.281 ±0.011	0.356 ±0.040	0.344 ±0.044	0.298 ±0.036	0.231 ±0.051	0.662 ±0.041	0.414 ±0.070	0.700 ± 0.050	0.398 ±0.060	0.735 ± 0.074	0.386 ±0.033
sub9	κ	0.294 ±0.056	0.317 ±0.070	0.308 ±0.057	0.289 ±0.067	0.097 ±0.089	-0.000 ±0.033	0.156 ±0.039	0.061 ±0.025	0.061 ±0.092	-0.003 ±0.006	0.072 ±0.027	0.047 ±0.053	0.014 ±0.031	-0.039 ±0.027	0.411 ±0.061	0.128 ±0.065	0.458 ± 0.069	0.103 ±0.029	0.489 ± 0.058	0.072 ±0.050
	AUC	0.778 ±0.028	0.771 ±0.012	0.758 ±0.025	0.788 ±0.014	0.592 ±0.035	0.507 ±0.029	0.673 ±0.033	0.536 ±0.017	0.545 ±0.068	0.485 ±0.048	0.576 ±0.023	0.560 ±0.037	0.501 ±0.042	0.453 ±0.022	0.798 ±0.023	0.609 ±0.051	0.823 ± 0.019	0.616 ±0.053	0.834 ± 0.043	0.591 ±0.034
	BAcc	0.395 ±0.048	0.414 ±0.060	0.407 ±0.049	0.390 ±0.057	0.226 ±0.077	0.143 ±0.028	0.276 ±0.033	0.195 ±0.022	0.195 ±0.079	0.140 ±0.005	0.205 ±0.023	0.183 ±0.045	0.155 ±0.027	0.110 ±0.023	0.495 ±0.052	0.252 ±0.056	0.536 ± 0.059	0.231 ±0.025	0.562 ± 0.049	0.205 ±0.043
	Acc.1	0.395 ±0.048	0.414 ±0.060	0.407 ±0.049	0.390 ±0.057	0.231 ±0.084	0.143 ±0.028	0.276 ±0.033	0.195 ±0.022	0.198 ±0.078	0.140 ±0.005	0.204 ±0.028	0.194 ±0.050	0.154 ±0.025	0.107 ±0.022	0.495 ±0.052	0.252 ±0.056	0.534 ± 0.056	0.231 ±0.025	0.567 ± 0.046	0.204 ±0.038
	Acc.2	0.629 ±0.063	0.588 ±0.023	0.600 ±0.050	0.624 ±0.039	0.383 ±0.057	0.286 ±0.025	0.507 ±0.058	0.336 ±0.042	0.345 ±0.080	0.281 ±0.011	0.356 ±0.040	0.344 ±0.044	0.298 ±0.036	0.231 ±0.051	0.662 ±0.041	0.414 ±0.070	0.700 ± 0.050	0.398 ±0.060	0.735 ± 0.074	0.386 ±0.033
	Acc.2	0.629 ±0.063	0.588 ±0.023	0.600 ±0.050	0.624 ±0.039	0.383 ±0.057	0.286 ±0.025	0.507 ±0.058	0.336 ±0.042	0.345 ±0.080	0.281 ±0.011	0.356 ±0.040	0.344 ±0.044	0.298 ±0.036	0.231 ±0.051	0.662 ±0.041	0.414 ±0.070	0.700 ± 0.050	0.398 ±0.060	0.735 ± 0.074	0.386 ±0.033

C.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 25: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.141	0.111	0.121	0.121	0.141
DeepConvnet	± 0.020	± 0.015	± 0.017	± 0.017	± 0.021
	0.112	0.089	0.096	0.096	0.113
EEGNet	± 0.019	± 0.017	± 0.017	± 0.017	± 0.024
	0.095	0.077	0.081	0.082	0.097
Conformer	± 0.019	± 0.014	± 0.016	± 0.016	± 0.021
	0.149	0.118	0.127	0.127	0.150
CTNet	± 0.023	± 0.017	± 0.020	± 0.020	± 0.023
	0.047	0.032	0.040	0.040	0.050
BIOT (f)	± 0.007	± 0.008	± 0.006	± 0.006	± 0.008
	0.007	0.013	0.006	0.006	0.008
BIOT (l)	± 0.007	± 0.011	± 0.006	± 0.006	± 0.011
	0.049	0.032	0.042	0.042	0.046
BENDR (f)	± 0.014	± 0.009	± 0.012	± 0.012	± 0.014
	0.006	0.007	0.005	0.005	0.008
BENDR (l)	± 0.006	± 0.006	± 0.005	± 0.005	± 0.008
	0.024	0.015	0.020	0.020	0.024
CBraMod (f)	± 0.008	± 0.005	± 0.007	± 0.008	± 0.009
	-0.007	-0.024	-0.006	-0.007	-0.012
CBraMod (l)	± 0.003	± 0.004	± 0.003	± 0.002	± 0.003
	0.018	0.014	0.016	0.016	0.019
EEGPT (f)	± 0.007	± 0.006	± 0.006	± 0.006	± 0.008
	0.107	0.102	0.092	0.092	0.121
EEGPT (l)	± 0.011	± 0.014	± 0.010	± 0.009	± 0.015
	0.005	0.008	0.004	0.005	0.009
LaBraM (f)	± 0.007	± 0.012	± 0.006	± 0.006	± 0.010
	-0.003	-0.005	-0.003	-0.003	-0.005
LaBraM (l)	± 0.006	± 0.004	± 0.005	± 0.005	± 0.004
	0.079	0.048	0.068	0.068	0.081
STEEGformer-s (f)	± 0.021	± 0.014	± 0.018	± 0.018	± 0.020
	0.039	0.029	0.033	0.033	0.041
STEEGformer-s (l)	± 0.010	± 0.006	± 0.009	± 0.009	± 0.012
	0.056	0.032	0.048	0.048	0.059
STEEGformer-b (f)	± 0.021	± 0.014	± 0.018	± 0.018	± 0.020
	0.028	0.013	0.024	0.024	0.031
STEEGformer-b (l)	± 0.014	± 0.004	± 0.012	± 0.012	± 0.015
	0.066	0.031	0.057	0.057	0.066
STEEGformer-l (f)	± 0.023	± 0.014	± 0.019	± 0.019	± 0.021
	0.040	0.019	0.034	0.034	0.046
STEEGformer-l (l)	± 0.012	± 0.005	± 0.010	± 0.010	± 0.013

Table 26: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.170	0.152	0.114	0.177	0.047	0.000	0.068	0.004	0.029	-0.011	0.032	0.125	0.001	0.004	0.067	0.036	0.061	0.005	0.064	0.038
		± 0.093	± 0.066	± 0.065	± 0.073	± 0.079	± 0.021	± 0.033	± 0.029	± 0.052	± 0.018	± 0.037	± 0.070	± 0.005	± 0.016	± 0.031	± 0.053	± 0.022	± 0.030	± 0.032	± 0.043
	AUC	0.132	0.119	0.091	0.137	0.036	0.001	0.041	0.006	0.015	-0.029	0.025	0.117	-0.001	-0.003	0.044	0.025	0.036	0.009	0.031	0.013
		± 0.027	± 0.023	± 0.021	± 0.027	± 0.043	± 0.018	± 0.018	± 0.016	± 0.022	± 0.031	± 0.020	± 0.059	± 0.011	± 0.016	± 0.022	± 0.024	± 0.019	± 0.012	± 0.016	± 0.011
	BAcc	0.146	0.131	0.098	0.152	0.040	0.000	0.059	0.004	0.025	-0.010	0.027	0.107	0.001	0.004	0.058	0.031	0.053	0.005	0.055	0.033
		± 0.080	± 0.056	± 0.056	± 0.062	± 0.068	± 0.018	± 0.028	± 0.025	± 0.045	± 0.015	± 0.031	± 0.060	± 0.004	± 0.013	± 0.027	± 0.046	± 0.019	± 0.026	± 0.028	± 0.037
sub10	κ	0.146	0.131	0.098	0.152	0.040	0.000	0.059	0.004	0.025	-0.009	0.026	0.105	-0.000	0.003	0.058	0.031	0.052	0.005	0.056	0.032
		± 0.081	± 0.056	± 0.056	± 0.062	± 0.068	± 0.018	± 0.028	± 0.025	± 0.045	± 0.013	± 0.031	± 0.062	± 0.003	± 0.014	± 0.027	± 0.046	± 0.019	± 0.025	± 0.030	± 0.037
	AUC	0.163	0.154	0.113	0.161	0.058	0.004	0.051	0.009	0.018	-0.015	0.033	0.141	0.000	-0.004	0.068	0.047	0.050	0.015	0.058	0.043
		± 0.058	± 0.052	± 0.043	± 0.053	± 0.062	± 0.025	± 0.025	± 0.030	± 0.040	± 0.019	± 0.034	± 0.077	± 0.003	± 0.014	± 0.031	± 0.050	± 0.028	± 0.037	± 0.029	± 0.037
	BAcc	0.119	0.085	0.080	0.111	0.056	0.010	0.046	0.012	0.033	-0.007	0.025	0.116	-0.006	-0.005	0.071	0.034	0.063	0.034	0.044	0.032
		± 0.105	± 0.054	± 0.073	± 0.097	± 0.044	± 0.018	± 0.044	± 0.031	± 0.029	± 0.018	± 0.036	± 0.083	± 0.014	± 0.014	± 0.045	± 0.032	± 0.031	± 0.045	± 0.032	± 0.045
sub11	κ	0.099	0.079	0.066	0.091	0.049	0.020	0.020	0.010	0.017	-0.026	0.018	0.111	-0.012	-0.000	0.039	0.036	0.026	0.010	0.020	0.023
		± 0.040	± 0.014	± 0.032	± 0.030	± 0.030	± 0.033	± 0.022	± 0.016	± 0.013	± 0.023	± 0.016	± 0.059	± 0.011	± 0.033	± 0.019	± 0.020	± 0.021	± 0.013	± 0.012	± 0.015
	AUC	0.102	0.073	0.069	0.095	0.048	0.009	0.039	0.010	0.028	-0.006	0.022	0.099	-0.005	-0.004	0.061	0.029	0.054	0.029	0.038	0.028
		± 0.090	± 0.047	± 0.062	± 0.083	± 0.038	± 0.015	± 0.038	± 0.026	± 0.025	± 0.016	± 0.031	± 0.071	± 0.012	± 0.012	± 0.038	± 0.027	± 0.026	± 0.038	± 0.028	± 0.039
	BAcc	0.102	0.073	0.069	0.095	0.048	0.009	0.039	0.010	0.029	-0.008	0.023	0.100	-0.003	-0.004	0.060	0.029	0.054	0.029	0.038	0.028
		± 0.090	± 0.046	± 0.062	± 0.083	± 0.038	± 0.015	± 0.038	± 0.027	± 0.025	± 0.014	± 0.031	± 0.071	± 0.007	± 0.012	± 0.038	± 0.028	± 0.026	± 0.039	± 0.029	± 0.038
sub12	κ	0.126	0.094	0.079	0.120	0.062	0.008	0.033	-0.000	0.027	-0.018	0.023	0.127	-0.008	-0.009	0.080	0.038	0.071	0.049	0.057	0.047
		± 0.085	± 0.034	± 0.059	± 0.056	± 0.046	± 0.021	± 0.042	± 0.025	± 0.014	± 0.021	± 0.028	± 0.083	± 0.009	± 0.022	± 0.039	± 0.030	± 0.041	± 0.032	± 0.029	± 0.034
	AUC	0.169	0.124	0.098	0.181	0.055	0.014	0.046	0.014	0.025	-0.007	0.017	0.112	0.015	-0.009	0.120	0.051	0.083	0.034	0.104	0.062
		± 0.067	± 0.057	± 0.076	± 0.087	± 0.036	± 0.029	± 0.035	± 0.021	± 0.022	± 0.009	± 0.028	± 0.083	± 0.019	± 0.015	± 0.047	± 0.043	± 0.043	± 0.032	± 0.037	± 0.041
	BAcc	0.115	0.086	0.075	0.124	0.038	0.028	0.027	0.009	0.014	-0.021	0.010	0.111	0.025	-0.004	0.063	0.037	0.053	0.017	0.053	0.030
		± 0.033	± 0.027	± 0.025	± 0.034	± 0.031	± 0.028	± 0.019	± 0.016	± 0.013	± 0.022	± 0.012	± 0.057	± 0.023	± 0.021	± 0.031	± 0.033	± 0.025	± 0.015	± 0.023	± 0.019
sub13	κ	0.145	0.106	0.084	0.155	0.047	0.012	0.039	0.012	0.021	-0.006	0.015	0.096	0.013	-0.008	0.103	0.044	0.071	0.029	0.089	0.053
		± 0.058	± 0.049	± 0.065	± 0.074	± 0.031	± 0.025	± 0.030	± 0.018	± 0.019	± 0.008	± 0.024	± 0.071	± 0.017	± 0.013	± 0.041	± 0.037	± 0.036	± 0.027	± 0.031	± 0.035
	AUC	0.145	0.106	0.084	0.155	0.047	0.012	0.039	0.012	0.021	-0.005	0.016	0.098	0.015	-0.009	0.102	0.043	0.070	0.029	0.090	0.052
		± 0.058	± 0.049	± 0.065	± 0.074	± 0.031	± 0.025	± 0.030	± 0.018	± 0.019	± 0.009	± 0.024	± 0.075	± 0.016	± 0.012	± 0.040	± 0.037	± 0.036	± 0.027	± 0.034	± 0.035
	BAcc	0.161	0.116	0.093	0.160	0.058	0.007	0.042	0.014	0.028	-0.010	0.004	0.128	0.020	-0.009	0.093	0.044	0.083	0.021	0.093	0.061
		± 0.053	± 0.032	± 0.041	± 0.059	± 0.047	± 0.031	± 0.028	± 0.028	± 0.019	± 0.009	± 0.024	± 0.084	± 0.027	± 0.015	± 0.041	± 0.045	± 0.042	± 0.018	± 0.044	± 0.046

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.121 ± 0.071	0.118 ± 0.070	0.107 ± 0.064	0.139 ± 0.090	0.039 ± 0.049	0.012 ± 0.031	0.072 ± 0.045	-0.006 ± 0.023	0.011 ± 0.023	-0.001 ± 0.012	0.024 ± 0.030	0.101 ± 0.090	0.003 ± 0.016	-0.013 ± 0.021	0.090 ± 0.041	0.033 ± 0.054	0.082 ± 0.037	0.031 ± 0.037	0.080 ± 0.036	0.027 ± 0.050
	AUC	0.104 ± 0.027	0.083 ± 0.025	0.080 ± 0.026	0.104 ± 0.033	0.026 ± 0.033	0.022 ± 0.029	0.047 ± 0.020	0.008 ± 0.010	0.012 ± 0.016	-0.029 ± 0.027	0.016 ± 0.017	0.092 ± 0.060	0.007 ± 0.016	-0.014 ± 0.025	0.060 ± 0.024	0.031 ± 0.030	0.041 ± 0.025	0.017 ± 0.014	0.040 ± 0.021	0.024 ± 0.019
	BAcc	0.104 ± 0.061	0.101 ± 0.060	0.092 ± 0.055	0.119 ± 0.077	0.034 ± 0.042	0.010 ± 0.026	0.062 ± 0.038	-0.005 ± 0.019	0.010 ± 0.020	-0.001 ± 0.010	0.020 ± 0.025	0.087 ± 0.077	0.002 ± 0.013	-0.012 ± 0.018	0.078 ± 0.035	0.029 ± 0.046	0.070 ± 0.032	0.026 ± 0.032	0.069 ± 0.031	0.023 ± 0.043
	Acc_1	0.104 ± 0.060	0.101 ± 0.060	0.092 ± 0.055	0.119 ± 0.077	0.034 ± 0.042	0.010 ± 0.026	0.062 ± 0.038	-0.005 ± 0.020	0.010 ± 0.020	-0.003 ± 0.011	0.020 ± 0.027	0.086 ± 0.078	0.006 ± 0.014	-0.011 ± 0.018	0.078 ± 0.035	0.029 ± 0.046	0.069 ± 0.034	0.026 ± 0.032	0.069 ± 0.029	0.024 ± 0.044
	Acc_2	0.142 ± 0.053	0.116 ± 0.052	0.109 ± 0.046	0.140 ± 0.064	0.042 ± 0.040	0.013 ± 0.034	0.073 ± 0.027	0.009 ± 0.026	0.022 ± 0.021	-0.009 ± 0.013	0.022 ± 0.030	0.101 ± 0.082	0.017 ± 0.018	-0.011 ± 0.025	0.103 ± 0.038	0.041 ± 0.064	0.083 ± 0.035	0.035 ± 0.049	0.099 ± 0.046	0.026 ± 0.042
sub13	κ	0.138 ± 0.105	0.110 ± 0.069	0.095 ± 0.076	0.146 ± 0.087	0.046 ± 0.047	0.022 ± 0.028	0.046 ± 0.037	0.009 ± 0.020	0.033 ± 0.029	-0.008 ± 0.014	0.008 ± 0.029	0.106 ± 0.079	-0.002 ± 0.008	0.004 ± 0.019	0.064 ± 0.046	0.062 ± 0.053	0.035 ± 0.023	0.058 ± 0.047	0.045 ± 0.031	0.057 ± 0.056
	AUC	0.111 ± 0.044	0.076 ± 0.026	0.058 ± 0.030	0.115 ± 0.040	0.024 ± 0.015	0.025 ± 0.025	0.032 ± 0.024	0.012 ± 0.016	0.022 ± 0.010	-0.029 ± 0.021	0.014 ± 0.012	0.106 ± 0.053	-0.005 ± 0.013	-0.003 ± 0.021	0.035 ± 0.017	0.031 ± 0.030	0.016 ± 0.011	0.011 ± 0.015	0.013 ± 0.013	0.016 ± 0.015
	BAcc	0.118 ± 0.090	0.094 ± 0.059	0.082 ± 0.065	0.125 ± 0.074	0.039 ± 0.040	0.019 ± 0.024	0.040 ± 0.032	0.008 ± 0.018	0.028 ± 0.025	-0.007 ± 0.012	0.007 ± 0.025	0.090 ± 0.067	-0.002 ± 0.007	0.004 ± 0.016	0.055 ± 0.040	0.053 ± 0.046	0.030 ± 0.020	0.050 ± 0.040	0.038 ± 0.026	0.049 ± 0.048
	Acc_1	0.118 ± 0.090	0.094 ± 0.060	0.082 ± 0.065	0.125 ± 0.075	0.039 ± 0.039	0.019 ± 0.024	0.040 ± 0.031	0.008 ± 0.018	0.029 ± 0.027	-0.006 ± 0.010	0.006 ± 0.027	0.092 ± 0.068	-0.003 ± 0.005	0.003 ± 0.016	0.055 ± 0.040	0.053 ± 0.046	0.031 ± 0.019	0.050 ± 0.040	0.041 ± 0.027	0.047 ± 0.048
	Acc_2	0.133 ± 0.091	0.098 ± 0.041	0.073 ± 0.049	0.138 ± 0.062	0.052 ± 0.045	0.030 ± 0.031	0.036 ± 0.033	0.023 ± 0.029	0.041 ± 0.022	-0.015 ± 0.019	0.016 ± 0.030	0.113 ± 0.080	-0.007 ± 0.011	0.003 ± 0.013	0.065 ± 0.032	0.078 ± 0.053	0.039 ± 0.023	0.067 ± 0.061	0.047 ± 0.026	0.080 ± 0.073
sub14	κ	0.125 ± 0.080	0.098 ± 0.054	0.092 ± 0.065	0.124 ± 0.090	0.045 ± 0.060	0.001 ± 0.029	0.036 ± 0.039	-0.001 ± 0.022	0.029 ± 0.022	-0.005 ± 0.014	0.014 ± 0.037	0.115 ± 0.071	0.006 ± 0.020	-0.005 ± 0.015	0.051 ± 0.032	0.030 ± 0.039	0.024 ± 0.022	0.013 ± 0.031	0.041 ± 0.026	0.051 ± 0.039
	AUC	0.102 ± 0.030	0.079 ± 0.021	0.074 ± 0.023	0.105 ± 0.027	0.023 ± 0.034	0.011 ± 0.013	0.023 ± 0.027	0.002 ± 0.010	0.012 ± 0.013	-0.024 ± 0.027	0.009 ± 0.018	0.102 ± 0.052	0.018 ± 0.014	-0.008 ± 0.019	0.030 ± 0.014	0.025 ± 0.021	0.012 ± 0.016	0.015 ± 0.012	0.018 ± 0.009	0.017 ± 0.013
	BAcc	0.107 ± 0.069	0.084 ± 0.046	0.079 ± 0.056	0.106 ± 0.078	0.039 ± 0.051	0.001 ± 0.025	0.031 ± 0.034	-0.001 ± 0.019	0.025 ± 0.019	-0.004 ± 0.012	0.012 ± 0.032	0.099 ± 0.061	0.005 ± 0.017	-0.004 ± 0.013	0.044 ± 0.028	0.026 ± 0.034	0.020 ± 0.019	0.011 ± 0.026	0.036 ± 0.022	0.044 ± 0.033
	Acc_1	0.107 ± 0.069	0.084 ± 0.046	0.079 ± 0.056	0.106 ± 0.078	0.039 ± 0.051	0.001 ± 0.025	0.031 ± 0.033	-0.001 ± 0.019	0.024 ± 0.020	-0.005 ± 0.010	0.012 ± 0.032	0.098 ± 0.062	0.009 ± 0.014	-0.005 ± 0.013	0.044 ± 0.028	0.026 ± 0.033	0.020 ± 0.019	0.011 ± 0.026	0.036 ± 0.021	0.043 ± 0.033
	Acc_2	0.125 ± 0.065	0.095 ± 0.053	0.087 ± 0.044	0.141 ± 0.055	0.054 ± 0.064	-0.003 ± 0.021	0.032 ± 0.038	0.009 ± 0.029	0.015 ± 0.022	-0.011 ± 0.019	0.020 ± 0.030	0.130 ± 0.090	0.014 ± 0.018	-0.003 ± 0.019	0.056 ± 0.030	0.032 ± 0.029	0.028 ± 0.030	0.020 ± 0.019	0.039 ± 0.022	0.046 ± 0.030
sub15	κ	0.128 ± 0.097	0.113 ± 0.056	0.089 ± 0.071	0.158 ± 0.112	0.047 ± 0.060	-0.004 ± 0.016	0.034 ± 0.041	-0.003 ± 0.032	0.021 ± 0.038	-0.007 ± 0.011	0.019 ± 0.023	0.096 ± 0.092	0.017 ± 0.021	-0.009 ± 0.018	0.061 ± 0.034	0.023 ± 0.047	0.029 ± 0.016	0.018 ± 0.036	0.042 ± 0.025	0.025 ± 0.029

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (j)	STEEGformer-s (l)	STEEGformer-b (j)	STEEGformer-b (l)	STEEGformer-h (j)	STEEGformer-h (l)
	AUC	0.104 ±0.036	0.083 ±0.020	0.065 ±0.022	0.120 ±0.042	0.035 ±0.040	0.010 ±0.025	0.028 ±0.023	-0.001 ±0.012	0.018 ±0.015	-0.025 ± 0.022	0.013 ±0.016	0.098 ±0.061	0.032 ±0.024	-0.003 ± 0.018	0.037 ±0.022	0.025 ±0.035	0.018 ±0.014	0.008 ±0.015	0.020 ±0.016	0.015 ±0.015
	BAcc	0.110 ±0.083	0.097 ±0.048	0.077 ±0.061	0.135 ±0.096	0.040 ±0.051	-0.003 ±0.013	0.029 ±0.035	-0.003 ±0.027	0.018 ±0.033	-0.006 ± 0.010	0.016 ±0.019	0.082 ±0.078	0.014 ±0.018	-0.008 ± 0.016	0.052 ±0.029	0.020 ±0.040	0.024 ±0.014	0.016 ±0.031	0.036 ±0.021	0.021 ±0.025
	Acc.1	0.110 ±0.083	0.096 ±0.048	0.077 ±0.061	0.135 ±0.096	0.040 ±0.051	-0.003 ±0.013	0.029 ±0.035	-0.003 ±0.027	0.018 ±0.032	-0.006 ± 0.011	0.016 ±0.021	0.081 ±0.080	0.014 ±0.018	-0.008 ± 0.015	0.052 ±0.029	0.020 ±0.040	0.024 ±0.014	0.015 ±0.031	0.037 ±0.022	0.021 ±0.025
	Acc.2	0.123 ±0.074	0.107 ±0.042	0.092 ±0.036	0.154 ±0.080	0.053 ±0.066	-0.004 ±0.015	0.050 ±0.053	-0.003 ±0.024	0.031 ±0.034	-0.012 ± 0.019	0.016 ±0.022	0.118 ±0.084	0.024 ±0.026	-0.008 ± 0.026	0.068 ±0.037	0.026 ±0.049	0.033 ±0.025	0.017 ±0.033	0.042 ±0.029	0.037 ±0.040
	κ	0.146 ±0.068	0.091 ±0.058	0.098 ±0.067	0.151 ±0.092	0.037 ±0.043	0.001 ±0.021	0.052 ±0.040	0.011 ±0.030	0.032 ±0.025	-0.008 ± 0.012	0.023 ±0.031	0.099 ±0.080	0.014 ±0.017	-0.001 ± 0.016	0.105 ±0.044	0.041 ±0.045	0.063 ±0.034	0.016 ±0.031	0.106 ±0.056	0.041 ±0.029
sub2	AUC	0.112 ±0.026	0.080 ±0.021	0.079 ±0.018	0.118 ±0.034	0.020 ±0.027	-0.004 ±0.018	0.035 ±0.022	0.010 ±0.018	0.022 ±0.014	-0.017 ± 0.015	0.011 ±0.015	0.095 ±0.062	0.012 ±0.014	-0.006 ± 0.034	0.065 ±0.030	0.033 ±0.020	0.039 ±0.022	0.010 ±0.014	0.056 ±0.028	0.015 ±0.014
	BAcc	0.125 ±0.059	0.078 ±0.050	0.084 ±0.058	0.129 ±0.079	0.032 ±0.037	0.001 ±0.018	0.045 ±0.034	0.010 ±0.026	0.027 ±0.022	-0.007 ± 0.010	0.019 ±0.026	0.085 ±0.069	0.012 ±0.015	-0.001 ± 0.014	0.090 ±0.038	0.035 ±0.038	0.054 ±0.029	0.013 ±0.027	0.091 ±0.048	0.036 ±0.025
	Acc.1	0.125 ±0.059	0.079 ±0.049	0.084 ±0.058	0.130 ±0.079	0.032 ±0.037	0.001 ±0.018	0.045 ±0.034	0.009 ±0.026	0.027 ±0.021	-0.006 ± 0.010	0.021 ±0.026	0.086 ±0.071	0.012 ±0.015	-0.001 ± 0.013	0.090 ±0.038	0.035 ±0.039	0.054 ±0.030	0.014 ±0.027	0.089 ±0.046	0.036 ±0.026
	Acc.2	0.144 ±0.049	0.098 ±0.035	0.094 ±0.033	0.144 ±0.060	0.032 ±0.045	-0.008 ± 0.021	0.040 ±0.037	0.015 ±0.027	0.035 ±0.025	-0.010 ± 0.012	0.021 ±0.027	0.104 ±0.083	0.019 ±0.020	-0.005 ± 0.036	0.103 ±0.042	0.050 ±0.051	0.070 ±0.031	0.021 ±0.032	0.091 ±0.040	0.038 ±0.035
	κ	0.129 ±0.045	0.129 ±0.044	0.086 ±0.041	0.130 ±0.049	0.056 ±0.042	0.010 ±0.025	0.022 ±0.025	0.007 ±0.020	0.023 ±0.039	-0.012 ± 0.011	0.008 ±0.028	0.109 ±0.073	-0.003 ±0.009	-0.003 ± 0.021	0.072 ±0.036	0.034 ±0.042	0.049 ±0.025	0.031 ±0.041	0.051 ±0.030	0.052 ±0.040
sub3	AUC	0.112 ±0.018	0.115 ±0.019	0.092 ±0.020	0.123 ±0.018	0.034 ±0.030	0.008 ±0.021	0.030 ±0.018	0.007 ±0.015	0.019 ±0.017	-0.026 ± 0.027	0.007 ±0.017	0.094 ±0.030	0.000 ±0.006	-0.003 ± 0.021	0.042 ±0.021	0.027 ±0.014	0.028 ±0.017	0.012 ±0.010	0.025 ±0.012	0.020 ±0.016
	BAcc	0.110 ±0.038	0.111 ±0.037	0.074 ±0.035	0.112 ±0.042	0.048 ±0.036	0.008 ±0.021	0.019 ±0.021	0.006 ±0.017	0.020 ±0.034	-0.010 ± 0.010	0.007 ±0.024	0.093 ±0.063	-0.003 ±0.008	-0.003 ± 0.018	0.061 ±0.031	0.029 ±0.036	0.042 ±0.022	0.027 ±0.035	0.044 ±0.025	0.045 ±0.034
	Acc.1	0.110 ±0.038	0.111 ±0.038	0.074 ±0.035	0.112 ±0.042	0.049 ±0.036	0.008 ±0.020	0.019 ±0.022	0.006 ±0.018	0.019 ±0.036	-0.007 ± 0.011	0.008 ±0.026	0.093 ±0.066	-0.002 ±0.011	-0.003 ± 0.018	0.062 ±0.031	0.029 ±0.036	0.043 ±0.021	0.027 ±0.035	0.043 ±0.024	0.046 ±0.036
	Acc.2	0.132 ±0.036	0.142 ±0.033	0.110 ±0.030	0.149 ±0.036	0.045 ±0.047	0.016 ±0.027	0.039 ±0.031	0.008 ±0.027	0.029 ±0.040	-0.012 ± 0.011	0.014 ±0.025	0.128 ±0.073	0.001 ± 0.011	0.002 ±0.019	0.077 ±0.021	0.040 ±0.040	0.043 ±0.020	0.040 ±0.032	0.042 ±0.032	0.055 ±0.044
	κ	0.131 ±0.047	0.107 ±0.044	0.070 ±0.039	0.134 ±0.050	0.037 ±0.030	0.015 ±0.020	0.044 ±0.026	0.004 ±0.018	0.019 ±0.022	-0.002 ± 0.007	0.008 ±0.032	0.082 ±0.043	0.007 ±0.014	-0.000 ± 0.016	0.120 ±0.064	0.029 ±0.031	0.099 ±0.043	0.020 ±0.027	0.092 ±0.062	0.035 ±0.026
sub4	AUC	0.114 ±0.020	0.092 ±0.019	0.073 ±0.022	0.119 ±0.017	0.024 ±0.016	0.006 ±0.016	0.023 ±0.012	0.008 ±0.012	0.011 ±0.011	-0.017 ± 0.022	0.010 ±0.020	0.072 ±0.029	0.007 ±0.017	-0.010 ± 0.014	0.070 ±0.035	0.018 ±0.013	0.052 ±0.025	0.009 ±0.008	0.033 ±0.023	0.018 ±0.009

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.112	0.092	0.060	0.115	0.031	0.013	0.038	0.004	0.016	-0.002	0.006	0.070	0.006	-0.000	0.103	0.025	0.085	0.017	0.079	0.030
		±0.040	±0.038	±0.034	±0.042	±0.026	±0.017	±0.023	±0.016	±0.019	±0.006	±0.027	±0.037	±0.012	±0.013	±0.055	±0.026	±0.037	±0.023	±0.053	±0.022
	Acc_1	0.112	0.091	0.060	0.115	0.031	0.013	0.038	0.004	0.016	-0.003	0.008	0.071	0.004	0.000	0.103	0.025	0.084	0.018	0.078	0.031
		±0.040	±0.037	±0.034	±0.042	±0.026	±0.017	±0.023	±0.016	±0.019	±0.006	±0.027	±0.037	±0.008	±0.013	±0.055	±0.026	±0.037	±0.023	±0.054	±0.020
	Acc_2	0.139	0.106	0.077	0.153	0.038	0.010	0.043	0.019	0.028	-0.011	0.019	0.092	0.008	-0.004	0.124	0.035	0.084	0.021	0.079	0.050
		±0.040	±0.030	±0.025	±0.035	±0.021	±0.018	±0.020	±0.019	±0.023	±0.013	±0.037	±0.029	±0.011	±0.023	±0.052	±0.024	±0.052	±0.020	±0.049	±0.030
	κ	0.133	0.097	0.069	0.141	0.052	-0.003	0.048	0.005	0.023	-0.004	0.019	0.106	0.001	0.003	0.063	0.035	0.035	0.019	0.038	0.020
		±0.093	±0.059	±0.049	±0.098	±0.054	±0.024	±0.044	±0.020	±0.023	±0.013	±0.023	±0.091	±0.005	±0.015	±0.033	±0.044	±0.023	±0.028	±0.023	±0.028
	AUC	0.099	0.072	0.059	0.102	0.032	0.007	0.030	0.003	0.015	-0.019	0.021	0.090	-0.005	-0.007	0.035	0.018	0.021	0.003	0.014	0.008
		±0.037	±0.020	±0.019	±0.039	±0.026	±0.018	±0.023	±0.015	±0.011	±0.019	±0.016	±0.064	±0.012	±0.022	±0.018	±0.026	±0.015	±0.013	±0.018	±0.013
	BAcc	0.114	0.083	0.059	0.121	0.045	-0.002	0.041	0.005	0.020	-0.003	0.016	0.091	0.001	0.003	0.054	0.030	0.030	0.016	0.032	0.018
		±0.079	±0.051	±0.042	±0.084	±0.047	±0.021	±0.038	±0.017	±0.020	±0.011	±0.019	±0.078	±0.004	±0.013	±0.028	±0.038	±0.020	±0.024	±0.020	±0.024
	Acc_1	0.113	0.083	0.059	0.121	0.045	-0.003	0.041	0.004	0.020	-0.005	0.015	0.090	-0.000	0.003	0.054	0.030	0.031	0.017	0.033	0.016
		±0.080	±0.051	±0.042	±0.085	±0.048	±0.021	±0.039	±0.017	±0.020	±0.012	±0.018	±0.077	±0.006	±0.014	±0.028	±0.038	±0.022	±0.024	±0.019	±0.025
	Acc_2	0.126	0.086	0.083	0.130	0.048	-0.004	0.037	0.001	0.017	-0.007	0.023	0.116	0.000	-0.005	0.059	0.032	0.041	0.010	0.043	0.029
		±0.069	±0.052	±0.033	±0.070	±0.042	±0.021	±0.035	±0.023	±0.022	±0.011	±0.027	±0.088	±0.011	±0.019	±0.028	±0.056	±0.030	±0.031	±0.026	±0.036
sub6	κ	0.161	0.116	0.111	0.166	0.034	0.006	0.052	0.009	0.005	-0.013	0.013	0.095	-0.006	-0.007	0.081	0.041	0.069	0.025	0.084	0.054
		±0.079	±0.064	±0.068	±0.080	±0.062	±0.027	±0.048	±0.017	±0.026	±0.016	±0.031	±0.095	±0.022	±0.023	±0.033	±0.060	±0.041	±0.037	±0.031	±0.035
	AUC	0.131	0.103	0.089	0.137	0.023	0.000	0.035	-0.001	0.004	-0.030	0.010	0.085	-0.006	-0.008	0.068	0.033	0.056	0.018	0.057	0.023
		±0.033	±0.036	±0.027	±0.030	±0.038	±0.019	±0.023	±0.013	±0.013	±0.031	±0.013	±0.063	±0.023	±0.017	±0.029	±0.036	±0.027	±0.022	±0.025	±0.020
	BAcc	0.138	0.100	0.095	0.142	0.029	0.005	0.045	0.007	0.004	-0.011	0.012	0.081	-0.005	-0.006	0.069	0.035	0.059	0.021	0.072	0.046
		±0.068	±0.055	±0.058	±0.069	±0.053	±0.023	±0.041	±0.015	±0.023	±0.013	±0.026	±0.081	±0.019	±0.019	±0.028	±0.052	±0.035	±0.031	±0.026	±0.030
	Acc_1	0.138	0.100	0.095	0.142	0.029	0.005	0.045	0.008	0.004	-0.011	0.011	0.080	-0.001	-0.006	0.069	0.035	0.059	0.022	0.073	0.046
		±0.068	±0.055	±0.058	±0.069	±0.053	±0.023	±0.041	±0.015	±0.023	±0.014	±0.028	±0.082	±0.020	±0.019	±0.028	±0.051	±0.035	±0.032	±0.028	±0.030
	Acc_2	0.163	0.128	0.119	0.175	0.050	0.004	0.051	-0.002	0.006	-0.014	0.008	0.106	0.007	-0.005	0.099	0.040	0.082	0.034	0.095	0.051
		±0.068	±0.063	±0.048	±0.043	±0.054	±0.017	±0.044	±0.025	±0.023	±0.014	±0.023	±0.088	±0.026	±0.022	±0.035	±0.043	±0.039	±0.035	±0.037	±0.046
	κ	0.112	0.078	0.065	0.113	0.055	-0.002	0.052	0.000	0.030	-0.012	0.020	0.102	0.007	-0.012	0.057	0.040	0.035	0.029	0.056	0.042
		±0.097	±0.075	±0.062	±0.094	±0.037	±0.014	±0.035	±0.024	±0.037	±0.013	±0.034	±0.088	±0.015	±0.016	±0.050	±0.058	±0.026	±0.034	±0.035	±0.037
	AUC	0.075	0.056	0.056	0.086	0.038	0.010	0.027	-0.002	0.022	-0.027	0.006	0.109	0.010	-0.007	0.027	0.027	0.012	0.017	0.022	0.018
		±0.030	±0.025	±0.023	±0.039	±0.029	±0.026	±0.023	±0.013	±0.023	±0.023	±0.015	±0.056	±0.010	±0.026	±0.021	±0.030	±0.017	±0.017	±0.018	±0.019
	BAcc	0.096	0.067	0.056	0.097	0.047	-0.001	0.045	0.000	0.026	-0.010	0.018	0.087	0.006	-0.010	0.048	0.034	0.030	0.025	0.048	0.036
		±0.083	±0.064	±0.054	±0.081	±0.031	±0.012	±0.030	±0.020	±0.032	±0.011	±0.029	±0.076	±0.013	±0.013	±0.042	±0.050	±0.022	±0.029	±0.030	±0.031

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
Acc.1		0.096	0.067	0.056	0.097	0.047	-0.001	0.045	-0.000	0.026	-0.009	0.014	0.087	0.004	-0.009	0.048	0.034	0.030	0.025	0.049	0.036
		±0.083	±0.064	±0.054	±0.081	±0.031	±0.012	±0.030	±0.020	±0.032	±0.010	±0.028	±0.077	±0.012	±0.014	±0.042	±0.050	±0.022	±0.029	±0.029	±0.032
		0.099	0.066	0.060	0.108	0.052	0.005	0.033	-0.002	0.025	-0.016	0.008	0.142	0.006	-0.011	0.050	0.033	0.034	0.029	0.047	0.033
Acc.2		±0.071	±0.051	±0.037	±0.073	±0.038	±0.025	±0.031	±0.018	±0.046	±0.016	±0.031	±0.081	±0.013	±0.027	±0.034	±0.062	±0.022	±0.046	±0.030	±0.045
sub8	κ	0.164	0.114	0.115	0.185	0.054	0.011	0.040	0.007	0.031	-0.006	0.025	0.120	0.004	0.005	0.091	0.034	0.054	0.033	0.071	0.029
		±0.092	±0.063	±0.088	±0.099	±0.053	±0.037	±0.040	±0.023	±0.031	±0.012	±0.032	±0.074	±0.020	±0.019	±0.041	±0.044	±0.032	±0.044	±0.036	±0.037
	AUC	0.129	0.102	0.091	0.150	0.041	0.034	0.037	0.011	0.017	-0.025	0.020	0.119	0.019	0.001	0.050	0.036	0.033	0.016	0.037	0.023
		±0.034	±0.022	±0.021	±0.037	±0.042	±0.030	±0.026	±0.011	±0.010	±0.023	±0.013	±0.057	±0.019	±0.028	±0.022	±0.028	±0.020	±0.012	±0.021	±0.014
	BAcc	0.140	0.098	0.099	0.159	0.046	0.009	0.035	0.006	0.026	-0.005	0.022	0.103	0.003	0.004	0.078	0.029	0.047	0.028	0.061	0.025
		±0.079	±0.054	±0.075	±0.085	±0.045	±0.032	±0.034	±0.019	±0.026	±0.010	±0.028	±0.064	±0.017	±0.016	±0.035	±0.037	±0.027	±0.038	±0.031	±0.032
	Acc.1	0.141	0.098	0.098	0.159	0.046	0.009	0.034	0.006	0.026	-0.006	0.020	0.102	0.004	0.004	0.078	0.028	0.047	0.028	0.061	0.025
	±0.079	±0.054	±0.075	±0.085	±0.045	±0.032	±0.034	±0.019	±0.026	±0.010	±0.029	±0.064	±0.018	±0.017	±0.035	±0.038	±0.027	±0.037	±0.031	±0.032	
Acc.2	0.161	0.123	0.118	0.188	0.053	0.022	0.047	0.007	0.031	-0.008	0.020	0.132	0.016	0.003	0.088	0.037	0.070	0.039	0.077	0.036	
	±0.062	±0.043	±0.050	±0.071	±0.064	±0.036	±0.039	±0.023	±0.028	±0.009	±0.027	±0.086	±0.028	±0.023	±0.042	±0.051	±0.033	±0.034	±0.039	±0.046	
sub9	κ	0.173	0.139	0.135	0.172	0.046	0.011	0.074	0.015	0.011	-0.010	0.021	0.123	0.013	0.003	0.077	0.057	0.065	0.055	0.076	0.038
		±0.111	±0.092	±0.062	±0.108	±0.060	±0.021	±0.045	±0.026	±0.018	±0.014	±0.042	±0.075	±0.014	±0.013	±0.026	±0.048	±0.030	±0.029	±0.031	±0.040
	AUC	0.131	0.114	0.107	0.136	0.042	0.020	0.053	0.020	0.006	-0.020	0.023	0.125	0.017	-0.000	0.051	0.039	0.038	0.019	0.033	0.025
		±0.039	±0.029	±0.024	±0.038	±0.055	±0.024	±0.024	±0.016	±0.008	±0.023	±0.018	±0.057	±0.008	±0.021	±0.021	±0.027	±0.019	±0.017	±0.019	±0.014
	BAcc	0.148	0.119	0.116	0.147	0.040	0.009	0.063	0.013	0.010	-0.008	0.018	0.106	0.011	0.003	0.066	0.049	0.055	0.047	0.065	0.032
		±0.095	±0.079	±0.053	±0.093	±0.052	±0.018	±0.039	±0.022	±0.016	±0.012	±0.036	±0.064	±0.012	±0.012	±0.023	±0.041	±0.026	±0.025	±0.027	±0.034
	Acc.1	0.148	0.119	0.116	0.147	0.038	0.009	0.064	0.013	0.008	-0.009	0.019	0.105	0.010	0.003	0.066	0.049	0.055	0.047	0.067	0.033
	±0.095	±0.079	±0.053	±0.092	±0.051	±0.018	±0.039	±0.022	±0.017	±0.013	±0.037	±0.066	±0.014	±0.011	±0.023	±0.042	±0.026	±0.024	±0.027	±0.036	
Acc.2	0.184	0.158	0.144	0.194	0.060	0.022	0.081	0.015	0.011	-0.012	0.035	0.138	0.021	-0.003	0.089	0.046	0.071	0.051	0.074	0.054	
	±0.078	±0.055	±0.037	±0.067	±0.070	±0.029	±0.034	±0.022	±0.015	±0.013	±0.038	±0.076	±0.012	±0.015	±0.039	±0.044	±0.035	±0.057	±0.038	±0.047	

D 7-MOVEMENT UPPER LIMB MOTOR IMAGERY CLASSIFICATION

D.1 POPULATION-LEVEL RESULTS

Table 27: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.141	0.648	0.264	0.264	0.443
DeepConvnet	± 0.046	± 0.029	± 0.040	± 0.040	± 0.038
	0.122	0.634	0.248	0.248	0.426
EEGNet	± 0.027	± 0.024	± 0.023	± 0.023	± 0.029
	0.106	0.618	0.234	0.234	0.413
Conformer	± 0.024	± 0.020	± 0.021	± 0.021	± 0.026
	0.143	0.656	0.265	0.265	0.450
CTNet	± 0.040	± 0.027	± 0.034	± 0.034	± 0.037
	0.015	0.510	0.156	0.156	0.296
BIOT (f)	± 0.027	± 0.019	± 0.023	± 0.023	± 0.023
	-0.011	0.485	0.133	0.133	0.267
BIOT (l)	± 0.017	± 0.021	± 0.014	± 0.014	± 0.019
	0.055	0.559	0.190	0.190	0.355
BENDR (f)	± 0.026	± 0.020	± 0.023	± 0.023	± 0.026
	0.020	0.520	0.160	0.160	0.312
BENDR (l)	± 0.020	± 0.015	± 0.017	± 0.017	± 0.023
	-0.016	0.476	0.130	0.130	0.266
CBraMod (f)	± 0.022	± 0.019	± 0.019	± 0.019	± 0.024
	-0.008	0.474	0.136	0.136	0.277
CBraMod (l)	± 0.018	± 0.032	± 0.015	± 0.015	± 0.021
	0.036	0.535	0.174	0.174	0.325
EEGPT (f)	± 0.021	± 0.015	± 0.018	± 0.018	± 0.022
	0.049	0.549	0.184	0.184	0.336
EEGPT (l)	± 0.019	± 0.021	± 0.016	± 0.016	± 0.027
	0.001	0.498	0.143	0.141	0.285
LaBraM (f)	± 0.004	± 0.005	± 0.003	± 0.005	± 0.003
	-0.007	0.482	0.137	0.137	0.269
LaBraM (l)	± 0.018	± 0.023	± 0.016	± 0.015	± 0.024
	0.162	0.637	0.281	0.281	0.467
STEEGformer-s (f)	± 0.039	± 0.030	± 0.033	± 0.033	± 0.043
	0.023	0.532	0.163	0.163	0.317
STEEGformer-s (l)	± 0.021	± 0.015	± 0.018	± 0.018	± 0.028
	0.148	0.633	0.270	0.270	0.455
STEEGformer-b (f)	± 0.045	± 0.031	± 0.038	± 0.040	± 0.046
	0.042	0.539	0.179	0.179	0.331
STEEGformer-b (l)	± 0.028	± 0.024	± 0.024	± 0.025	± 0.033
	0.223	0.677	0.334	0.336	0.524
STEEGformer-l (f)	± 0.035	± 0.023	± 0.030	± 0.029	± 0.043
	0.031	0.545	0.170	0.169	0.320
STEEGformer-l (l)	± 0.031	± 0.023	± 0.027	± 0.026	± 0.024

Table 28: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.119 ± 0.055	0.131 ± 0.021	0.089 ± 0.054	0.158 ± 0.046	0.033 ± 0.032	0.006 ± 0.021	0.036 ± 0.063	0.050 ± 0.038	-0.028 ± 0.040	0.000 ± 0.000	0.061 ± 0.040	0.058 ± 0.039	-0.006 ± 0.012	-0.028 ± 0.023	0.128 ± 0.049	0.025 ± 0.032	0.147 ± 0.038	0.064 ± 0.056	0.222 ± 0.056	0.117 ± 0.049
	AUC	0.626 ± 0.033	0.642 ± 0.017	0.609 ± 0.027	0.650 ± 0.024	0.529 ± 0.011	0.502 ± 0.021	0.554 ± 0.051	0.532 ± 0.035	0.476 ± 0.048	0.447 ± 0.037	0.547 ± 0.033	0.558 ± 0.019	0.498 ± 0.004	0.467 ± 0.020	0.624 ± 0.036	0.551 ± 0.028	0.643 ± 0.048	0.571 ± 0.041	0.670 ± 0.042	0.604 ± 0.033
	BAcc	0.245 ± 0.047	0.255 ± 0.018	0.219 ± 0.047	0.279 ± 0.039	0.171 ± 0.027	0.148 ± 0.018	0.174 ± 0.054	0.186 ± 0.032	0.119 ± 0.035	0.143 ± 0.000	0.195 ± 0.034	0.193 ± 0.033	0.138 ± 0.010	0.119 ± 0.019	0.252 ± 0.042	0.164 ± 0.027	0.269 ± 0.032	0.198 ± 0.048	0.333 ± 0.048	0.243 ± 0.042
	Acc ₁	0.245 ± 0.047	0.255 ± 0.018	0.219 ± 0.047	0.279 ± 0.039	0.171 ± 0.027	0.148 ± 0.018	0.174 ± 0.054	0.186 ± 0.032	0.119 ± 0.035	0.140 ± 0.005	0.195 ± 0.034	0.193 ± 0.033	0.143 ± 0.000	0.119 ± 0.019	0.252 ± 0.042	0.164 ± 0.027	0.258 ± 0.025	0.192 ± 0.045	0.338 ± 0.055	0.244 ± 0.046
	Acc ₂	0.407 ± 0.036	0.438 ± 0.037	0.383 ± 0.042	0.452 ± 0.040	0.319 ± 0.033	0.305 ± 0.054	0.329 ± 0.048	0.348 ± 0.057	0.257 ± 0.077	0.298 ± 0.012	0.319 ± 0.028	0.360 ± 0.010	0.281 ± 0.010	0.276 ± 0.039	0.431 ± 0.051	0.371 ± 0.031	0.448 ± 0.056	0.348 ± 0.070	0.484 ± 0.056	0.382 ± 0.039
sub10	κ	0.094 ± 0.045	0.114 ± 0.039	0.128 ± 0.058	0.119 ± 0.032	0.042 ± 0.028	-0.000 ± 0.029	0.053 ± 0.073	0.008 ± 0.058	-0.022 ± 0.027	-0.056 ± 0.037	0.025 ± 0.050	0.033 ± 0.050	0.000 ± 0.000	-0.022 ± 0.042	0.133 ± 0.036	0.008 ± 0.046	0.097 ± 0.026	0.031 ± 0.062	0.153 ± 0.039	0.069 ± 0.079
	AUC	0.621 ± 0.043	0.614 ± 0.039	0.605 ± 0.049	0.622 ± 0.019	0.519 ± 0.018	0.501 ± 0.043	0.558 ± 0.037	0.507 ± 0.029	0.461 ± 0.056	0.461 ± 0.020	0.520 ± 0.036	0.524 ± 0.031	0.493 ± 0.015	0.482 ± 0.034	0.620 ± 0.026	0.526 ± 0.055	0.593 ± 0.045	0.543 ± 0.055	0.640 ± 0.042	0.552 ± 0.027
	BAcc	0.224 ± 0.039	0.240 ± 0.033	0.252 ± 0.049	0.245 ± 0.027	0.179 ± 0.024	0.143 ± 0.025	0.188 ± 0.063	0.150 ± 0.050	0.124 ± 0.023	0.095 ± 0.031	0.164 ± 0.043	0.171 ± 0.043	0.143 ± 0.000	0.124 ± 0.036	0.257 ± 0.031	0.150 ± 0.039	0.226 ± 0.022	0.169 ± 0.053	0.274 ± 0.034	0.202 ± 0.067
	Acc ₁	0.224 ± 0.039	0.240 ± 0.033	0.252 ± 0.049	0.245 ± 0.027	0.179 ± 0.024	0.143 ± 0.025	0.188 ± 0.063	0.150 ± 0.050	0.124 ± 0.023	0.093 ± 0.031	0.164 ± 0.043	0.171 ± 0.043	0.131 ± 0.025	0.124 ± 0.036	0.257 ± 0.031	0.150 ± 0.039	0.222 ± 0.031	0.172 ± 0.048	0.273 ± 0.046	0.204 ± 0.071
	Acc ₂	0.429 ± 0.045	0.419 ± 0.071	0.400 ± 0.080	0.400 ± 0.050	0.314 ± 0.027	0.288 ± 0.031	0.355 ± 0.070	0.295 ± 0.046	0.238 ± 0.040	0.243 ± 0.038	0.319 ± 0.036	0.319 ± 0.050	0.286 ± 0.000	0.233 ± 0.051	0.448 ± 0.038	0.312 ± 0.049	0.395 ± 0.101	0.322 ± 0.082	0.447 ± 0.036	0.335 ± 0.076
sub11	κ	0.183 ± 0.018	0.153 ± 0.043	0.100 ± 0.057	0.131 ± 0.021	0.031 ± 0.036	-0.042 ± 0.042	-0.008 ± 0.029	0.017 ± 0.043	-0.011 ± 0.049	0.003 ± 0.006	0.025 ± 0.054	0.069 ± 0.049	0.008 ± 0.018	-0.028 ± 0.023	0.156 ± 0.046	0.044 ± 0.086	0.103 ± 0.051	0.022 ± 0.042	0.203 ± 0.064	0.003 ± 0.021
	AUC	0.627 ± 0.020	0.627 ± 0.030	0.618 ± 0.021	0.638 ± 0.029	0.517 ± 0.022	0.443 ± 0.054	0.504 ± 0.030	0.505 ± 0.034	0.476 ± 0.047	0.454 ± 0.035	0.527 ± 0.033	0.581 ± 0.035	0.505 ± 0.011	0.493 ± 0.025	0.605 ± 0.045	0.532 ± 0.029	0.590 ± 0.028	0.528 ± 0.022	0.655 ± 0.045	0.531 ± 0.008
	BAcc	0.300 ± 0.016	0.274 ± 0.037	0.229 ± 0.049	0.255 ± 0.018	0.169 ± 0.031	0.107 ± 0.036	0.136 ± 0.025	0.157 ± 0.037	0.133 ± 0.042	0.145 ± 0.005	0.164 ± 0.046	0.202 ± 0.042	0.150 ± 0.015	0.119 ± 0.019	0.276 ± 0.040	0.181 ± 0.074	0.231 ± 0.043	0.162 ± 0.036	0.317 ± 0.055	0.145 ± 0.018
	Acc ₁	0.300 ± 0.016	0.274 ± 0.037	0.229 ± 0.049	0.255 ± 0.018	0.169 ± 0.031	0.107 ± 0.036	0.136 ± 0.025	0.157 ± 0.037	0.136 ± 0.039	0.150 ± 0.016	0.164 ± 0.046	0.202 ± 0.042	0.143 ± 0.000	0.117 ± 0.020	0.276 ± 0.040	0.181 ± 0.074	0.221 ± 0.041	0.166 ± 0.044	0.313 ± 0.057	0.146 ± 0.020
	Acc ₂	0.300 ± 0.016	0.274 ± 0.037	0.229 ± 0.049	0.255 ± 0.018	0.169 ± 0.031	0.107 ± 0.036	0.136 ± 0.025	0.157 ± 0.037	0.136 ± 0.039	0.150 ± 0.016	0.164 ± 0.046	0.202 ± 0.042	0.143 ± 0.000	0.117 ± 0.020	0.276 ± 0.040	0.181 ± 0.074	0.221 ± 0.041	0.166 ± 0.044	0.313 ± 0.057	0.146 ± 0.020

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub12	Acc.2	0.445 ± 0.041	0.433 ± 0.050	0.414 ± 0.026	0.436 ± 0.041	0.288 ± 0.031	0.236 ± 0.055	0.295 ± 0.042	0.298 ± 0.056	0.248 ± 0.058	0.288 ± 0.005	0.326 ± 0.038	0.371 ± 0.079	0.286 ± 0.000	0.255 ± 0.043	0.426 ± 0.052	0.310 ± 0.054	0.375 ± 0.036	0.313 ± 0.047	0.479 ± 0.080	0.325 ± 0.052
	κ	0.144 ± 0.066	0.106 ± 0.043	0.097 ± 0.040	0.119 ± 0.053	-0.006 ± 0.063	-0.031 ± 0.046	0.047 ± 0.065	0.008 ± 0.025	-0.025 ± 0.057	-0.028 ± 0.033	0.056 ± 0.035	0.033 ± 0.016	0.011 ± 0.014	0.000 ± 0.031	0.175 ± 0.030	0.042 ± 0.017	0.156 ± 0.023	0.108 ± 0.039	0.247 ± 0.068	0.053 ± 0.028
	AUC	0.656 ± 0.045	0.616 ± 0.024	0.609 ± 0.028	0.656 ± 0.037	0.503 ± 0.033	0.452 ± 0.044	0.558 ± 0.013	0.506 ± 0.019	0.470 ± 0.046	0.458 ± 0.019	0.536 ± 0.032	0.541 ± 0.047	0.503 ± 0.006	0.444 ± 0.057	0.654 ± 0.026	0.561 ± 0.036	0.648 ± 0.034	0.569 ± 0.032	0.681 ± 0.031	0.554 ± 0.029
	BAcc	0.267 ± 0.056	0.233 ± 0.037	0.226 ± 0.035	0.245 ± 0.045	0.138 ± 0.054	0.117 ± 0.040	0.183 ± 0.056	0.150 ± 0.022	0.121 ± 0.049	0.119 ± 0.028	0.190 ± 0.030	0.171 ± 0.014	0.152 ± 0.012	0.143 ± 0.026	0.293 ± 0.026	0.179 ± 0.015	0.276 ± 0.020	0.236 ± 0.033	0.355 ± 0.058	0.188 ± 0.024
	Acc.1	0.267 ± 0.056	0.233 ± 0.037	0.226 ± 0.035	0.245 ± 0.045	0.138 ± 0.054	0.117 ± 0.040	0.183 ± 0.056	0.150 ± 0.022	0.121 ± 0.049	0.119 ± 0.028	0.190 ± 0.030	0.171 ± 0.014	0.143 ± 0.000	0.143 ± 0.026	0.293 ± 0.026	0.176 ± 0.016	0.275 ± 0.017	0.233 ± 0.031	0.355 ± 0.060	0.189 ± 0.027
	Acc.2	0.445 ± 0.088	0.388 ± 0.041	0.398 ± 0.032	0.438 ± 0.042	0.281 ± 0.054	0.257 ± 0.056	0.357 ± 0.037	0.293 ± 0.018	0.269 ± 0.060	0.271 ± 0.033	0.343 ± 0.031	0.324 ± 0.031	0.286 ± 0.000	0.271 ± 0.029	0.483 ± 0.051	0.371 ± 0.064	0.472 ± 0.043	0.385 ± 0.029	0.521 ± 0.058	0.344 ± 0.083
sub13	κ	0.108 ± 0.042	0.075 ± 0.038	0.061 ± 0.046	0.064 ± 0.058	-0.014 ± 0.010	0.014 ± 0.052	0.053 ± 0.043	-0.014 ± 0.043	-0.053 ± 0.023	0.000 ± 0.020	0.053 ± 0.065	0.056 ± 0.026	0.000 ± 0.000	-0.014 ± 0.024	0.122 ± 0.060	0.003 ± 0.045	0.050 ± 0.052	-0.006 ± 0.053	0.147 ± 0.041	0.014 ± 0.047
	AUC	0.620 ± 0.038	0.594 ± 0.069	0.599 ± 0.020	0.603 ± 0.049	0.489 ± 0.033	0.501 ± 0.029	0.570 ± 0.065	0.498 ± 0.022	0.481 ± 0.027	0.446 ± 0.034	0.538 ± 0.035	0.570 ± 0.037	0.502 ± 0.006	0.487 ± 0.034	0.585 ± 0.023	0.511 ± 0.031	0.572 ± 0.030	0.503 ± 0.029	0.640 ± 0.021	0.512 ± 0.010
	BAcc	0.236 ± 0.036	0.207 ± 0.032	0.195 ± 0.039	0.198 ± 0.050	0.131 ± 0.008	0.155 ± 0.045	0.188 ± 0.037	0.131 ± 0.037	0.098 ± 0.020	0.143 ± 0.017	0.188 ± 0.055	0.190 ± 0.022	0.143 ± 0.000	0.131 ± 0.021	0.248 ± 0.051	0.145 ± 0.039	0.186 ± 0.044	0.138 ± 0.046	0.269 ± 0.035	0.155 ± 0.040
	Acc.1	0.236 ± 0.036	0.207 ± 0.032	0.195 ± 0.039	0.198 ± 0.050	0.131 ± 0.008	0.155 ± 0.045	0.188 ± 0.037	0.131 ± 0.037	0.098 ± 0.020	0.140 ± 0.018	0.188 ± 0.055	0.190 ± 0.022	0.150 ± 0.010	0.131 ± 0.021	0.248 ± 0.051	0.145 ± 0.039	0.185 ± 0.043	0.137 ± 0.046	0.273 ± 0.042	0.156 ± 0.031
	Acc.2	0.393 ± 0.050	0.379 ± 0.078	0.371 ± 0.055	0.386 ± 0.055	0.279 ± 0.034	0.283 ± 0.041	0.371 ± 0.087	0.262 ± 0.019	0.255 ± 0.029	0.288 ± 0.023	0.345 ± 0.082	0.364 ± 0.036	0.286 ± 0.000	0.262 ± 0.055	0.395 ± 0.058	0.300 ± 0.010	0.364 ± 0.067	0.263 ± 0.047	0.485 ± 0.064	0.290 ± 0.032
	κ	0.128 ± 0.072	0.064 ± 0.078	0.092 ± 0.056	0.114 ± 0.070	-0.014 ± 0.017	-0.008 ± 0.016	0.050 ± 0.072	0.031 ± 0.060	-0.025 ± 0.023	-0.042 ± 0.022	0.022 ± 0.053	-0.008 ± 0.041	0.000 ± 0.000	-0.047 ± 0.038	0.133 ± 0.066	0.019 ± 0.055	0.100 ± 0.052	0.019 ± 0.047	0.211 ± 0.073	0.003 ± 0.018
sub14	AUC	0.625 ± 0.038	0.605 ± 0.038	0.602 ± 0.044	0.631 ± 0.051	0.502 ± 0.014	0.486 ± 0.046	0.561 ± 0.041	0.519 ± 0.026	0.451 ± 0.058	0.438 ± 0.014	0.508 ± 0.033	0.516 ± 0.037	0.487 ± 0.027	0.434 ± 0.035	0.636 ± 0.044	0.508 ± 0.040	0.595 ± 0.046	0.521 ± 0.028	0.657 ± 0.047	0.524 ± 0.039
	BAcc	0.252 ± 0.062	0.198 ± 0.067	0.221 ± 0.048	0.240 ± 0.060	0.131 ± 0.015	0.136 ± 0.014	0.186 ± 0.062	0.169 ± 0.051	0.121 ± 0.020	0.107 ± 0.019	0.162 ± 0.046	0.136 ± 0.035	0.143 ± 0.000	0.102 ± 0.032	0.257 ± 0.056	0.160 ± 0.047	0.229 ± 0.045	0.160 ± 0.040	0.324 ± 0.063	0.145 ± 0.016
	Acc.1	0.252 ± 0.062	0.198 ± 0.067	0.221 ± 0.048	0.240 ± 0.060	0.131 ± 0.015	0.136 ± 0.014	0.186 ± 0.062	0.169 ± 0.051	0.121 ± 0.020	0.112 ± 0.022	0.162 ± 0.046	0.136 ± 0.035	0.140 ± 0.005	0.105 ± 0.035	0.257 ± 0.056	0.157 ± 0.046	0.240 ± 0.045	0.157 ± 0.042	0.328 ± 0.066	0.143 ± 0.026
	Acc.2	0.252 ± 0.062	0.198 ± 0.067	0.221 ± 0.048	0.240 ± 0.060	0.131 ± 0.015	0.136 ± 0.014	0.186 ± 0.062	0.169 ± 0.051	0.121 ± 0.020	0.112 ± 0.022	0.162 ± 0.046	0.136 ± 0.035	0.140 ± 0.005	0.105 ± 0.035	0.257 ± 0.056	0.157 ± 0.046	0.240 ± 0.045	0.157 ± 0.042	0.328 ± 0.066	0.143 ± 0.026

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub15	Acc.2	0.448 ± 0.063	0.379 ±0.046	0.388 ±0.048	0.405 ±0.056	0.290 ±0.020	0.276 ±0.016	0.360 ±0.049	0.286 ±0.051	0.262 ±0.044	0.212 ±0.036	0.279 ±0.039	0.279 ±0.032	0.286 ±0.000	0.207 ±0.032	0.448 ± 0.078	0.293 ±0.033	0.435 ±0.030	0.294 ±0.043	0.502 ± 0.084	0.295 ±0.065
	κ	0.153 ±0.026	0.128 ±0.060	0.128 ±0.032	0.172 ±0.064	-0.014 ±0.028	-0.033 ±0.027	0.025 ±0.027	0.036 ±0.056	-0.033 ±0.029	-0.003 ±0.006	0.036 ±0.066	0.064 ±0.058	-0.006 ±0.012	0.031 ±0.019	0.200 ± 0.025	0.039 ±0.055	0.178 ±0.040	0.047 ±0.042	0.236 ± 0.043	0.050 ±0.059
	AUC	0.670 ± 0.041	0.637 ±0.029	0.626 ±0.037	0.662 ±0.042	0.493 ±0.023	0.475 ±0.048	0.563 ±0.023	0.539 ±0.047	0.474 ±0.060	0.507 ±0.043	0.556 ±0.051	0.567 ±0.036	0.489 ±0.015	0.516 ±0.016	0.667 ±0.027	0.549 ±0.045	0.655 ±0.025	0.537 ±0.054	0.692 ± 0.043	0.560 ±0.048
	BAcc	0.274 ±0.022	0.252 ±0.051	0.252 ±0.027	0.290 ±0.055	0.131 ±0.024	0.114 ±0.023	0.164 ±0.023	0.174 ±0.048	0.114 ±0.025	0.140 ±0.005	0.174 ±0.057	0.198 ±0.050	0.138 ±0.010	0.169 ±0.017	0.314 ± 0.022	0.176 ±0.047	0.295 ±0.034	0.183 ±0.036	0.345 ± 0.037	0.186 ±0.051
	Acc.1	0.274 ±0.022	0.252 ±0.051	0.252 ±0.027	0.290 ±0.055	0.131 ±0.024	0.114 ±0.023	0.164 ±0.023	0.174 ±0.048	0.117 ±0.023	0.140 ±0.005	0.174 ±0.057	0.198 ±0.050	0.143 ±0.000	0.167 ±0.016	0.314 ± 0.022	0.176 ±0.047	0.298 ±0.043	0.182 ±0.030	0.353 ± 0.042	0.182 ±0.053
	Acc.2	0.469 ±0.052	0.421 ±0.062	0.426 ±0.042	0.445 ±0.069	0.269 ±0.026	0.250 ±0.030	0.348 ±0.054	0.331 ±0.077	0.264 ±0.064	0.290 ±0.018	0.348 ±0.059	0.348 ±0.020	0.276 ±0.015	0.305 ±0.019	0.507 ± 0.056	0.338 ±0.057	0.470 ±0.063	0.322 ±0.034	0.559 ± 0.045	0.325 ±0.069
	κ	0.217 ± 0.045	0.161 ±0.047	0.122 ±0.049	0.200 ±0.033	0.072 ±0.054	0.003 ±0.023	0.089 ±0.075	-0.014 ±0.047	0.017 ±0.043	0.000 ±0.000	0.047 ±0.029	0.042 ±0.048	0.000 ±0.000	0.011 ±0.031	0.186 ±0.036	0.003 ±0.057	0.194 ±0.044	0.033 ±0.058	0.253 ± 0.027	0.025 ±0.021
sub2	AUC	0.676 ±0.040	0.663 ±0.034	0.645 ±0.046	0.688 ± 0.034	0.549 ±0.045	0.517 ±0.037	0.554 ±0.032	0.506 ±0.041	0.513 ±0.067	0.500 ±0.011	0.529 ±0.032	0.537 ±0.037	0.500 ±0.000	0.479 ±0.025	0.665 ±0.032	0.525 ±0.030	0.655 ±0.045	0.523 ±0.021	0.686 ± 0.019	0.552 ±0.032
	BAcc	0.329 ± 0.038	0.281 ±0.040	0.248 ±0.042	0.314 ±0.029	0.205 ±0.046	0.145 ±0.020	0.219 ±0.064	0.131 ±0.040	0.157 ±0.037	0.143 ±0.000	0.183 ±0.025	0.179 ±0.041	0.143 ±0.000	0.152 ±0.027	0.302 ±0.031	0.145 ±0.049	0.310 ±0.038	0.171 ±0.050	0.360 ± 0.023	0.164 ±0.018
	Acc.1	0.329 ± 0.038	0.281 ±0.040	0.248 ±0.042	0.314 ±0.029	0.205 ±0.046	0.145 ±0.020	0.219 ±0.064	0.131 ±0.040	0.157 ±0.037	0.143 ±0.000	0.183 ±0.025	0.179 ±0.041	0.143 ±0.000	0.157 ±0.031	0.302 ±0.031	0.148 ±0.050	0.318 ±0.040	0.173 ±0.053	0.355 ± 0.025	0.163 ±0.013
	Acc.2	0.476 ±0.059	0.476 ±0.060	0.445 ±0.052	0.514 ± 0.037	0.329 ±0.018	0.279 ±0.007	0.376 ±0.030	0.319 ±0.050	0.314 ±0.040	0.286 ±0.000	0.321 ±0.066	0.319 ±0.053	0.283 ±0.005	0.271 ±0.024	0.502 ±0.054	0.298 ±0.034	0.495 ±0.044	0.312 ±0.053	0.538 ± 0.026	0.307 ±0.032
	κ	0.119 ±0.035	0.103 ±0.042	0.100 ±0.030	0.161 ± 0.041	-0.006 ±0.063	-0.011 ±0.050	0.042 ±0.020	-0.000 ±0.033	-0.028 ±0.017	0.008 ±0.012	0.061 ±0.054	0.064 ±0.051	0.000 ±0.000	-0.003 ±0.039	0.153 ±0.055	0.019 ±0.050	0.150 ±0.040	0.042 ±0.073	0.261 ± 0.065	-0.003 ±0.043
sub3	AUC	0.643 ±0.019	0.635 ±0.023	0.613 ±0.036	0.646 ±0.029	0.495 ±0.029	0.462 ±0.020	0.525 ±0.021	0.499 ±0.030	0.441 ±0.048	0.448 ±0.040	0.548 ±0.016	0.556 ±0.044	0.500 ±0.000	0.461 ±0.034	0.657 ± 0.045	0.533 ±0.059	0.643 ±0.023	0.530 ±0.052	0.706 ± 0.030	0.531 ±0.020
	BAcc	0.245 ±0.030	0.231 ±0.036	0.229 ±0.026	0.281 ± 0.035	0.138 ±0.054	0.133 ±0.043	0.179 ±0.017	0.143 ±0.028	0.119 ±0.015	0.150 ±0.011	0.195 ±0.047	0.198 ±0.043	0.143 ±0.000	0.140 ±0.033	0.274 ±0.047	0.160 ±0.043	0.271 ±0.034	0.179 ±0.062	0.367 ± 0.055	0.140 ±0.037
	Acc.1	0.245 ±0.030	0.233 ±0.040	0.229 ±0.026	0.281 ± 0.035	0.138 ±0.054	0.133 ±0.043	0.179 ±0.017	0.143 ±0.028	0.119 ±0.015	0.155 ±0.017	0.195 ±0.047	0.198 ±0.043	0.143 ±0.000	0.140 ±0.033	0.274 ±0.047	0.162 ±0.042	0.264 ±0.032	0.184 ±0.057	0.367 ± 0.061	0.142 ±0.039
	Acc.2	0.476 ±0.059	0.476 ±0.060	0.445 ±0.052	0.514 ± 0.037	0.329 ±0.018	0.279 ±0.007	0.376 ±0.030	0.319 ±0.050	0.314 ±0.040	0.286 ±0.000	0.321 ±0.066	0.319 ±0.053	0.283 ±0.005	0.271 ±0.024	0.502 ±0.054	0.298 ±0.034	0.495 ±0.044	0.312 ±0.053	0.538 ± 0.026	0.307 ±0.032

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub4	Acc.2	0.407 ±0.049	0.421 ±0.063	0.417 ±0.070	0.460 ±0.060	0.295 ±0.020	0.267 ±0.037	0.317 ±0.025	0.300 ±0.031	0.221 ±0.032	0.286 ±0.008	0.345 ±0.037	0.343 ±0.058	0.286 ±0.000	0.245 ±0.042	0.486 ±0.064	0.293 ±0.023	0.494 ±0.029	0.320 ±0.049	0.588 ±0.066	0.324 ±0.027
	κ	0.222 ±0.068	0.142 ±0.075	0.136 ±0.036	0.164 ±0.053	0.014 ±0.028	-0.028 ±0.035	0.111 ±0.065	0.028 ±0.044	0.025 ±0.077	0.006 ±0.012	0.006 ±0.066	0.061 ±0.012	0.003 ±0.006	-0.017 ±0.039	0.203 ±0.048	0.053 ±0.045	0.186 ±0.032	0.053 ±0.048	0.236 ±0.071	0.064 ±0.027
	AUC	0.687 ±0.037	0.661 ±0.056	0.641 ±0.040	0.682 ±0.041	0.514 ±0.017	0.475 ±0.043	0.587 ±0.051	0.529 ±0.030	0.514 ±0.066	0.526 ±0.045	0.540 ±0.038	0.561 ±0.027	0.499 ±0.002	0.508 ±0.026	0.626 ±0.035	0.544 ±0.049	0.661 ±0.036	0.567 ±0.025	0.679 ±0.025	0.561 ±0.035
	BAcc	0.333 ±0.058	0.264 ±0.064	0.260 ±0.031	0.283 ±0.046	0.155 ±0.024	0.119 ±0.030	0.238 ±0.056	0.167 ±0.038	0.164 ±0.066	0.148 ±0.011	0.148 ±0.057	0.195 ±0.011	0.145 ±0.005	0.129 ±0.033	0.317 ±0.041	0.188 ±0.039	0.302 ±0.027	0.188 ±0.041	0.345 ±0.061	0.198 ±0.023
	Acc.1	0.333 ±0.058	0.264 ±0.064	0.260 ±0.031	0.286 ±0.042	0.155 ±0.024	0.119 ±0.030	0.238 ±0.056	0.167 ±0.038	0.164 ±0.066	0.138 ±0.011	0.148 ±0.057	0.195 ±0.011	0.129 ±0.037	0.133 ±0.032	0.317 ±0.041	0.190 ±0.041	0.308 ±0.033	0.185 ±0.042	0.347 ±0.063	0.192 ±0.019
	Acc.2	0.493 ±0.081	0.438 ±0.063	0.417 ±0.035	0.488 ±0.086	0.295 ±0.027	0.240 ±0.056	0.398 ±0.055	0.305 ±0.050	0.312 ±0.088	0.290 ±0.014	0.317 ±0.060	0.360 ±0.046	0.286 ±0.000	0.281 ±0.035	0.474 ±0.052	0.317 ±0.060	0.501 ±0.056	0.366 ±0.040	0.520 ±0.044	0.347 ±0.039
sub5	κ	0.186 ±0.085	0.139 ±0.067	0.100 ±0.037	0.125 ±0.074	0.003 ±0.082	-0.017 ±0.039	0.050 ±0.050	0.022 ±0.019	-0.039 ±0.048	0.003 ±0.006	0.028 ±0.033	0.042 ±0.055	0.000 ±0.000	0.006 ±0.056	0.253 ±0.043	0.044 ±0.074	0.153 ±0.081	0.056 ±0.062	0.242 ±0.085	0.022 ±0.054
	AUC	0.701 ±0.034	0.658 ±0.031	0.622 ±0.034	0.679 ±0.032	0.503 ±0.056	0.498 ±0.032	0.566 ±0.021	0.538 ±0.025	0.478 ±0.051	0.487 ±0.041	0.515 ±0.064	0.538 ±0.042	0.500 ±0.000	0.513 ±0.019	0.702 ±0.027	0.539 ±0.043	0.638 ±0.037	0.566 ±0.028	0.703 ±0.030	0.567 ±0.033
	BAcc	0.302 ±0.073	0.262 ±0.058	0.229 ±0.032	0.250 ±0.064	0.145 ±0.071	0.129 ±0.033	0.186 ±0.043	0.162 ±0.016	0.110 ±0.041	0.145 ±0.005	0.167 ±0.028	0.179 ±0.047	0.143 ±0.000	0.148 ±0.048	0.360 ±0.037	0.181 ±0.063	0.274 ±0.069	0.190 ±0.053	0.350 ±0.073	0.162 ±0.047
	Acc.1	0.302 ±0.073	0.262 ±0.058	0.229 ±0.032	0.250 ±0.064	0.145 ±0.071	0.129 ±0.033	0.186 ±0.043	0.162 ±0.016	0.110 ±0.041	0.140 ±0.005	0.167 ±0.028	0.179 ±0.047	0.143 ±0.008	0.148 ±0.048	0.360 ±0.037	0.183 ±0.060	0.273 ±0.071	0.192 ±0.056	0.356 ±0.079	0.155 ±0.044
	Acc.2	0.514 ±0.081	0.436 ±0.018	0.445 ±0.057	0.479 ±0.049	0.293 ±0.097	0.281 ±0.042	0.336 ±0.036	0.345 ±0.065	0.257 ±0.062	0.283 ±0.005	0.324 ±0.087	0.329 ±0.074	0.286 ±0.000	0.305 ±0.020	0.538 ±0.044	0.357 ±0.089	0.460 ±0.053	0.381 ±0.025	0.561 ±0.030	0.327 ±0.047
	κ	0.181 ±0.060	0.153 ±0.052	0.153 ±0.064	0.178 ±0.025	0.058 ±0.054	0.008 ±0.025	0.069 ±0.056	0.031 ±0.060	0.003 ±0.049	0.000 ±0.000	-0.006 ±0.036	0.058 ±0.048	0.000 ±0.000	-0.008 ±0.007	0.186 ±0.038	0.042 ±0.035	0.250 ±0.059	0.042 ±0.056	0.239 ±0.065	0.019 ±0.027
sub6	AUC	0.687 ±0.027	0.668 ±0.038	0.656 ±0.055	0.696 ±0.018	0.547 ±0.052	0.495 ±0.038	0.565 ±0.026	0.543 ±0.060	0.491 ±0.032	0.489 ±0.034	0.521 ±0.034	0.575 ±0.033	0.500 ±0.000	0.509 ±0.023	0.651 ±0.048	0.542 ±0.046	0.689 ±0.033	0.539 ±0.025	0.691 ±0.030	0.522 ±0.012
	BAcc	0.298 ±0.051	0.274 ±0.045	0.274 ±0.055	0.295 ±0.021	0.193 ±0.046	0.150 ±0.022	0.202 ±0.048	0.169 ±0.051	0.145 ±0.042	0.143 ±0.000	0.138 ±0.031	0.193 ±0.041	0.143 ±0.000	0.136 ±0.006	0.302 ±0.032	0.179 ±0.030	0.357 ±0.051	0.179 ±0.048	0.348 ±0.055	0.160 ±0.023
	Acc.1	0.298 ±0.051	0.274 ±0.045	0.274 ±0.055	0.295 ±0.021	0.193 ±0.046	0.150 ±0.022	0.202 ±0.048	0.169 ±0.051	0.145 ±0.042	0.143 ±0.000	0.138 ±0.031	0.193 ±0.041	0.143 ±0.000	0.136 ±0.006	0.302 ±0.032	0.179 ±0.030	0.356 ±0.050	0.182 ±0.048	0.344 ±0.054	0.165 ±0.025
	Acc.2	0.298 ±0.051	0.274 ±0.045	0.274 ±0.055	0.295 ±0.021	0.193 ±0.046	0.150 ±0.022	0.202 ±0.048	0.169 ±0.051	0.145 ±0.042	0.143 ±0.000	0.138 ±0.031	0.193 ±0.041	0.143 ±0.000	0.136 ±0.006	0.302 ±0.032	0.179 ±0.030	0.356 ±0.050	0.182 ±0.048	0.344 ±0.054	0.165 ±0.025

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub7	Acc.2	0.483 ±0.022	0.471 ±0.068	0.455 ±0.043	0.483 ±0.027	0.350 ±0.050	0.279 ±0.011	0.350 ±0.026	0.324 ±0.080	0.295 ±0.055	0.286 ±0.000	0.305 ±0.046	0.338 ±0.057	0.286 ±0.000	0.286 ±0.021	0.512 ±0.044	0.302 ±0.016	0.521 ± 0.049	0.330 ±0.014	0.549 ± 0.056	0.303 ±0.007
	κ	0.064 ±0.039	0.103 ±0.056	0.072 ±0.043	0.111 ±0.050	-0.022 ±0.029	0.003 ±0.035	0.061 ±0.036	0.003 ±0.072	-0.000 ±0.059	-0.019 ±0.030	0.017 ±0.041	0.042 ±0.083	0.000 ±0.000	-0.003 ±0.019	0.103 ±0.086	0.033 ±0.023	0.156 ± 0.076	0.047 ±0.052	0.197 ± 0.062	0.008 ±0.038
	AUC	0.605 ±0.026	0.604 ±0.044	0.584 ±0.011	0.629 ± 0.018	0.487 ±0.018	0.501 ±0.009	0.555 ±0.016	0.526 ±0.036	0.454 ±0.046	0.441 ±0.031	0.528 ±0.029	0.512 ±0.055	0.500 ±0.000	0.479 ±0.009	0.601 ±0.054	0.535 ±0.045	0.617 ±0.029	0.548 ±0.055	0.661 ± 0.019	0.540 ±0.052
	BACc	0.198 ±0.033	0.231 ±0.048	0.205 ±0.037	0.238 ±0.043	0.124 ±0.025	0.145 ±0.030	0.195 ±0.031	0.145 ±0.062	0.143 ±0.051	0.126 ±0.026	0.157 ±0.035	0.179 ±0.071	0.143 ±0.000	0.140 ±0.017	0.231 ±0.074	0.171 ±0.020	0.276 ± 0.065	0.183 ±0.044	0.312 ± 0.053	0.150 ±0.032
	Acc.1	0.198 ±0.033	0.231 ±0.048	0.205 ±0.037	0.238 ±0.043	0.124 ±0.025	0.145 ±0.030	0.195 ±0.031	0.145 ±0.062	0.143 ±0.051	0.129 ±0.020	0.157 ±0.035	0.179 ±0.071	0.143 ±0.000	0.140 ±0.015	0.231 ±0.074	0.171 ±0.020	0.274 ± 0.061	0.179 ±0.038	0.312 ± 0.058	0.146 ±0.028
	Acc.2	0.386 ±0.029	0.390 ±0.077	0.376 ±0.032	0.429 ±0.019	0.252 ±0.021	0.250 ±0.022	0.360 ±0.047	0.305 ±0.045	0.260 ±0.041	0.274 ±0.017	0.286 ±0.050	0.310 ±0.085	0.286 ±0.000	0.288 ±0.022	0.417 ±0.062	0.312 ±0.049	0.437 ± 0.049	0.356 ±0.069	0.477 ± 0.053	0.305 ±0.055
	κ	0.139 ±0.051	0.144 ±0.062	0.133 ±0.021	0.228 ± 0.041	0.022 ±0.032	0.000 ±0.010	0.086 ±0.060	0.047 ±0.063	0.019 ±0.050	-0.003 ±0.006	0.069 ±0.059	0.069 ±0.029	0.000 ±0.000	-0.006 ±0.048	0.186 ±0.025	-0.031 ±0.036	0.169 ±0.050	0.081 ±0.054	0.281 ± 0.084	0.011 ±0.050
sub8	AUC	0.664 ±0.034	0.670 ±0.027	0.643 ±0.023	0.704 ± 0.015	0.520 ±0.033	0.508 ±0.033	0.589 ±0.029	0.542 ±0.024	0.486 ±0.044	0.547 ±0.030	0.568 ±0.036	0.570 ±0.012	0.498 ±0.004	0.483 ±0.037	0.662 ±0.048	0.524 ±0.015	0.663 ±0.050	0.564 ±0.031	0.729 ± 0.043	0.563 ±0.015
	BACc	0.262 ±0.044	0.267 ±0.053	0.257 ±0.018	0.338 ± 0.035	0.162 ±0.027	0.143 ±0.008	0.217 ±0.051	0.183 ±0.054	0.160 ±0.043	0.140 ±0.005	0.202 ±0.051	0.202 ±0.025	0.143 ±0.000	0.138 ±0.041	0.302 ±0.022	0.117 ±0.031	0.288 ±0.043	0.212 ±0.046	0.383 ± 0.072	0.152 ±0.043
	Acc.1	0.262 ±0.044	0.267 ±0.053	0.257 ±0.018	0.338 ± 0.035	0.162 ±0.027	0.143 ±0.008	0.217 ±0.051	0.183 ±0.054	0.160 ±0.043	0.143 ±0.008	0.202 ±0.051	0.202 ±0.025	0.143 ±0.000	0.136 ±0.036	0.302 ±0.022	0.117 ±0.031	0.297 ±0.032	0.222 ±0.047	0.383 ± 0.058	0.159 ±0.042
	Acc.2	0.467 ±0.072	0.457 ±0.078	0.455 ±0.060	0.512 ±0.042	0.305 ±0.066	0.281 ±0.011	0.393 ±0.058	0.338 ±0.046	0.279 ±0.052	0.283 ±0.013	0.364 ±0.047	0.379 ±0.037	0.286 ±0.000	0.279 ±0.017	0.531 ± 0.064	0.267 ±0.030	0.518 ±0.060	0.360 ±0.040	0.610 ± 0.043	0.313 ±0.035
	κ	0.061 ±0.087	0.119 ±0.066	0.081 ±0.035	0.097 ±0.096	0.025 ±0.033	-0.031 ±0.036	0.061 ±0.064	0.047 ±0.091	-0.033 ±0.049	0.006 ±0.016	0.042 ±0.060	0.044 ±0.061	0.000 ±0.000	0.017 ±0.022	0.108 ±0.090	0.006 ±0.036	0.136 ± 0.060	-0.011 ±0.033	0.217 ± 0.070	0.011 ±0.052
sub9	AUC	0.618 ±0.053	0.623 ±0.053	0.593 ±0.042	0.652 ± 0.035	0.489 ±0.034	0.462 ±0.044	0.572 ±0.046	0.513 ±0.034	0.478 ±0.017	0.449 ±0.027	0.550 ±0.033	0.536 ±0.036	0.493 ±0.013	0.467 ±0.034	0.603 ±0.082	0.505 ±0.018	0.632 ±0.034	0.483 ±0.020	0.671 ± 0.029	0.511 ±0.036
	BACc	0.195 ±0.074	0.245 ±0.056	0.212 ±0.030	0.226 ±0.082	0.164 ±0.028	0.117 ±0.031	0.195 ±0.055	0.183 ±0.078	0.114 ±0.042	0.148 ±0.014	0.179 ±0.051	0.181 ±0.052	0.143 ±0.000	0.157 ±0.018	0.236 ±0.077	0.148 ±0.031	0.260 ± 0.051	0.133 ±0.028	0.329 ± 0.060	0.152 ±0.045
	Acc.1	0.195 ±0.074	0.245 ±0.056	0.212 ±0.030	0.226 ±0.082	0.164 ±0.028	0.117 ±0.031	0.195 ±0.055	0.183 ±0.078	0.114 ±0.042	0.152 ±0.010	0.179 ±0.051	0.181 ±0.052	0.136 ±0.015	0.152 ±0.018	0.236 ±0.077	0.150 ±0.033	0.252 ± 0.052	0.133 ±0.028	0.343 ± 0.060	0.153 ±0.048
	Acc.2	0.195 ±0.074	0.245 ±0.056	0.212 ±0.030	0.226 ±0.082	0.164 ±0.028	0.117 ±0.031	0.195 ±0.055	0.183 ±0.078	0.114 ±0.042	0.152 ±0.010	0.179 ±0.051	0.181 ±0.052	0.136 ±0.015	0.152 ±0.018	0.236 ±0.077	0.150 ±0.033	0.252 ± 0.052	0.133 ±0.028	0.343 ± 0.060	0.153 ±0.048

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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (l)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)
Acc.2		0.386 ±0.089	0.436 ±0.077	0.402 ±0.056	0.419 ±0.090	0.281 ±0.052	0.240 ±0.063	0.379 ±0.042	0.326 ±0.077	0.264 ±0.036	0.281 ±0.011	0.340 ±0.052	0.298 ±0.060	0.286 ±0.000	0.264 ±0.023	0.407 ±0.106	0.321 ±0.039	0.438 ±0.069	0.290 ±0.033
																		0.541 ±0.027	0.280 ±0.059

D.2 PER-SUBJECT RESULTS

D.2.1 WITHIN-SUBJECT EVALUATION

Table 29: Average “Self” Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.086 ± 0.027	0.603 ± 0.025	0.217 ± 0.023	0.217 ± 0.023	0.391 ± 0.030
EEGNet	0.085 ± 0.033	0.595 ± 0.034	0.216 ± 0.028	0.216 ± 0.028	0.387 ± 0.042
Conformer	0.102 ± 0.041	0.594 ± 0.036	0.230 ± 0.035	0.230 ± 0.035	0.396 ± 0.045
CTNet	0.077 ± 0.049	0.585 ± 0.035	0.209 ± 0.042	0.209 ± 0.042	0.380 ± 0.043
BIOT (f)	0.017 ± 0.030	0.517 ± 0.025	0.157 ± 0.026	0.157 ± 0.026	0.300 ± 0.039
BIOT (l)	-0.012 ± 0.019	0.487 ± 0.017	0.133 ± 0.017	0.133 ± 0.017	0.268 ± 0.015
BENDR (f)	0.048 ± 0.026	0.544 ± 0.025	0.184 ± 0.022	0.183 ± 0.023	0.334 ± 0.027
BENDR (l)	0.013 ± 0.022	0.515 ± 0.018	0.154 ± 0.019	0.154 ± 0.019	0.307 ± 0.025
CBraMod (f)	-0.026 ± 0.034	0.462 ± 0.036	0.120 ± 0.029	0.120 ± 0.029	0.247 ± 0.039
CBraMod (l)	-0.040 ± 0.029	0.446 ± 0.019	0.108 ± 0.025	0.108 ± 0.025	0.236 ± 0.036
EEGPT (f)	0.002 ± 0.027	0.508 ± 0.021	0.145 ± 0.023	0.145 ± 0.023	0.301 ± 0.022
EEGPT (l)	0.004 ± 0.028	0.509 ± 0.022	0.147 ± 0.024	0.146 ± 0.026	0.293 ± 0.030
LaBraM (f)	-0.017 ± 0.018	0.477 ± 0.024	0.128 ± 0.015	0.128 ± 0.015	0.268 ± 0.024
LaBraM (l)	-0.031 ± 0.022	0.456 ± 0.019	0.117 ± 0.019	0.117 ± 0.019	0.247 ± 0.026
STEEGformer-s (f)	0.066 ± 0.046	0.560 ± 0.037	0.200 ± 0.039	0.200 ± 0.039	0.353 ± 0.047
STEEGformer-s (l)	0.006 ± 0.020	0.508 ± 0.021	0.148 ± 0.017	0.148 ± 0.018	0.295 ± 0.021
STEEGformer-b (f)	0.068 ± 0.042	0.559 ± 0.032	0.201 ± 0.036	0.202 ± 0.037	0.350 ± 0.038
STEEGformer-b (l)	0.020 ± 0.028	0.513 ± 0.023	0.160 ± 0.024	0.161 ± 0.024	0.308 ± 0.027
STEEGformer-l (f)	0.085 ± 0.044	0.573 ± 0.036	0.215 ± 0.038	0.218 ± 0.039	0.373 ± 0.047
STEEGformer-l (l)	0.022 ± 0.030	0.521 ± 0.026	0.162 ± 0.025	0.164 ± 0.025	0.312 ± 0.033

Table 30: Per-Subject ‘‘Self’’ Performance (trained+tested on same subject)

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.108 ± 0.049	0.114 ± 0.041	0.072 ± 0.080	0.064 ± 0.038	0.039 ± 0.058	-0.003 ± 0.021	0.028 ± 0.022	0.003 ± 0.044	0.028 ± 0.056	-0.056 ± 0.047	-0.022 ± 0.029	-0.006 ± 0.038	-0.000 ± 0.047	-0.017 ± 0.027	0.106 ± 0.032	0.019 ± 0.054	0.108 ± 0.032	0.033 ± 0.036	0.089 ± 0.049	0.042 ± 0.047
	AUC	0.620 ± 0.034	0.629 ± 0.016	0.580 ± 0.055	0.590 ± 0.015	0.533 ± 0.032	0.503 ± 0.025	0.535 ± 0.038	0.513 ± 0.069	0.508 ± 0.029	0.465 ± 0.041	0.503 ± 0.016	0.499 ± 0.034	0.494 ± 0.030	0.460 ± 0.017	0.571 ± 0.039	0.502 ± 0.047	0.591 ± 0.034	0.508 ± 0.051	0.601 ± 0.047	0.529 ± 0.045
	BAcc	0.236 ± 0.042	0.240 ± 0.035	0.205 ± 0.069	0.198 ± 0.032	0.176 ± 0.049	0.140 ± 0.018	0.167 ± 0.019	0.145 ± 0.038	0.167 ± 0.048	0.095 ± 0.040	0.124 ± 0.025	0.138 ± 0.032	0.143 ± 0.040	0.129 ± 0.023	0.233 ± 0.027	0.160 ± 0.047	0.236 ± 0.027	0.171 ± 0.031	0.219 ± 0.042	0.179 ± 0.040
	Acc ₁	0.236 ± 0.042	0.240 ± 0.035	0.205 ± 0.069	0.198 ± 0.032	0.176 ± 0.049	0.140 ± 0.018	0.164 ± 0.023	0.145 ± 0.038	0.167 ± 0.048	0.098 ± 0.037	0.128 ± 0.028	0.141 ± 0.031	0.143 ± 0.040	0.126 ± 0.023	0.233 ± 0.027	0.160 ± 0.047	0.241 ± 0.029	0.174 ± 0.035	0.224 ± 0.047	0.177 ± 0.044
	Acc ₂	0.400 ± 0.054	0.433 ± 0.049	0.383 ± 0.068	0.371 ± 0.061	0.343 ± 0.027	0.293 ± 0.023	0.314 ± 0.018	0.305 ± 0.070	0.300 ± 0.026	0.224 ± 0.023	0.297 ± 0.060	0.264 ± 0.035	0.281 ± 0.064	0.257 ± 0.037	0.379 ± 0.040	0.293 ± 0.072	0.380 ± 0.034	0.305 ± 0.080	0.407 ± 0.063	0.319 ± 0.033
sub10	κ	0.047 ± 0.038	0.075 ± 0.023	0.072 ± 0.042	0.044 ± 0.030	0.003 ± 0.042	-0.019 ± 0.055	0.056 ± 0.067	0.033 ± 0.027	-0.058 ± 0.027	-0.042 ± 0.017	-0.022 ± 0.047	0.000 ± 0.051	-0.025 ± 0.044	-0.022 ± 0.056	0.008 ± 0.021	-0.011 ± 0.049	0.033 ± 0.057	0.033 ± 0.050	0.028 ± 0.056	0.047 ± 0.021
	AUC	0.577 ± 0.019	0.568 ± 0.006	0.572 ± 0.011	0.568 ± 0.024	0.504 ± 0.061	0.498 ± 0.042	0.547 ± 0.053	0.556 ± 0.032	0.430 ± 0.025	0.425 ± 0.016	0.484 ± 0.037	0.482 ± 0.031	0.475 ± 0.032	0.463 ± 0.031	0.517 ± 0.027	0.501 ± 0.053	0.515 ± 0.043	0.515 ± 0.054	0.517 ± 0.028	0.539 ± 0.026
	BAcc	0.183 ± 0.032	0.207 ± 0.020	0.205 ± 0.036	0.181 ± 0.026	0.145 ± 0.036	0.126 ± 0.047	0.190 ± 0.057	0.171 ± 0.023	0.093 ± 0.023	0.107 ± 0.015	0.124 ± 0.040	0.143 ± 0.044	0.121 ± 0.038	0.124 ± 0.048	0.150 ± 0.018	0.133 ± 0.042	0.171 ± 0.049	0.171 ± 0.043	0.167 ± 0.048	0.183 ± 0.018
	Acc ₁	0.183 ± 0.032	0.207 ± 0.020	0.205 ± 0.036	0.181 ± 0.026	0.145 ± 0.036	0.126 ± 0.047	0.190 ± 0.057	0.171 ± 0.023	0.093 ± 0.023	0.107 ± 0.015	0.123 ± 0.040	0.142 ± 0.049	0.121 ± 0.038	0.124 ± 0.048	0.150 ± 0.018	0.133 ± 0.042	0.163 ± 0.052	0.168 ± 0.041	0.172 ± 0.053	0.186 ± 0.018
	Acc ₂	0.350 ± 0.023	0.352 ± 0.020	0.393 ± 0.028	0.355 ± 0.057	0.310 ± 0.065	0.281 ± 0.045	0.331 ± 0.066	0.352 ± 0.056	0.195 ± 0.026	0.231 ± 0.031	0.286 ± 0.044	0.265 ± 0.041	0.271 ± 0.049	0.262 ± 0.043	0.286 ± 0.035	0.276 ± 0.044	0.287 ± 0.055	0.294 ± 0.062	0.317 ± 0.027	0.345 ± 0.023
sub11	κ	0.081 ± 0.048	0.064 ± 0.027	0.108 ± 0.076	0.036 ± 0.023	0.025 ± 0.043	-0.044 ± 0.027	0.006 ± 0.047	-0.011 ± 0.049	-0.025 ± 0.039	-0.031 ± 0.042	0.014 ± 0.026	-0.008 ± 0.054	-0.000 ± 0.047	-0.067 ± 0.021	0.083 ± 0.026	0.031 ± 0.043	0.075 ± 0.029	0.006 ± 0.038	0.067 ± 0.032	0.011 ± 0.035
	AUC	0.585 ± 0.026	0.578 ± 0.030	0.578 ± 0.033	0.569 ± 0.036	0.510 ± 0.019	0.456 ± 0.028	0.503 ± 0.047	0.486 ± 0.042	0.474 ± 0.030	0.455 ± 0.022	0.517 ± 0.025	0.534 ± 0.025	0.520 ± 0.047	0.459 ± 0.013	0.576 ± 0.024	0.546 ± 0.016	0.555 ± 0.017	0.528 ± 0.032	0.564 ± 0.008	0.540 ± 0.044
	BAcc	0.212 ± 0.041	0.198 ± 0.023	0.236 ± 0.065	0.174 ± 0.020	0.164 ± 0.037	0.105 ± 0.023	0.148 ± 0.040	0.133 ± 0.042	0.121 ± 0.033	0.117 ± 0.036	0.155 ± 0.022	0.136 ± 0.047	0.143 ± 0.040	0.086 ± 0.018	0.214 ± 0.022	0.169 ± 0.037	0.207 ± 0.025	0.148 ± 0.032	0.200 ± 0.027	0.152 ± 0.030
	Acc ₁	0.212 ± 0.041	0.198 ± 0.023	0.236 ± 0.065	0.174 ± 0.020	0.164 ± 0.037	0.105 ± 0.023	0.148 ± 0.040	0.133 ± 0.042	0.121 ± 0.033	0.114 ± 0.040	0.155 ± 0.024	0.131 ± 0.043	0.143 ± 0.040	0.086 ± 0.018	0.214 ± 0.022	0.169 ± 0.037	0.210 ± 0.023	0.144 ± 0.034	0.203 ± 0.028	0.148 ± 0.034
	Acc ₂	0.379 ± 0.070	0.360 ± 0.021	0.374 ± 0.035	0.348 ± 0.037	0.281 ± 0.048	0.236 ± 0.033	0.302 ± 0.057	0.274 ± 0.065	0.271 ± 0.031	0.257 ± 0.054	0.324 ± 0.037	0.300 ± 0.024	0.293 ± 0.072	0.231 ± 0.042	0.374 ± 0.018	0.329 ± 0.058	0.353 ± 0.045	0.306 ± 0.038	0.371 ± 0.038	0.312 ± 0.052

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.108 ± 0.076	0.131 ± 0.071	0.128 ± 0.064	0.075 ± 0.081	-0.028 ± 0.064	-0.014 ± 0.035	0.067 ± 0.039	0.050 ± 0.030	-0.022 ± 0.051	-0.075 ± 0.029	-0.014 ± 0.060	-0.011 ± 0.045	-0.031 ± 0.079	-0.044 ± 0.033	0.075 ± 0.049	0.011 ± 0.037	0.075 ± 0.056	0.028 ± 0.028	0.100 ± 0.068	0.022 ± 0.050
	AUC	0.619 ± 0.047	0.629 ± 0.041	0.621 ± 0.034	0.587 ± 0.045	0.461 ± 0.035	0.494 ± 0.036	0.565 ± 0.028	0.527 ± 0.027	0.471 ± 0.043	0.434 ± 0.016	0.478 ± 0.051	0.513 ± 0.063	0.486 ± 0.049	0.449 ± 0.038	0.568 ± 0.039	0.502 ± 0.022	0.550 ± 0.015	0.510 ± 0.026	0.574 ± 0.037	0.494 ± 0.034
	BAcc	0.236 ± 0.065	0.255 ± 0.061	0.252 ± 0.055	0.207 ± 0.070	0.119 ± 0.055	0.131 ± 0.030	0.200 ± 0.033	0.186 ± 0.026	0.124 ± 0.043	0.079 ± 0.025	0.131 ± 0.051	0.133 ± 0.039	0.117 ± 0.068	0.105 ± 0.028	0.207 ± 0.042	0.152 ± 0.032	0.207 ± 0.048	0.167 ± 0.024	0.229 ± 0.059	0.162 ± 0.043
	Acc.1	0.236 ± 0.065	0.255 ± 0.061	0.252 ± 0.055	0.207 ± 0.070	0.119 ± 0.055	0.131 ± 0.030	0.200 ± 0.033	0.186 ± 0.026	0.124 ± 0.043	0.079 ± 0.025	0.127 ± 0.059	0.125 ± 0.039	0.117 ± 0.068	0.105 ± 0.028	0.207 ± 0.042	0.152 ± 0.032	0.212 ± 0.045	0.160 ± 0.020	0.234 ± 0.065	0.159 ± 0.044
	Acc.2	0.393 ± 0.095	0.424 ± 0.052	0.436 ± 0.036	0.383 ± 0.062	0.212 ± 0.035	0.257 ± 0.037	0.352 ± 0.030	0.340 ± 0.045	0.231 ± 0.062	0.205 ± 0.028	0.269 ± 0.068	0.280 ± 0.065	0.236 ± 0.064	0.219 ± 0.045	0.374 ± 0.050	0.302 ± 0.058	0.319 ± 0.028	0.331 ± 0.043	0.380 ± 0.069	0.272 ± 0.057
	sub13	κ	0.078 ± 0.056	0.072 ± 0.078	0.089 ± 0.069	0.069 ± 0.086	-0.017 ± 0.066	-0.028 ± 0.049	0.028 ± 0.035	0.008 ± 0.036	-0.036 ± 0.021	-0.036 ± 0.021	0.003 ± 0.041	0.031 ± 0.043	-0.017 ± 0.018	-0.031 ± 0.030	-0.003 ± 0.043	0.031 ± 0.059	-0.017 ± 0.049	-0.014 ± 0.010	0.033 ± 0.071
AUC		0.620 ± 0.019	0.583 ± 0.033	0.574 ± 0.038	0.588 ± 0.034	0.495 ± 0.036	0.479 ± 0.037	0.555 ± 0.029	0.508 ± 0.024	0.458 ± 0.017	0.446 ± 0.011	0.520 ± 0.053	0.532 ± 0.018	0.461 ± 0.014	0.492 ± 0.046	0.495 ± 0.027	0.520 ± 0.064	0.511 ± 0.052	0.508 ± 0.053	0.519 ± 0.043	0.527 ± 0.069
BAcc		0.210 ± 0.048	0.205 ± 0.067	0.219 ± 0.059	0.202 ± 0.074	0.129 ± 0.057	0.119 ± 0.042	0.167 ± 0.030	0.150 ± 0.031	0.112 ± 0.018	0.112 ± 0.018	0.145 ± 0.035	0.169 ± 0.037	0.129 ± 0.016	0.117 ± 0.026	0.140 ± 0.037	0.169 ± 0.051	0.129 ± 0.042	0.131 ± 0.008	0.171 ± 0.061	0.157 ± 0.053
Acc.1		0.210 ± 0.048	0.205 ± 0.067	0.219 ± 0.059	0.202 ± 0.074	0.129 ± 0.057	0.119 ± 0.042	0.167 ± 0.030	0.150 ± 0.031	0.112 ± 0.018	0.112 ± 0.018	0.150 ± 0.035	0.174 ± 0.047	0.129 ± 0.016	0.117 ± 0.026	0.140 ± 0.037	0.169 ± 0.051	0.130 ± 0.042	0.132 ± 0.009	0.169 ± 0.062	0.159 ± 0.047
Acc.2		0.395 ± 0.013	0.357 ± 0.071	0.357 ± 0.065	0.381 ± 0.044	0.279 ± 0.061	0.267 ± 0.031	0.348 ± 0.016	0.298 ± 0.033	0.252 ± 0.040	0.229 ± 0.028	0.316 ± 0.079	0.327 ± 0.017	0.262 ± 0.024	0.255 ± 0.027	0.286 ± 0.039	0.302 ± 0.068	0.304 ± 0.074	0.297 ± 0.021	0.308 ± 0.053	0.301 ± 0.054
sub14		κ	0.069 ± 0.044	0.103 ± 0.061	0.103 ± 0.025	0.069 ± 0.045	-0.008 ± 0.021	0.000 ± 0.014	0.014 ± 0.047	-0.017 ± 0.057	-0.067 ± 0.025	-0.086 ± 0.032	-0.000 ± 0.031	0.008 ± 0.027	-0.053 ± 0.035	-0.047 ± 0.008	0.006 ± 0.056	-0.000 ± 0.056	0.050 ± 0.029	0.031 ± 0.049	0.053 ± 0.048
	AUC	0.607 ± 0.022	0.605 ± 0.003	0.603 ± 0.017	0.591 ± 0.021	0.506 ± 0.027	0.477 ± 0.030	0.533 ± 0.052	0.499 ± 0.061	0.416 ± 0.022	0.429 ± 0.012	0.514 ± 0.019	0.525 ± 0.043	0.438 ± 0.017	0.420 ± 0.035	0.509 ± 0.023	0.478 ± 0.027	0.530 ± 0.021	0.498 ± 0.015	0.541 ± 0.022	0.491 ± 0.034
	BAcc	0.202 ± 0.038	0.231 ± 0.052	0.231 ± 0.022	0.202 ± 0.039	0.136 ± 0.018	0.143 ± 0.012	0.155 ± 0.040	0.129 ± 0.049	0.086 ± 0.021	0.069 ± 0.027	0.143 ± 0.027	0.150 ± 0.023	0.098 ± 0.030	0.102 ± 0.007	0.148 ± 0.048	0.143 ± 0.048	0.186 ± 0.025	0.169 ± 0.042	0.188 ± 0.041	0.155 ± 0.046
	Acc.1	0.202 ± 0.038	0.231 ± 0.052	0.231 ± 0.022	0.202 ± 0.039	0.136 ± 0.018	0.143 ± 0.012	0.155 ± 0.040	0.129 ± 0.049	0.086 ± 0.021	0.069 ± 0.027	0.138 ± 0.025	0.146 ± 0.023	0.098 ± 0.030	0.102 ± 0.007	0.148 ± 0.048	0.140 ± 0.049	0.190 ± 0.022	0.179 ± 0.043	0.191 ± 0.040	0.157 ± 0.041
	Acc.2	0.398 ± 0.054	0.393 ± 0.017	0.407 ± 0.043	0.410 ± 0.035	0.260 ± 0.033	0.257 ± 0.023	0.321 ± 0.071	0.288 ± 0.068	0.195 ± 0.025	0.183 ± 0.031	0.282 ± 0.033	0.329 ± 0.047	0.219 ± 0.042	0.210 ± 0.029	0.295 ± 0.046	0.267 ± 0.038	0.328 ± 0.028	0.321 ± 0.030	0.340 ± 0.055	0.285 ± 0.026
	sub15	κ	0.111 ± 0.029	0.072 ± 0.057	0.108 ± 0.065	0.119 ± 0.012	-0.017 ± 0.042	0.000 ± 0.043	0.067 ± 0.041	0.006 ± 0.045	-0.061 ± 0.052	-0.053 ± 0.041	0.008 ± 0.045	-0.022 ± 0.042	-0.022 ± 0.065	-0.014 ± 0.049	0.097 ± 0.066	0.000 ± 0.024	0.067 ± 0.049	0.044 ± 0.062	0.111 ± 0.068
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)		
	AUC	0.605 ±0.026	0.597 ±0.015	0.614 ±0.036	0.612 ± 0.037	0.508 ±0.021	0.493 ±0.047	0.566 ±0.033	0.515 ±0.030	0.431 ±0.032	0.431 ±0.027	0.516 ±0.023	0.495 ±0.028	0.452 ±0.035	0.473 ±0.047	0.598 ±0.040	0.525 ±0.025	0.573 ±0.041	0.523 ±0.043	0.588 ±0.050	0.527 ±0.044	3075	
	BAcc	0.238 ±0.025	0.205 ±0.049	0.236 ±0.055	0.245 ±0.011	0.129 ±0.036	0.143 ±0.037	0.200 ±0.035	0.148 ±0.038	0.090 ±0.044	0.098 ±0.035	0.150 ±0.038	0.124 ±0.036	0.124 ±0.056	0.131 ±0.042	0.226 ±0.056	0.143 ±0.021	0.200 ±0.042	0.181 ±0.053	0.238 ± 0.058	0.129 ±0.028	3076	
	Acc.1	0.238 ±0.025	0.205 ±0.049	0.236 ±0.055	0.245 ±0.011	0.129 ±0.036	0.143 ±0.037	0.200 ±0.035	0.148 ±0.038	0.090 ±0.044	0.098 ±0.035	0.147 ±0.038	0.122 ±0.039	0.124 ±0.056	0.131 ±0.042	0.226 ±0.056	0.143 ±0.021	0.205 ±0.046	0.185 ±0.054	0.241 ± 0.064	0.135 ±0.026	3077	
	Acc.2	0.402 ±0.047	0.400 ±0.018	0.414 ± 0.027	0.421 ±0.052	0.302 ±0.053	0.274 ±0.071	0.336 ±0.023	0.329 ±0.040	0.226 ±0.050	0.217 ±0.043	0.305 ±0.056	0.278 ±0.072	0.255 ±0.057	0.276 ±0.072	0.400 ±0.085	0.293 ±0.033	0.398 ±0.053	0.339 ±0.065	0.390 ±0.055	0.276 ±0.053	3078	
	κ	0.111 ± 0.035	0.033 ±0.036	0.119 ±0.056	0.042 ±0.037	0.058 ±0.060	-0.011 ±0.025	0.064 ±0.066	0.008 ±0.019	-0.022 ±0.047	-0.003 ±0.015	0.028 ±0.017	-0.022 ±0.029	0.003 ±0.006	0.022 ±0.025	0.078 ±0.045	0.011 ±0.032	0.103 ±0.054	-0.006 ±0.035	0.106 ±0.081	0.006 ±0.035	3079	
sub2	AUC	0.609 ±0.031	0.596 ± 0.026	0.593 ±0.029	0.569 ±0.023	0.539 ±0.033	0.477 ±0.025	0.541 ±0.045	0.499 ±0.026	0.459 ±0.023	0.470 ±0.033	0.523 ±0.026	0.475 ±0.018	0.499 ±0.054	0.477 ±0.023	0.573 ±0.027	0.513 ±0.021	0.568 ±0.034	0.515 ±0.020	0.573 ±0.029	0.505 ±0.015	3080	
	BAcc	0.238 ± 0.030	0.171 ±0.031	0.245 ±0.048	0.179 ±0.031	0.193 ±0.051	0.133 ±0.021	0.198 ±0.056	0.150 ±0.016	0.124 ±0.040	0.140 ±0.013	0.167 ±0.015	0.124 ±0.025	0.145 ±0.005	0.162 ±0.022	0.210 ±0.038	0.152 ±0.027	0.231 ±0.047	0.138 ±0.030	0.233 ±0.070	0.148 ±0.030	3081	
	Acc.1	0.238 ± 0.030	0.171 ±0.031	0.245 ±0.048	0.181 ±0.027	0.193 ±0.051	0.133 ±0.021	0.198 ±0.056	0.150 ±0.016	0.124 ±0.040	0.138 ±0.018	0.168 ±0.009	0.118 ±0.026	0.143 ±0.008	0.162 ±0.022	0.210 ±0.038	0.152 ±0.027	0.226 ±0.042	0.142 ±0.029	0.237 ±0.075	0.155 ±0.028	3082	
	Acc.2	0.405 ± 0.027	0.386 ±0.051	0.421 ±0.053	0.348 ±0.031	0.321 ±0.061	0.281 ±0.042	0.350 ±0.057	0.286 ±0.028	0.260 ±0.062	0.295 ±0.016	0.310 ±0.029	0.268 ±0.037	0.295 ±0.021	0.286 ±0.021	0.376 ±0.034	0.302 ±0.047	0.358 ±0.065	0.302 ±0.037	0.355 ±0.048	0.308 ±0.025	3083	
	κ	0.053 ±0.084	0.064 ± 0.056	0.050 ±0.029	0.019 ±0.052	-0.008 ±0.049	-0.006 ±0.038	0.025 ±0.042	0.008 ±0.054	-0.036 ±0.040	-0.078 ±0.042	0.022 ±0.085	-0.025 ±0.030	0.003 ±0.032	-0.053 ±0.048	0.036 ±0.052	-0.042 ±0.031	0.056 ±0.056	-0.017 ±0.062	0.081 ±0.036	-0.022 ±0.038	3084	
sub3	AUC	0.558 ± 0.036	0.557 ±0.039	0.535 ±0.022	0.536 ±0.047	0.501 ±0.034	0.494 ±0.034	0.504 ±0.041	0.541 ±0.033	0.457 ±0.025	0.439 ±0.025	0.511 ±0.049	0.497 ±0.048	0.498 ±0.034	0.440 ±0.028	0.543 ±0.031	0.487 ±0.032	0.548 ±0.044	0.490 ±0.045	0.581 ±0.028	0.505 ±0.038	3085	
	BAcc	0.188 ±0.072	0.198 ± 0.048	0.186 ±0.025	0.160 ±0.044	0.136 ±0.042	0.138 ±0.032	0.164 ±0.036	0.150 ±0.047	0.112 ±0.034	0.076 ±0.036	0.162 ±0.073	0.121 ±0.026	0.145 ±0.027	0.098 ±0.041	0.174 ±0.044	0.107 ±0.027	0.190 ±0.048	0.129 ±0.053	0.212 ±0.031	0.124 ±0.032	3086	
	Acc.1	0.188 ±0.072	0.198 ± 0.048	0.186 ±0.025	0.160 ±0.044	0.136 ±0.042	0.138 ±0.032	0.164 ±0.036	0.150 ±0.047	0.112 ±0.034	0.076 ±0.036	0.160 ±0.070	0.120 ±0.030	0.145 ±0.027	0.098 ±0.041	0.174 ±0.044	0.105 ±0.023	0.197 ±0.053	0.130 ±0.056	0.219 ±0.036	0.125 ±0.026	3087	
	Acc.2	0.340 ± 0.071	0.340 ± 0.056	0.331 ±0.026	0.319 ±0.069	0.279 ±0.048	0.262 ±0.028	0.310 ±0.039	0.319 ±0.057	0.238 ±0.021	0.195 ±0.048	0.307 ±0.081	0.276 ±0.071	0.288 ±0.057	0.233 ±0.025	0.312 ±0.035	0.279 ±0.044	0.307 ±0.055	0.300 ±0.056	0.362 ±0.056	0.304 ±0.024	3088	
	κ	0.128 ±0.036	0.153 ±0.055	0.183 ± 0.048	0.186 ±0.055	0.025 ±0.058	-0.042 ±0.052	0.097 ±0.066	0.039 ±0.036	0.053 ±0.046	0.008 ±0.021	-0.075 ±0.053	0.064 ±0.073	-0.006 ±0.027	-0.047 ±0.036	0.119 ±0.122	0.017 ±0.023	0.106 ±0.053	0.039 ±0.032	0.169 ±0.058	0.053 ±0.039	3089	
sub4	AUC	0.636 ±0.029	0.639 ± 0.027	0.661 ±0.030	0.625 ±0.024	0.524 ±0.037	0.488 ±0.044	0.595 ±0.034	0.535 ±0.030	0.558 ±0.027	0.464 ±0.041	0.482 ±0.032	0.540 ±0.057	0.477 ±0.035	0.469 ±0.033	0.600 ±0.061	0.501 ±0.020	0.588 ±0.033	0.525 ±0.032	0.627 ±0.027	0.530 ±0.020	3090	
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.252 ±0.031	0.274 ±0.047	0.300 ± 0.041	0.302 ± 0.047	0.164 ±0.049	0.107 ±0.045	0.226 ±0.056	0.176 ±0.031	0.188 ±0.040	0.150 ±0.018	0.079 ±0.045	0.198 ±0.062	0.138 ±0.023	0.102 ±0.031	0.245 ±0.104	0.157 ±0.020	0.233 ±0.045	0.176 ±0.027	0.288 ±0.050	0.188 ±0.033
	Acc_1	0.252 ±0.031	0.274 ±0.047	0.300 ± 0.041	0.302 ± 0.047	0.164 ±0.049	0.107 ±0.045	0.226 ±0.056	0.176 ±0.031	0.188 ±0.040	0.150 ±0.018	0.084 ±0.048	0.199 ±0.064	0.138 ±0.023	0.100 ±0.030	0.245 ±0.104	0.157 ±0.020	0.234 ±0.035	0.182 ±0.024	0.287 ±0.051	0.190 ±0.032
	Acc_2	0.438 ±0.053	0.469 ± 0.051	0.493 ± 0.043	0.443 ±0.041	0.283 ±0.049	0.267 ±0.073	0.400 ±0.034	0.345 ±0.055	0.350 ±0.058	0.298 ±0.022	0.275 ±0.067	0.327 ±0.056	0.279 ±0.025	0.236 ±0.021	0.419 ±0.109	0.290 ±0.030	0.389 ±0.025	0.320 ±0.034	0.435 ±0.027	0.349 ±0.015
	κ	0.033 ±0.038	0.061 ±0.038	0.061 ±0.047	0.003 ±0.030	0.022 ±0.035	0.022 ±0.029	0.053 ±0.036	0.008 ±0.063	0.019 ±0.035	-0.033 ±0.016	0.000 ±0.026	-0.014 ±0.060	-0.036 ±0.029	-0.042 ±0.040	0.064 ± 0.071	0.017 ±0.054	0.078 ± 0.053	0.022 ±0.029	0.056 ±0.045	0.025 ±0.040
	AUC	0.560 ±0.026	0.548 ±0.031	0.569 ±0.043	0.504 ±0.027	0.534 ±0.035	0.493 ±0.011	0.515 ±0.037	0.524 ±0.027	0.484 ±0.043	0.431 ±0.017	0.479 ±0.029	0.478 ±0.044	0.439 ±0.029	0.444 ±0.008	0.546 ±0.067	0.530 ±0.050	0.575 ± 0.017	0.541 ±0.044	0.570 ± 0.042	0.550 ±0.062
	BAcc	0.171 ±0.032	0.195 ±0.032	0.195 ±0.040	0.145 ±0.026	0.162 ±0.030	0.162 ±0.025	0.188 ±0.031	0.150 ±0.054	0.160 ±0.030	0.114 ±0.014	0.143 ±0.022	0.131 ±0.051	0.112 ±0.025	0.107 ±0.035	0.198 ± 0.061	0.157 ±0.046	0.210 ± 0.045	0.162 ±0.025	0.190 ±0.039	0.164 ±0.034
sub6	Acc_1	0.171 ±0.032	0.195 ±0.032	0.195 ±0.040	0.145 ±0.026	0.162 ±0.030	0.162 ±0.025	0.188 ±0.031	0.150 ±0.054	0.160 ±0.030	0.114 ±0.023	0.141 ±0.028	0.132 ±0.053	0.110 ±0.026	0.107 ±0.035	0.198 ± 0.061	0.157 ±0.046	0.212 ± 0.056	0.159 ±0.023	0.190 ±0.036	0.171 ±0.045
	Acc_2	0.336 ±0.028	0.345 ±0.064	0.355 ±0.031	0.305 ±0.018	0.312 ±0.049	0.290 ±0.034	0.298 ±0.036	0.307 ±0.053	0.274 ±0.040	0.262 ±0.030	0.267 ±0.068	0.247 ±0.069	0.267 ±0.032	0.224 ±0.031	0.362 ±0.084	0.314 ±0.037	0.368 ± 0.033	0.320 ±0.029	0.380 ± 0.079	0.339 ±0.039
	κ	0.092 ±0.047	0.103 ±0.054	0.122 ±0.055	0.078 ±0.045	0.064 ±0.043	-0.014 ±0.017	0.058 ±0.078	0.036 ±0.059	-0.053 ±0.054	0.000 ±0.000	0.008 ±0.043	0.008 ±0.063	0.000 ±0.000	-0.011 ±0.018	0.150 ± 0.054	-0.003 ±0.060	0.111 ±0.026	0.039 ±0.041	0.128 ± 0.039	0.036 ±0.021
	AUC	0.616 ±0.042	0.616 ±0.041	0.619 ± 0.025	0.597 ±0.047	0.534 ±0.044	0.456 ±0.014	0.546 ±0.011	0.514 ±0.040	0.407 ±0.036	0.486 ±0.040	0.508 ±0.026	0.502 ±0.027	0.498 ±0.004	0.460 ±0.020	0.634 ± 0.037	0.520 ±0.052	0.609 ±0.013	0.530 ±0.047	0.609 ±0.044	0.523 ±0.027
	BAcc	0.221 ±0.040	0.231 ±0.047	0.248 ±0.047	0.210 ±0.038	0.198 ±0.037	0.131 ±0.015	0.193 ±0.067	0.174 ±0.051	0.098 ±0.046	0.143 ±0.000	0.150 ±0.037	0.150 ±0.054	0.143 ±0.000	0.133 ±0.016	0.271 ± 0.046	0.140 ±0.051	0.238 ±0.022	0.176 ±0.035	0.252 ± 0.033	0.174 ±0.018
	Acc_1	0.221 ±0.040	0.231 ±0.047	0.248 ±0.047	0.210 ±0.038	0.198 ±0.037	0.131 ±0.015	0.193 ±0.067	0.174 ±0.051	0.098 ±0.046	0.143 ±0.000	0.149 ±0.046	0.150 ±0.058	0.143 ±0.000	0.133 ±0.016	0.271 ± 0.046	0.143 ±0.053	0.238 ±0.024	0.178 ±0.036	0.255 ± 0.042	0.173 ±0.016
sub7	Acc_2	0.424 ± 0.050	0.388 ±0.074	0.431 ± 0.046	0.400 ±0.072	0.324 ±0.044	0.252 ±0.023	0.343 ±0.049	0.305 ±0.056	0.224 ±0.071	0.281 ±0.011	0.320 ±0.034	0.290 ±0.053	0.286 ±0.000	0.279 ±0.036	0.419 ±0.055	0.317 ±0.077	0.398 ±0.047	0.337 ±0.072	0.414 ±0.055	0.307 ±0.029
	κ	0.089 ± 0.021	0.050 ±0.040	0.047 ±0.035	0.092 ± 0.046	0.014 ±0.026	0.025 ±0.076	0.011 ±0.035	-0.022 ±0.021	-0.036 ±0.030	-0.061 ±0.025	0.011 ±0.057	-0.006 ±0.035	-0.003 ±0.059	-0.033 ±0.027	0.022 ±0.049	0.008 ±0.040	0.017 ±0.021	0.022 ±0.050	0.047 ±0.049	0.025 ±0.067
	AUC	0.603 ± 0.004	0.548 ±0.020	0.553 ±0.009	0.605 ± 0.027	0.510 ±0.014	0.500 ±0.040	0.531 ±0.035	0.502 ±0.047	0.477 ±0.021	0.420 ±0.035	0.533 ±0.059	0.518 ±0.027	0.497 ±0.030	0.434 ±0.017	0.533 ±0.030	0.506 ±0.040	0.529 ±0.042	0.504 ±0.033	0.541 ±0.043	0.527 ±0.030
	BAcc	0.219 ± 0.018	0.186 ±0.034	0.183 ±0.030	0.221 ± 0.039	0.155 ±0.022	0.164 ±0.065	0.152 ±0.030	0.124 ±0.018	0.112 ±0.026	0.090 ±0.022	0.152 ±0.049	0.138 ±0.030	0.140 ±0.051	0.114 ±0.023	0.162 ±0.042	0.150 ±0.034	0.157 ±0.018	0.162 ±0.043	0.183 ±0.042	0.164 ±0.057

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub8	Acc.1	0.219 ± 0.018	0.186 ± 0.034	0.183 ± 0.030	$\frac{0.221}{\pm 0.039}$	0.155 ± 0.022	0.164 ± 0.065	0.152 ± 0.030	0.124 ± 0.018	0.112 ± 0.026	0.088 ± 0.022	0.157 ± 0.056	0.137 ± 0.033	0.140 ± 0.051	0.114 ± 0.023	0.162 ± 0.042	0.150 ± 0.034	0.156 ± 0.012	0.163 ± 0.038	0.186 ± 0.040	0.166 ± 0.059
	Acc.2	0.381 ± 0.027	0.333 ± 0.035	0.329 ± 0.034	$\frac{0.400}{\pm 0.038}$	0.307 ± 0.039	0.269 ± 0.085	0.300 ± 0.036	0.271 ± 0.040	0.238 ± 0.039	0.202 ± 0.034	0.310 ± 0.081	0.297 ± 0.034	0.298 ± 0.045	0.219 ± 0.042	0.317 ± 0.045	0.307 ± 0.077	0.312 ± 0.024	0.273 ± 0.079	0.319 ± 0.058	0.316 ± 0.066
	κ	0.114 ± 0.033	0.125 ± 0.051	$\frac{0.186}{\pm 0.040}$	0.172 ± 0.047	0.075 ± 0.029	-0.011 ± 0.012	0.067 ± 0.075	-0.003 ± 0.030	-0.017 ± 0.039	-0.003 ± 0.006	0.031 ± 0.079	0.067 ± 0.037	-0.019 ± 0.027	-0.008 ± 0.027	0.117 ± 0.063	0.028 ± 0.038	0.144 ± 0.040	0.075 ± 0.067	0.167 ± 0.048	0.094 ± 0.055
	AUC	0.647 ± 0.024	0.662 ± 0.025	$\frac{0.671}{\pm 0.031}$	0.661 ± 0.024	0.578 ± 0.053	0.523 ± 0.042	0.579 ± 0.015	0.495 ± 0.029	0.438 ± 0.032	0.455 ± 0.026	0.557 ± 0.041	0.548 ± 0.030	0.475 ± 0.020	0.467 ± 0.021	0.597 ± 0.050	0.532 ± 0.039	0.616 ± 0.025	0.553 ± 0.049	0.643 ± 0.036	0.573 ± 0.053
	BAcc	0.240 ± 0.028	0.250 ± 0.044	$\frac{0.302}{\pm 0.034}$	0.290 ± 0.040	0.207 ± 0.025	0.133 ± 0.010	0.200 ± 0.064	0.140 ± 0.026	0.129 ± 0.033	0.140 ± 0.005	0.169 ± 0.068	0.200 ± 0.032	0.126 ± 0.023	0.136 ± 0.023	0.243 ± 0.054	0.167 ± 0.033	0.267 ± 0.034	0.207 ± 0.057	0.286 ± 0.041	0.224 ± 0.047
	Acc.1	0.240 ± 0.028	0.250 ± 0.044	$\frac{0.302}{\pm 0.034}$	0.290 ± 0.040	0.207 ± 0.025	0.133 ± 0.010	0.200 ± 0.064	0.140 ± 0.026	0.129 ± 0.033	0.140 ± 0.005	0.174 ± 0.078	0.207 ± 0.045	0.126 ± 0.023	0.138 ± 0.025	0.243 ± 0.054	0.167 ± 0.033	0.265 ± 0.041	0.209 ± 0.059	0.294 ± 0.047	0.226 ± 0.052
sub9	Acc.2	0.440 ± 0.048	0.464 ± 0.054	0.452 ± 0.055	0.464 ± 0.045	0.393 ± 0.067	0.279 ± 0.020	0.367 ± 0.024	0.276 ± 0.034	0.248 ± 0.054	0.264 ± 0.028	0.347 ± 0.073	0.361 ± 0.083	0.267 ± 0.031	0.293 ± 0.014	0.398 ± 0.052	0.314 ± 0.066	0.411 ± 0.069	0.345 ± 0.072	$\frac{0.481}{\pm 0.070}$	0.395 ± 0.078
	κ	0.075 ± 0.033	0.061 ± 0.052	$\frac{0.081}{\pm 0.030}$	$\frac{0.081}{\pm 0.045}$	0.008 ± 0.057	-0.033 ± 0.040	0.075 ± 0.042	0.044 ± 0.065	-0.064 ± 0.064	-0.058 ± 0.018	0.039 ± 0.049	0.000 ± 0.033	-0.047 ± 0.061	-0.044 ± 0.049	0.033 ± 0.032	-0.028 ± 0.028	0.017 ± 0.033	-0.036 ± 0.045	0.036 ± 0.046	-0.019 ± 0.036
	AUC	$\frac{0.582}{\pm 0.019}$	0.569 ± 0.046	0.572 ± 0.024	0.579 ± 0.037	0.512 ± 0.067	0.480 ± 0.043	0.539 ± 0.038	0.514 ± 0.037	0.455 ± 0.022	0.433 ± 0.031	0.492 ± 0.032	0.499 ± 0.050	0.446 ± 0.048	0.435 ± 0.040	0.533 ± 0.028	0.462 ± 0.024	0.534 ± 0.042	0.453 ± 0.026	0.544 ± 0.044	0.461 ± 0.041
	BAcc	0.207 ± 0.029	0.195 ± 0.044	$\frac{0.212}{\pm 0.026}$	$\frac{0.212}{\pm 0.039}$	0.150 ± 0.049	0.114 ± 0.034	0.207 ± 0.036	0.181 ± 0.055	0.088 ± 0.055	0.093 ± 0.016	0.176 ± 0.042	0.143 ± 0.028	0.102 ± 0.052	0.105 ± 0.042	0.171 ± 0.027	0.119 ± 0.024	0.157 ± 0.028	0.112 ± 0.038	0.174 ± 0.039	0.126 ± 0.031
	Acc.1	0.207 ± 0.029	0.195 ± 0.044	$\frac{0.212}{\pm 0.026}$	0.212 ± 0.039	0.150 ± 0.049	0.114 ± 0.034	0.207 ± 0.036	0.181 ± 0.055	0.088 ± 0.055	0.090 ± 0.014	0.175 ± 0.039	0.144 ± 0.039	0.102 ± 0.052	0.105 ± 0.042	0.171 ± 0.027	0.119 ± 0.024	0.149 ± 0.035	0.113 ± 0.039	0.168 ± 0.034	0.126 ± 0.032
	Acc.2	$\frac{0.383}{\pm 0.020}$	0.364 ± 0.060	0.362 ± 0.034	0.348 ± 0.090	0.302 ± 0.071	0.262 ± 0.059	0.343 ± 0.049	0.314 ± 0.032	0.210 ± 0.040	0.200 ± 0.026	0.298 ± 0.037	0.280 ± 0.070	0.229 ± 0.060	0.226 ± 0.040	0.307 ± 0.028	0.245 ± 0.036	0.333 ± 0.072	0.233 ± 0.040	0.329 ± 0.072	0.258 ± 0.038

D.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 31: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.020 ± 0.009	0.526 ± 0.010	0.160 ± 0.008	0.160 ± 0.008	0.312 ± 0.014
EEGNet	0.022 ± 0.008	0.525 ± 0.008	0.162 ± 0.007	0.162 ± 0.007	0.314 ± 0.010
Conformer	0.024 ± 0.008	0.525 ± 0.008	0.163 ± 0.007	0.163 ± 0.007	0.313 ± 0.008
CTNet	0.022 ± 0.008	0.526 ± 0.008	0.162 ± 0.007	0.162 ± 0.007	0.313 ± 0.010
BIOT (f)	0.003 ± 0.005	0.500 ± 0.005	0.145 ± 0.004	0.145 ± 0.004	0.287 ± 0.007
BIOT (l)	-0.002 ± 0.004	0.501 ± 0.004	0.141 ± 0.003	0.141 ± 0.003	0.285 ± 0.003
BENDR (f)	0.010 ± 0.007	0.512 ± 0.005	0.151 ± 0.006	0.151 ± 0.006	0.298 ± 0.006
BENDR (l)	0.004 ± 0.004	0.504 ± 0.004	0.147 ± 0.003	0.147 ± 0.003	0.291 ± 0.006
CBraMod (f)	0.001 ± 0.004	0.501 ± 0.006	0.144 ± 0.003	0.144 ± 0.003	0.287 ± 0.005
CBraMod (l)	-0.000 ± 0.003	0.499 ± 0.006	0.143 ± 0.002	0.143 ± 0.002	0.285 ± 0.004
EEGPT (f)	0.001 ± 0.005	0.502 ± 0.005	0.144 ± 0.004	0.143 ± 0.004	0.287 ± 0.007
EEGPT (l)	0.002 ± 0.005	0.505 ± 0.004	0.145 ± 0.004	0.145 ± 0.004	0.289 ± 0.004
LaBraM (f)	-0.001 ± 0.002	0.497 ± 0.005	0.142 ± 0.002	0.142 ± 0.002	0.285 ± 0.004
LaBraM (l)	0.000 ± 0.003	0.503 ± 0.004	0.143 ± 0.002	0.143 ± 0.002	0.287 ± 0.002
STEEGformer-s (f)	0.015 ± 0.010	0.516 ± 0.011	0.156 ± 0.009	0.156 ± 0.009	0.304 ± 0.013
STEEGformer-s (l)	0.004 ± 0.004	0.507 ± 0.005	0.146 ± 0.004	0.146 ± 0.004	0.291 ± 0.007
STEEGformer-b (f)	0.015 ± 0.009	0.516 ± 0.008	0.156 ± 0.008	0.156 ± 0.007	0.302 ± 0.009
STEEGformer-b (l)	0.005 ± 0.007	0.509 ± 0.006	0.147 ± 0.006	0.148 ± 0.006	0.293 ± 0.005
STEEGformer-l (f)	0.018 ± 0.009	0.521 ± 0.009	0.158 ± 0.007	0.158 ± 0.008	0.308 ± 0.011
STEEGformer-l (l)	0.004 ± 0.006	0.512 ± 0.007	0.147 ± 0.005	0.147 ± 0.005	0.292 ± 0.007

Table 32: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.013 ± 0.017	0.019 ± 0.028	0.019 ± 0.021	0.019 ± 0.021	-0.002 ± 0.015	-0.008 ± 0.015	0.007 ± 0.015	0.007 ± 0.027	0.005 ± 0.017	0.002 ± 0.010	-0.002 ± 0.016	0.004 ± 0.015	0.002 ± 0.020	0.008 ± 0.013	0.022 ± 0.024	0.007 ± 0.017	0.007 ± 0.011	0.001 ± 0.018	0.018 ± 0.024	0.005 ± 0.016
	AUC	0.522 ± 0.022	0.524 ± 0.024	0.524 ± 0.018	0.530 ± 0.020	0.500 ± 0.014	0.502 ± 0.018	0.507 ± 0.018	0.506 ± 0.019	0.502 ± 0.015	0.497 ± 0.020	0.506 ± 0.016	0.502 ± 0.019	0.500 ± 0.017	0.502 ± 0.018	0.524 ± 0.017	0.514 ± 0.018	0.521 ± 0.012	0.520 ± 0.018	0.523 ± 0.019	0.523 ± 0.016
	BAcc	0.154 ± 0.015	0.159 ± 0.024	0.159 ± 0.018	0.160 ± 0.018	0.141 ± 0.013	0.136 ± 0.013	0.149 ± 0.013	0.148 ± 0.023	0.147 ± 0.014	0.144 ± 0.009	0.141 ± 0.014	0.146 ± 0.013	0.145 ± 0.017	0.149 ± 0.011	0.162 ± 0.021	0.149 ± 0.015	0.149 ± 0.010	0.143 ± 0.015	0.159 ± 0.021	0.147 ± 0.014
	Acc ₁	0.154 ± 0.015	0.159 ± 0.025	0.159 ± 0.018	0.160 ± 0.018	0.141 ± 0.013	0.136 ± 0.013	0.149 ± 0.013	0.148 ± 0.023	0.148 ± 0.014	0.144 ± 0.009	0.141 ± 0.014	0.147 ± 0.013	0.145 ± 0.017	0.149 ± 0.011	0.162 ± 0.021	0.149 ± 0.015	0.148 ± 0.011	0.143 ± 0.016	0.159 ± 0.022	0.150 ± 0.015
	Acc ₂	0.299 ± 0.020	0.312 ± 0.026	0.310 ± 0.018	0.320 ± 0.026	0.283 ± 0.015	0.280 ± 0.011	0.296 ± 0.026	0.293 ± 0.027	0.288 ± 0.013	0.284 ± 0.007	0.289 ± 0.018	0.292 ± 0.024	0.280 ± 0.016	0.285 ± 0.016	0.313 ± 0.029	0.296 ± 0.018	0.298 ± 0.020	0.297 ± 0.022	0.307 ± 0.029	0.290 ± 0.016
sub10	κ	0.012 ± 0.023	0.019 ± 0.021	0.017 ± 0.021	0.017 ± 0.026	0.015 ± 0.013	-0.003 ± 0.012	0.013 ± 0.019	0.003 ± 0.017	-0.003 ± 0.015	0.001 ± 0.010	-0.004 ± 0.012	0.001 ± 0.022	-0.006 ± 0.014	-0.003 ± 0.017	0.001 ± 0.020	-0.002 ± 0.019	0.021 ± 0.019	0.010 ± 0.022	0.006 ± 0.022	0.007 ± 0.023
	AUC	0.520 ± 0.022	0.521 ± 0.024	0.516 ± 0.022	0.517 ± 0.026	0.512 ± 0.011	0.497 ± 0.010	0.510 ± 0.014	0.500 ± 0.017	0.501 ± 0.011	0.493 ± 0.024	0.502 ± 0.019	0.509 ± 0.009	0.490 ± 0.010	0.501 ± 0.011	0.500 ± 0.019	0.508 ± 0.022	0.513 ± 0.025	0.509 ± 0.027	0.511 ± 0.016	0.513 ± 0.021
	BAcc	0.153 ± 0.020	0.159 ± 0.018	0.157 ± 0.018	0.157 ± 0.022	0.156 ± 0.011	0.140 ± 0.010	0.154 ± 0.016	0.146 ± 0.014	0.141 ± 0.013	0.143 ± 0.009	0.140 ± 0.010	0.144 ± 0.019	0.138 ± 0.012	0.140 ± 0.015	0.144 ± 0.017	0.141 ± 0.016	0.161 ± 0.017	0.152 ± 0.019	0.148 ± 0.019	0.149 ± 0.020
	Acc ₁	0.153 ± 0.020	0.159 ± 0.018	0.157 ± 0.018	0.157 ± 0.022	0.156 ± 0.011	0.140 ± 0.010	0.154 ± 0.016	0.146 ± 0.015	0.141 ± 0.012	0.143 ± 0.009	0.137 ± 0.010	0.144 ± 0.021	0.138 ± 0.012	0.140 ± 0.015	0.144 ± 0.017	0.141 ± 0.016	0.159 ± 0.017	0.151 ± 0.019	0.148 ± 0.020	0.148 ± 0.019
	Acc ₂	0.310 ± 0.030	0.310 ± 0.029	0.308 ± 0.021	0.308 ± 0.032	0.303 ± 0.017	0.280 ± 0.011	0.299 ± 0.026	0.282 ± 0.021	0.284 ± 0.008	0.279 ± 0.017	0.281 ± 0.022	0.286 ± 0.027	0.275 ± 0.014	0.287 ± 0.013	0.289 ± 0.022	0.285 ± 0.022	0.303 ± 0.031	0.293 ± 0.022	0.299 ± 0.022	0.303 ± 0.021
sub11	κ	0.021 ± 0.023	0.017 ± 0.017	0.018 ± 0.023	0.015 ± 0.026	0.004 ± 0.014	0.004 ± 0.009	0.004 ± 0.018	-0.002 ± 0.015	0.002 ± 0.014	-0.004 ± 0.009	0.005 ± 0.022	-0.001 ± 0.019	0.001 ± 0.015	-0.003 ± 0.015	0.020 ± 0.022	0.003 ± 0.013	0.022 ± 0.025	-0.006 ± 0.016	0.004 ± 0.019	-0.006 ± 0.013
	AUC	0.525 ± 0.021	0.518 ± 0.020	0.523 ± 0.017	0.522 ± 0.023	0.496 ± 0.014	0.501 ± 0.015	0.509 ± 0.015	0.496 ± 0.012	0.499 ± 0.008	0.497 ± 0.020	0.503 ± 0.018	0.505 ± 0.012	0.508 ± 0.015	0.499 ± 0.008	0.520 ± 0.016	0.502 ± 0.026	0.521 ± 0.021	0.500 ± 0.021	0.508 ± 0.017	0.498 ± 0.022
	BAcc	0.161 ± 0.020	0.157 ± 0.014	0.159 ± 0.020	0.156 ± 0.022	0.146 ± 0.012	0.146 ± 0.008	0.146 ± 0.015	0.146 ± 0.013	0.141 ± 0.012	0.145 ± 0.008	0.139 ± 0.019	0.147 ± 0.016	0.142 ± 0.013	0.144 ± 0.013	0.160 ± 0.019	0.146 ± 0.011	0.162 ± 0.022	0.138 ± 0.013	0.146 ± 0.016	0.138 ± 0.011
	Acc ₁	0.161 ± 0.020	0.157 ± 0.014	0.159 ± 0.020	0.156 ± 0.022	0.146 ± 0.012	0.146 ± 0.008	0.146 ± 0.015	0.141 ± 0.013	0.145 ± 0.012	0.139 ± 0.007	0.147 ± 0.018	0.140 ± 0.017	0.143 ± 0.013	0.141 ± 0.013	0.160 ± 0.019	0.146 ± 0.011	0.160 ± 0.022	0.137 ± 0.014	0.146 ± 0.018	0.137 ± 0.013
	Acc ₂	0.316 ± 0.029	0.305 ± 0.025	0.316 ± 0.019	0.304 ± 0.023	0.289 ± 0.014	0.289 ± 0.011	0.292 ± 0.022	0.280 ± 0.013	0.286 ± 0.015	0.281 ± 0.010	0.291 ± 0.022	0.286 ± 0.018	0.290 ± 0.017	0.286 ± 0.014	0.308 ± 0.022	0.290 ± 0.019	0.304 ± 0.024	0.284 ± 0.016	0.288 ± 0.024	0.288 ± 0.015

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.028 ± 0.021	0.019 ± 0.015	0.020 ± 0.012	0.022 ± 0.025	0.002 ± 0.011	-0.000 ± 0.016	0.016 ± 0.024	0.005 ± 0.014	0.001 ± 0.018	0.003 ± 0.009	0.007 ± 0.017	0.012 ± 0.012	-0.002 ± 0.013	0.001 ± 0.014	0.020 ± 0.025	0.013 ± 0.014	0.024 ± 0.019	0.010 ± 0.015	0.034 ± 0.020	0.014 ± 0.015
	AUC	0.529 ± 0.022	0.524 ± 0.016	0.529 ± 0.013	0.526 ± 0.026	0.500 ± 0.015	0.501 ± 0.022	0.513 ± 0.019	0.507 ± 0.010	0.501 ± 0.012	0.502 ± 0.012	0.509 ± 0.011	0.508 ± 0.014	0.500 ± 0.019	0.507 ± 0.017	0.522 ± 0.024	0.517 ± 0.016	0.523 ± 0.019	0.517 ± 0.012	0.537 ± 0.019	0.525 ± 0.020
	BAcc	0.167 ± 0.018	0.159 ± 0.013	0.160 ± 0.011	0.162 ± 0.021	0.144 ± 0.009	0.143 ± 0.014	0.157 ± 0.021	0.147 ± 0.012	0.144 ± 0.015	0.145 ± 0.008	0.149 ± 0.015	0.153 ± 0.010	0.141 ± 0.011	0.143 ± 0.012	0.160 ± 0.022	0.154 ± 0.012	0.164 ± 0.016	0.152 ± 0.013	0.172 ± 0.017	0.155 ± 0.013
	Acc_1	0.167 ± 0.018	0.159 ± 0.013	0.160 ± 0.011	0.162 ± 0.021	0.144 ± 0.009	0.143 ± 0.014	0.157 ± 0.020	0.147 ± 0.012	0.144 ± 0.015	0.145 ± 0.008	0.150 ± 0.016	0.152 ± 0.009	0.141 ± 0.011	0.143 ± 0.012	0.161 ± 0.022	0.153 ± 0.012	0.164 ± 0.016	0.151 ± 0.013	0.172 ± 0.018	0.156 ± 0.015
	Acc_2	0.313 ± 0.023	0.310 ± 0.022	0.319 ± 0.017	0.316 ± 0.026	0.288 ± 0.023	0.286 ± 0.015	0.298 ± 0.025	0.294 ± 0.021	0.290 ± 0.016	0.289 ± 0.006	0.303 ± 0.024	0.297 ± 0.019	0.287 ± 0.019	0.288 ± 0.012	0.311 ± 0.024	0.296 ± 0.012	0.306 ± 0.026	0.297 ± 0.022	0.321 ± 0.018	0.305 ± 0.018
sub13	κ	0.020 ± 0.024	0.012 ± 0.022	0.022 ± 0.029	0.013 ± 0.019	0.004 ± 0.014	-0.005 ± 0.012	0.006 ± 0.024	0.010 ± 0.021	-0.000 ± 0.015	0.002 ± 0.013	-0.009 ± 0.014	-0.001 ± 0.018	-0.001 ± 0.009	-0.003 ± 0.014	0.006 ± 0.014	-0.000 ± 0.010	-0.003 ± 0.018	-0.000 ± 0.017	0.015 ± 0.018	-0.008 ± 0.013
	AUC	0.525 ± 0.015	0.517 ± 0.017	0.523 ± 0.015	0.520 ± 0.015	0.495 ± 0.012	0.507 ± 0.015	0.508 ± 0.017	0.504 ± 0.016	0.499 ± 0.012	0.496 ± 0.014	0.491 ± 0.012	0.505 ± 0.022	0.492 ± 0.013	0.498 ± 0.009	0.500 ± 0.017	0.496 ± 0.021	0.498 ± 0.012	0.505 ± 0.018	0.509 ± 0.013	0.502 ± 0.020
	BAcc	0.160 ± 0.020	0.153 ± 0.019	0.162 ± 0.024	0.154 ± 0.016	0.146 ± 0.012	0.138 ± 0.011	0.148 ± 0.021	0.143 ± 0.018	0.145 ± 0.013	0.143 ± 0.011	0.135 ± 0.012	0.142 ± 0.015	0.142 ± 0.008	0.141 ± 0.012	0.148 ± 0.012	0.143 ± 0.008	0.140 ± 0.016	0.143 ± 0.014	0.155 ± 0.015	0.136 ± 0.011
	Acc_1	0.160 ± 0.020	0.153 ± 0.019	0.162 ± 0.024	0.154 ± 0.016	0.146 ± 0.012	0.138 ± 0.011	0.148 ± 0.021	0.152 ± 0.018	0.143 ± 0.013	0.145 ± 0.012	0.134 ± 0.015	0.142 ± 0.015	0.142 ± 0.009	0.140 ± 0.012	0.148 ± 0.012	0.143 ± 0.008	0.142 ± 0.016	0.145 ± 0.015	0.155 ± 0.015	0.136 ± 0.012
	Acc_2	0.305 ± 0.021	0.306 ± 0.017	0.311 ± 0.023	0.304 ± 0.023	0.287 ± 0.013	0.288 ± 0.011	0.295 ± 0.029	0.289 ± 0.024	0.287 ± 0.017	0.288 ± 0.015	0.276 ± 0.016	0.288 ± 0.023	0.288 ± 0.009	0.284 ± 0.012	0.285 ± 0.018	0.285 ± 0.016	0.287 ± 0.019	0.292 ± 0.017	0.299 ± 0.022	0.283 ± 0.018
sub14	κ	0.014 ± 0.015	0.029 ± 0.017	0.023 ± 0.023	0.018 ± 0.020	0.002 ± 0.016	-0.005 ± 0.014	0.016 ± 0.022	0.009 ± 0.014	0.003 ± 0.019	-0.001 ± 0.008	0.001 ± 0.020	0.000 ± 0.018	0.002 ± 0.009	-0.000 ± 0.011	-0.002 ± 0.021	0.001 ± 0.014	0.003 ± 0.019	0.001 ± 0.027	0.017 ± 0.024	0.005 ± 0.017
	AUC	0.521 ± 0.017	0.528 ± 0.016	0.526 ± 0.019	0.517 ± 0.018	0.502 ± 0.019	0.497 ± 0.010	0.511 ± 0.015	0.510 ± 0.012	0.498 ± 0.013	0.492 ± 0.021	0.502 ± 0.016	0.501 ± 0.018	0.497 ± 0.024	0.499 ± 0.015	0.497 ± 0.016	0.503 ± 0.019	0.507 ± 0.012	0.499 ± 0.025	0.517 ± 0.018	0.507 ± 0.018
	BAcc	0.155 ± 0.013	0.167 ± 0.014	0.162 ± 0.020	0.158 ± 0.017	0.145 ± 0.014	0.139 ± 0.012	0.157 ± 0.019	0.151 ± 0.012	0.145 ± 0.017	0.142 ± 0.007	0.144 ± 0.017	0.143 ± 0.015	0.145 ± 0.008	0.143 ± 0.010	0.141 ± 0.018	0.144 ± 0.012	0.146 ± 0.017	0.144 ± 0.023	0.157 ± 0.021	0.147 ± 0.014
	Acc_1	0.155 ± 0.013	0.167 ± 0.014	0.162 ± 0.020	0.158 ± 0.017	0.145 ± 0.014	0.139 ± 0.012	0.157 ± 0.019	0.151 ± 0.012	0.146 ± 0.016	0.142 ± 0.006	0.142 ± 0.018	0.144 ± 0.016	0.145 ± 0.007	0.143 ± 0.010	0.141 ± 0.018	0.144 ± 0.012	0.147 ± 0.017	0.143 ± 0.025	0.156 ± 0.021	0.145 ± 0.016
	Acc_2	0.303 ± 0.027	0.322 ± 0.028	0.315 ± 0.028	0.302 ± 0.021	0.288 ± 0.022	0.285 ± 0.014	0.303 ± 0.025	0.303 ± 0.012	0.290 ± 0.019	0.289 ± 0.006	0.283 ± 0.025	0.289 ± 0.021	0.286 ± 0.010	0.285 ± 0.012	0.281 ± 0.018	0.286 ± 0.017	0.287 ± 0.024	0.288 ± 0.022	0.294 ± 0.023	0.286 ± 0.016
sub15	κ	0.031 ± 0.019	0.031 ± 0.025	0.029 ± 0.019	0.041 ± 0.024	0.012 ± 0.017	0.005 ± 0.022	0.027 ± 0.023	0.006 ± 0.014	0.003 ± 0.017	0.001 ± 0.008	0.003 ± 0.017	0.001 ± 0.019	-0.001 ± 0.012	0.001 ± 0.009	0.033 ± 0.027	0.006 ± 0.013	0.013 ± 0.029	0.013 ± 0.022	0.017 ± 0.022	0.007 ± 0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	AUC	0.539 ± 0.016	0.537 ± 0.019	0.530 ± 0.017	0.545 ± 0.018	0.504 ± 0.018	0.505 ± 0.021	0.521 ± 0.019	0.502 ± 0.015	0.498 ± 0.012	0.504 ± 0.020	0.504 ± 0.015	0.506 ± 0.008	0.500 ± 0.020	0.504 ± 0.013	0.535 ± 0.018	0.511 ± 0.012	0.515 ± 0.017	0.505 ± 0.016	0.532 ± 0.017	0.514 ± 0.017
	BAcc	0.169 ± 0.016	0.169 ± 0.021	0.168 ± 0.017	0.178 ± 0.021	0.153 ± 0.015	0.147 ± 0.019	0.166 ± 0.020	0.148 ± 0.012	0.146 ± 0.014	0.143 ± 0.007	0.145 ± 0.015	0.144 ± 0.016	0.142 ± 0.010	0.143 ± 0.008	0.171 ± 0.024	0.148 ± 0.011	0.154 ± 0.025	0.154 ± 0.019	0.157 ± 0.019	0.149 ± 0.017
	Acc.1	0.169 ± 0.016	0.169 ± 0.021	0.168 ± 0.017	0.178 ± 0.020	0.153 ± 0.015	0.147 ± 0.019	0.166 ± 0.020	0.148 ± 0.012	0.145 ± 0.014	0.143 ± 0.008	0.146 ± 0.015	0.144 ± 0.015	0.141 ± 0.010	0.143 ± 0.008	0.171 ± 0.024	0.148 ± 0.010	0.155 ± 0.025	0.155 ± 0.019	0.156 ± 0.021	0.151 ± 0.018
	Acc.2	0.325 ± 0.023	0.321 ± 0.025	0.315 ± 0.020	0.331 ± 0.019	0.302 ± 0.020	0.286 ± 0.021	0.306 ± 0.025	0.283 ± 0.021	0.283 ± 0.017	0.286 ± 0.008	0.289 ± 0.018	0.285 ± 0.016	0.285 ± 0.006	0.289 ± 0.008	0.332 ± 0.026	0.293 ± 0.017	0.310 ± 0.019	0.295 ± 0.022	0.314 ± 0.024	0.301 ± 0.018
	κ	0.032 ± 0.014	0.032 ± 0.017	0.039 ± 0.018	0.025 ± 0.027	0.002 ± 0.026	0.001 ± 0.010	0.015 ± 0.016	-0.000 ± 0.017	0.003 ± 0.009	-0.000 ± 0.005	-0.004 ± 0.021	0.000 ± 0.021	0.002 ± 0.009	0.000 ± 0.008	0.013 ± 0.023	0.007 ± 0.013	0.014 ± 0.019	0.012 ± 0.018	0.021 ± 0.031	0.001 ± 0.012
sub2	AUC	0.537 ± 0.019	0.533 ± 0.019	0.534 ± 0.019	0.536 ± 0.022	0.498 ± 0.015	0.507 ± 0.015	0.519 ± 0.014	0.500 ± 0.013	0.502 ± 0.016	0.508 ± 0.020	0.501 ± 0.011	0.503 ± 0.021	0.495 ± 0.014	0.501 ± 0.015	0.517 ± 0.019	0.505 ± 0.020	0.517 ± 0.016	0.504 ± 0.023	0.520 ± 0.021	0.512 ± 0.023
	BAcc	0.170 ± 0.012	0.170 ± 0.015	0.176 ± 0.016	0.165 ± 0.023	0.144 ± 0.022	0.144 ± 0.008	0.156 ± 0.014	0.143 ± 0.015	0.145 ± 0.008	0.143 ± 0.004	0.139 ± 0.018	0.143 ± 0.018	0.145 ± 0.008	0.143 ± 0.007	0.154 ± 0.020	0.149 ± 0.011	0.155 ± 0.016	0.153 ± 0.015	0.161 ± 0.026	0.144 ± 0.011
	Acc.1	0.170 ± 0.012	0.170 ± 0.015	0.176 ± 0.016	0.165 ± 0.023	0.144 ± 0.022	0.144 ± 0.008	0.156 ± 0.014	0.143 ± 0.015	0.145 ± 0.008	0.142 ± 0.004	0.138 ± 0.017	0.142 ± 0.019	0.145 ± 0.008	0.143 ± 0.007	0.154 ± 0.020	0.149 ± 0.010	0.155 ± 0.017	0.153 ± 0.015	0.161 ± 0.027	0.143 ± 0.010
	Acc.2	0.328 ± 0.019	0.322 ± 0.022	0.319 ± 0.022	0.326 ± 0.025	0.280 ± 0.021	0.289 ± 0.012	0.304 ± 0.018	0.291 ± 0.016	0.290 ± 0.014	0.287 ± 0.004	0.278 ± 0.015	0.288 ± 0.032	0.286 ± 0.005	0.285 ± 0.011	0.301 ± 0.026	0.302 ± 0.022	0.309 ± 0.024	0.295 ± 0.025	0.305 ± 0.027	0.289 ± 0.014
	κ	0.017 ± 0.019	0.014 ± 0.021	0.010 ± 0.025	0.024 ± 0.023	0.004 ± 0.010	0.003 ± 0.009	0.008 ± 0.021	0.002 ± 0.016	-0.005 ± 0.012	-0.005 ± 0.019	0.009 ± 0.018	-0.003 ± 0.018	-0.002 ± 0.012	0.003 ± 0.016	0.004 ± 0.017	-0.004 ± 0.019	0.009 ± 0.021	0.004 ± 0.017	0.010 ± 0.013	-0.001 ± 0.016
sub3	AUC	0.516 ± 0.019	0.520 ± 0.016	0.513 ± 0.017	0.521 ± 0.015	0.504 ± 0.011	0.502 ± 0.017	0.509 ± 0.016	0.503 ± 0.011	0.501 ± 0.014	0.494 ± 0.022	0.502 ± 0.013	0.507 ± 0.015	0.494 ± 0.013	0.502 ± 0.015	0.504 ± 0.014	0.508 ± 0.021	0.503 ± 0.018	0.511 ± 0.022	0.513 ± 0.016	0.507 ± 0.020
	BAcc	0.157 ± 0.016	0.155 ± 0.018	0.152 ± 0.021	0.163 ± 0.020	0.146 ± 0.008	0.145 ± 0.008	0.149 ± 0.018	0.145 ± 0.014	0.139 ± 0.011	0.139 ± 0.016	0.151 ± 0.015	0.141 ± 0.015	0.141 ± 0.010	0.146 ± 0.013	0.147 ± 0.015	0.139 ± 0.016	0.151 ± 0.018	0.146 ± 0.015	0.151 ± 0.011	0.142 ± 0.014
	Acc.1	0.157 ± 0.016	0.154 ± 0.018	0.151 ± 0.021	0.163 ± 0.020	0.146 ± 0.008	0.145 ± 0.008	0.149 ± 0.018	0.145 ± 0.014	0.139 ± 0.011	0.139 ± 0.017	0.149 ± 0.017	0.140 ± 0.016	0.141 ± 0.010	0.146 ± 0.014	0.147 ± 0.015	0.139 ± 0.016	0.149 ± 0.018	0.146 ± 0.015	0.150 ± 0.012	0.141 ± 0.014
	Acc.2	0.302 ± 0.026	0.306 ± 0.029	0.295 ± 0.027	0.313 ± 0.024	0.283 ± 0.017	0.284 ± 0.008	0.294 ± 0.023	0.287 ± 0.018	0.286 ± 0.013	0.279 ± 0.021	0.285 ± 0.019	0.289 ± 0.018	0.280 ± 0.018	0.286 ± 0.021	0.293 ± 0.019	0.288 ± 0.022	0.288 ± 0.021	0.292 ± 0.017	0.300 ± 0.020	0.287 ± 0.018
	κ	0.028 ± 0.025	0.031 ± 0.023	0.030 ± 0.027	0.030 ± 0.017	0.007 ± 0.019	-0.006 ± 0.016	0.017 ± 0.015	0.008 ± 0.023	0.005 ± 0.019	0.003 ± 0.006	-0.001 ± 0.018	0.012 ± 0.017	0.000 ± 0.005	0.001 ± 0.010	0.023 ± 0.029	0.008 ± 0.014	0.027 ± 0.014	0.019 ± 0.020	0.025 ± 0.023	0.005 ± 0.014
sub4	AUC	0.536 ± 0.023	0.531 ± 0.021	0.534 ± 0.021	0.527 ± 0.022	0.500 ± 0.012	0.502 ± 0.014	0.519 ± 0.017	0.512 ± 0.014	0.516 ± 0.015	0.508 ± 0.015	0.501 ± 0.010	0.513 ± 0.017	0.506 ± 0.019	0.511 ± 0.018	0.522 ± 0.025	0.516 ± 0.022	0.528 ± 0.014	0.520 ± 0.021	0.525 ± 0.020	0.519 ± 0.024

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.167 ±0.021	0.170 ±0.019	0.169 ±0.023	0.168 ±0.015	0.149 ±0.017	0.137 ±0.013	0.158 ±0.013	0.149 ±0.020	0.147 ±0.016	0.145 ±0.005	0.142 ±0.016	0.153 ±0.014	0.143 ±0.005	0.144 ±0.009	0.163 ±0.025	0.149 ±0.012	0.166 ±0.012	0.159 ±0.017	0.165 ±0.020	0.147 ±0.012
	Acc_1	0.167 ±0.021	0.170 ±0.019	0.169 ±0.023	0.169 ±0.014	0.149 ±0.017	0.137 ±0.013	0.158 ±0.013	0.149 ±0.020	0.147 ±0.016	0.145 ±0.005	0.143 ±0.016	0.153 ±0.014	0.144 ±0.004	0.144 ±0.009	0.162 ±0.024	0.149 ±0.013	0.165 ±0.011	0.160 ±0.017	0.164 ±0.020	0.147 ±0.013
	Acc_2	0.331 ±0.030	0.320 ±0.027	0.324 ±0.028	0.322 ±0.023	0.286 ±0.017	0.279 ±0.014	0.303 ±0.018	0.301 ±0.018	0.298 ±0.015	0.289 ±0.006	0.293 ±0.014	0.296 ±0.020	0.289 ±0.012	0.289 ±0.012	0.313 ±0.021	0.306 ±0.018	0.319 ±0.022	0.307 ±0.019	0.320 ±0.026	0.298 ±0.021
	κ	0.020 ±0.024	0.025 ±0.015	0.028 ±0.028	0.020 ±0.020	-0.003 ±0.019	-0.001 ±0.011	-0.001 ±0.018	0.004 ±0.018	0.003 ±0.013	0.003 ±0.009	0.005 ±0.012	-0.001 ±0.021	-0.000 ±0.008	0.004 ±0.009	0.018 ±0.022	0.004 ±0.012	0.025 ±0.017	0.008 ±0.011	0.026 ±0.016	0.011 ±0.017
	AUC	0.539 ±0.019	0.536 ±0.018	0.530 ±0.017	0.528 ±0.012	0.496 ±0.014	0.505 ±0.013	0.510 ±0.017	0.506 ±0.013	0.508 ±0.017	0.504 ±0.026	0.504 ±0.016	0.500 ±0.014	0.497 ±0.010	0.507 ±0.016	0.524 ±0.015	0.503 ±0.013	0.525 ±0.016	0.509 ±0.014	0.529 ±0.015	0.512 ±0.016
	BAcc	0.160 ±0.021	0.164 ±0.012	0.167 ±0.024	0.160 ±0.017	0.141 ±0.017	0.142 ±0.010	0.142 ±0.015	0.147 ±0.016	0.145 ±0.011	0.145 ±0.007	0.147 ±0.011	0.142 ±0.018	0.143 ±0.007	0.146 ±0.008	0.158 ±0.019	0.146 ±0.011	0.164 ±0.015	0.150 ±0.009	0.165 ±0.014	0.152 ±0.015
sub6	Acc_1	0.161 ±0.021	0.164 ±0.013	0.167 ±0.024	0.160 ±0.017	0.141 ±0.017	0.142 ±0.010	0.142 ±0.015	0.147 ±0.015	0.145 ±0.010	0.146 ±0.008	0.147 ±0.013	0.142 ±0.018	0.143 ±0.008	0.146 ±0.008	0.158 ±0.018	0.146 ±0.010	0.164 ±0.014	0.153 ±0.011	0.166 ±0.015	0.152 ±0.015
	Acc_2	0.323 ±0.029	0.326 ±0.024	0.320 ±0.026	0.312 ±0.020	0.278 ±0.016	0.288 ±0.011	0.293 ±0.019	0.287 ±0.020	0.293 ±0.014	0.290 ±0.008	0.288 ±0.020	0.286 ±0.020	0.284 ±0.009	0.292 ±0.011	0.309 ±0.020	0.279 ±0.017	0.315 ±0.022	0.294 ±0.016	0.318 ±0.021	0.291 ±0.016
	κ	0.031 ±0.020	0.040 ±0.022	0.039 ±0.025	0.031 ±0.019	-0.004 ±0.020	-0.007 ±0.018	0.009 ±0.026	0.009 ±0.021	-0.000 ±0.005	-0.002 ±0.003	-0.000 ±0.019	0.004 ±0.022	-0.001 ±0.003	0.001 ±0.010	0.032 ±0.028	0.005 ±0.018	0.019 ±0.022	0.004 ±0.021	0.024 ±0.022	0.012 ±0.020
	AUC	0.537 ±0.015	0.541 ±0.014	0.541 ±0.014	0.532 ±0.014	0.491 ±0.016	0.490 ±0.019	0.519 ±0.018	0.508 ±0.017	0.497 ±0.011	0.496 ±0.018	0.490 ±0.014	0.503 ±0.016	0.501 ±0.009	0.507 ±0.011	0.532 ±0.033	0.506 ±0.018	0.517 ±0.018	0.506 ±0.022	0.529 ±0.023	0.508 ±0.020
	BAcc	0.169 ±0.017	0.177 ±0.019	0.177 ±0.022	0.169 ±0.016	0.140 ±0.017	0.137 ±0.016	0.151 ±0.023	0.150 ±0.018	0.143 ±0.004	0.141 ±0.003	0.143 ±0.016	0.146 ±0.019	0.142 ±0.002	0.144 ±0.008	0.170 ±0.024	0.147 ±0.016	0.159 ±0.019	0.147 ±0.018	0.163 ±0.019	0.153 ±0.017
	Acc_1	0.169 ±0.017	0.177 ±0.019	0.176 ±0.022	0.169 ±0.016	0.140 ±0.017	0.137 ±0.016	0.151 ±0.023	0.150 ±0.018	0.143 ±0.004	0.142 ±0.002	0.143 ±0.016	0.146 ±0.021	0.142 ±0.004	0.143 ±0.008	0.170 ±0.024	0.147 ±0.016	0.159 ±0.020	0.146 ±0.019	0.162 ±0.020	0.153 ±0.017
sub7	Acc_2	0.333 ±0.020	0.335 ±0.022	0.326 ±0.021	0.324 ±0.019	0.278 ±0.025	0.281 ±0.020	0.307 ±0.022	0.293 ±0.024	0.285 ±0.005	0.284 ±0.006	0.281 ±0.020	0.287 ±0.016	0.285 ±0.001	0.287 ±0.011	0.315 ±0.037	0.285 ±0.027	0.298 ±0.016	0.284 ±0.023	0.321 ±0.027	0.290 ±0.021
	κ	-0.001 ±0.020	0.016 ±0.019	0.015 ±0.018	0.007 ±0.021	0.003 ±0.015	0.001 ±0.015	0.005 ±0.018	-0.001 ±0.017	-0.006 ±0.022	0.000 ±0.009	-0.000 ±0.020	0.011 ±0.021	0.001 ±0.009	0.001 ±0.011	0.010 ±0.017	0.007 ±0.019	0.015 ±0.019	0.010 ±0.016	0.009 ±0.022	0.006 ±0.018
	AUC	0.504 ±0.019	0.515 ±0.016	0.512 ±0.012	0.509 ±0.019	0.503 ±0.011	0.498 ±0.008	0.507 ±0.017	0.498 ±0.014	0.493 ±0.017	0.504 ±0.019	0.503 ±0.016	0.511 ±0.015	0.494 ±0.011	0.505 ±0.016	0.510 ±0.018	0.512 ±0.017	0.516 ±0.016	0.515 ±0.016	0.511 ±0.020	0.517 ±0.018
	BAcc	0.142 ±0.017	0.156 ±0.016	0.155 ±0.015	0.149 ±0.018	0.145 ±0.013	0.144 ±0.013	0.147 ±0.015	0.142 ±0.015	0.138 ±0.018	0.143 ±0.007	0.143 ±0.017	0.152 ±0.018	0.144 ±0.008	0.143 ±0.009	0.151 ±0.015	0.149 ±0.016	0.156 ±0.017	0.152 ±0.013	0.150 ±0.019	0.148 ±0.015

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	Acc.1	0.142 ±0.017	0.156 ±0.016	0.155 ±0.015	0.149 ±0.018	0.145 ±0.013	0.144 ±0.013	0.147 ±0.015	0.142 ±0.015	0.138 ±0.019	0.143 ±0.006	0.141 ±0.019	0.151 ±0.018	0.144 ±0.007	0.144 ±0.009	0.151 ±0.015	0.149 ±0.016	0.156 ±0.015	0.151 ±0.015	0.150 ±0.021	0.146 ±0.015
	Acc.2	0.282 ±0.029	0.301 ±0.021	0.300 ±0.020	0.296 ±0.031	0.288 ±0.016	0.284 ±0.013	0.294 ±0.020	0.287 ±0.022	0.275 ±0.020	0.285 ±0.012	0.289 ±0.021	0.292 ±0.026	0.289 ±0.011	0.289 ±0.010	0.298 ±0.028	0.286 ±0.015	0.304 ±0.012	0.293 ±0.019	0.298 ±0.021	0.289 ±0.021
	κ	0.013 ±0.027	0.021 ±0.028	0.029 ±0.018	0.024 ±0.021	-0.005 ±0.008	0.001 ±0.007	0.010 ±0.018	0.007 ±0.021	0.010 ±0.008	0.000 ±0.007	-0.003 ±0.016	-0.002 ±0.011	-0.002 ±0.003	-0.003 ±0.009	0.020 ±0.015	-0.002 ±0.017	0.025 ±0.028	0.000 ±0.017	0.030 ±0.026	0.004 ±0.024
sub8	AUC	0.519 ±0.015	0.519 ±0.022	0.524 ±0.020	0.528 ±0.017	0.498 ±0.020	0.503 ±0.021	0.513 ±0.018	0.509 ±0.014	0.502 ±0.019	0.506 ±0.017	0.508 ±0.011	0.503 ±0.015	0.494 ±0.012	0.500 ±0.019	0.520 ±0.015	0.503 ±0.018	0.521 ±0.017	0.505 ±0.015	0.533 ±0.018	0.510 ±0.020
	BAcc	0.154 ±0.023	0.161 ±0.024	0.168 ±0.015	0.164 ±0.018	0.139 ±0.007	0.144 ±0.006	0.152 ±0.015	0.149 ±0.018	0.151 ±0.007	0.143 ±0.006	0.141 ±0.014	0.141 ±0.009	0.141 ±0.002	0.140 ±0.008	0.160 ±0.013	0.141 ±0.015	0.164 ±0.024	0.143 ±0.015	0.169 ±0.023	0.146 ±0.021
	Acc.1	0.154 ±0.023	0.161 ±0.024	0.168 ±0.016	0.164 ±0.018	0.139 ±0.007	0.144 ±0.006	0.151 ±0.015	0.149 ±0.018	0.152 ±0.007	0.143 ±0.007	0.140 ±0.014	0.141 ±0.010	0.142 ±0.004	0.140 ±0.008	0.160 ±0.013	0.141 ±0.015	0.162 ±0.022	0.142 ±0.014	0.169 ±0.023	0.146 ±0.021
sub9	Acc.2	0.301 ±0.025	0.313 ±0.027	0.315 ±0.022	0.306 ±0.018	0.289 ±0.014	0.285 ±0.015	0.300 ±0.023	0.299 ±0.024	0.291 ±0.010	0.287 ±0.008	0.286 ±0.018	0.293 ±0.020	0.285 ±0.005	0.285 ±0.012	0.313 ±0.020	0.296 ±0.013	0.308 ±0.019	0.292 ±0.017	0.321 ±0.021	0.300 ±0.018
	κ	0.026 ±0.017	0.014 ±0.020	0.020 ±0.022	0.027 ±0.023	0.002 ±0.013	-0.003 ±0.007	-0.002 ±0.016	0.001 ±0.025	-0.004 ±0.017	-0.006 ±0.021	0.005 ±0.018	-0.003 ±0.024	-0.002 ±0.013	-0.001 ±0.014	0.009 ±0.016	0.001 ±0.019	0.006 ±0.023	-0.004 ±0.021	0.012 ±0.016	0.004 ±0.022
	AUC	0.523 ±0.015	0.517 ±0.018	0.519 ±0.020	0.528 ±0.016	0.497 ±0.010	0.498 ±0.008	0.506 ±0.017	0.503 ±0.021	0.493 ±0.013	0.490 ±0.026	0.498 ±0.015	0.499 ±0.020	0.493 ±0.018	0.500 ±0.015	0.509 ±0.012	0.507 ±0.019	0.514 ±0.019	0.506 ±0.022	0.522 ±0.017	0.510 ±0.020
	BAcc	0.165 ±0.014	0.155 ±0.017	0.160 ±0.019	0.166 ±0.019	0.144 ±0.012	0.140 ±0.006	0.141 ±0.014	0.144 ±0.021	0.140 ±0.015	0.138 ±0.018	0.147 ±0.015	0.140 ±0.021	0.141 ±0.011	0.142 ±0.012	0.151 ±0.014	0.143 ±0.016	0.148 ±0.019	0.139 ±0.018	0.154 ±0.014	0.146 ±0.018
	Acc.1	0.165 ±0.014	0.155 ±0.017	0.160 ±0.019	0.166 ±0.019	0.144 ±0.012	0.140 ±0.006	0.141 ±0.014	0.144 ±0.022	0.140 ±0.015	0.138 ±0.017	0.146 ±0.014	0.141 ±0.020	0.141 ±0.011	0.142 ±0.011	0.151 ±0.014	0.143 ±0.017	0.148 ±0.021	0.139 ±0.019	0.152 ±0.016	0.147 ±0.020
	Acc.2	0.311 ±0.021	0.301 ±0.025	0.306 ±0.025	0.316 ±0.026	0.283 ±0.017	0.289 ±0.013	0.287 ±0.022	0.290 ±0.019	0.280 ±0.020	0.281 ±0.022	0.289 ±0.024	0.282 ±0.028	0.285 ±0.014	0.285 ±0.017	0.299 ±0.017	0.289 ±0.019	0.296 ±0.019	0.290 ±0.022	0.308 ±0.020	0.288 ±0.020

D.3 LEAVE-ONE-OUT RESULTS

D.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 33: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.107 ± 0.043	0.620 ± 0.029	0.234 ± 0.037	0.234 ± 0.037	0.399 ± 0.040
	0.086	0.604	0.216	0.216	0.389
EEGNet	± 0.030 0.074	± 0.025 0.590	± 0.026 0.207	± 0.026 0.207	± 0.025 0.378
Conformer	± 0.024 0.099	± 0.019 0.615	± 0.020 0.228	± 0.020 0.228	± 0.025 0.392
CTNet	± 0.038 0.003	± 0.027 0.505	± 0.032 0.145	± 0.032 0.145	± 0.039 0.289
BIOT (f)	± 0.025 0.001	± 0.016 0.504	± 0.021 0.144	± 0.021 0.144	± 0.016 0.288
BIOT (l)	± 0.020 0.034	± 0.018 0.551	± 0.018 0.172	± 0.017 0.172	± 0.017 0.334
BENDR (f)	± 0.025 0.002	± 0.021 0.502	± 0.022 0.145	± 0.022 0.144	± 0.035 0.288
BENDR (l)	± 0.021 0.002	± 0.017 0.504	± 0.018 0.145	± 0.017 0.144	± 0.023 0.286
CBraMod (f)	± 0.015 0.002	± 0.016 0.491	± 0.013 0.145	± 0.013 0.143	± 0.020 0.287
CBraMod (l)	± 0.009 0.018	± 0.023 0.516	± 0.008 0.158	± 0.007 0.159	± 0.011 0.303
EEGPT (f)	± 0.016 0.014	± 0.012 0.517	± 0.014 0.155	± 0.014 0.155	± 0.019 0.306
EEGPT (l)	± 0.018 -0.000	± 0.016 0.500	± 0.016 0.143	± 0.016 0.140	± 0.018 0.281
LaBraM (f)	± 0.006 0.002	± 0.008 0.506	± 0.005 0.145	± 0.006 0.145	± 0.011 0.289
LaBraM (l)	± 0.015 0.104	± 0.020 0.583	± 0.013 0.232	± 0.012 0.232	± 0.014 0.391
STEEGformer-s (f)	± 0.031 0.023	± 0.022 0.531	± 0.027 0.163	± 0.027 0.163	± 0.034 0.315
STEEGformer-s (l)	± 0.021 0.099	± 0.020 0.588	± 0.018 0.227	± 0.018 0.228	± 0.027 0.391
STEEGformer-b (f)	± 0.042 0.035	± 0.032 0.540	± 0.036 0.173	± 0.037 0.172	± 0.037 0.324
STEEGformer-b (l)	± 0.021	± 0.024	± 0.018	± 0.018	± 0.029
STEEGformer-l (f)	0.135 ± 0.043	0.618 ± 0.035	0.258 ± 0.037	0.258 ± 0.039	0.436 ± 0.048
	0.029	0.544	0.168	0.167	0.319
STEEGformer-l (l)	± 0.030	± 0.027	± 0.026	± 0.027	± 0.027

Table 34: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub1	κ	0.103 ± 0.039	0.067 ± 0.046	0.106 ± 0.045	0.167 ± 0.037	0.025 ± 0.036	0.022 ± 0.032	-0.025 ± 0.045	0.014 ± 0.061	0.011 ± 0.041	0.017 ± 0.030	0.014 ± 0.059	0.028 ± 0.043	0.011 ± 0.018	0.011 ± 0.055	0.106 ± 0.058	0.050 ± 0.048	0.131 ± 0.086	0.056 ± 0.047	0.142 ± 0.032	0.108 ± 0.035
	AUC	0.607 ± 0.025	0.577 ± 0.032	0.588 ± 0.020	0.634 ± 0.029	0.494 ± 0.028	0.529 ± 0.047	0.500 ± 0.020	0.500 ± 0.063	0.509 ± 0.018	0.485 ± 0.038	0.497 ± 0.043	0.522 ± 0.034	0.515 ± 0.032	0.507 ± 0.037	0.566 ± 0.033	0.561 ± 0.026	0.587 ± 0.018	0.586 ± 0.041	0.610 ± 0.016	0.612 ± 0.037
	BAcc	0.231 ± 0.033	0.200 ± 0.040	0.233 ± 0.038	0.286 ± 0.031	0.164 ± 0.031	0.162 ± 0.027	0.121 ± 0.039	0.155 ± 0.052	0.152 ± 0.035	0.157 ± 0.026	0.155 ± 0.051	0.167 ± 0.037	0.152 ± 0.016	0.152 ± 0.047	0.233 ± 0.050	0.186 ± 0.041	0.255 ± 0.074	0.190 ± 0.040	0.264 ± 0.027	0.236 ± 0.030
	Acc.1	0.231 ± 0.033	0.200 ± 0.040	0.233 ± 0.038	0.286 ± 0.031	0.164 ± 0.031	0.162 ± 0.027	0.121 ± 0.039	0.155 ± 0.052	0.152 ± 0.035	0.152 ± 0.016	0.155 ± 0.054	0.167 ± 0.030	0.143 ± 0.000	0.155 ± 0.045	0.233 ± 0.050	0.186 ± 0.041	0.258 ± 0.076	0.185 ± 0.039	0.259 ± 0.024	0.236 ± 0.034
	Acc.2	0.393 ± 0.030	0.371 ± 0.032	0.381 ± 0.029	0.452 ± 0.048	0.283 ± 0.033	0.290 ± 0.040	0.236 ± 0.033	0.314 ± 0.109	0.298 ± 0.038	0.290 ± 0.011	0.297 ± 0.055	0.295 ± 0.036	0.288 ± 0.005	0.290 ± 0.040	0.364 ± 0.074	0.355 ± 0.060	0.383 ± 0.055	0.375 ± 0.034	0.423 ± 0.028	0.378 ± 0.038
sub10	κ	0.044 ± 0.033	0.094 ± 0.056	0.081 ± 0.053	0.114 ± 0.023	-0.008 ± 0.049	-0.014 ± 0.035	0.019 ± 0.038	-0.014 ± 0.028	-0.014 ± 0.040	-0.006 ± 0.032	0.003 ± 0.053	-0.003 ± 0.049	-0.006 ± 0.012	-0.011 ± 0.021	0.078 ± 0.046	0.011 ± 0.018	0.050 ± 0.035	0.036 ± 0.068	0.103 ± 0.067	0.025 ± 0.060
	AUC	0.597 ± 0.032	0.611 ± 0.042	0.578 ± 0.042	0.604 ± 0.017	0.488 ± 0.033	0.509 ± 0.037	0.535 ± 0.032	0.486 ± 0.018	0.489 ± 0.025	0.454 ± 0.043	0.510 ± 0.039	0.520 ± 0.021	0.495 ± 0.010	0.507 ± 0.041	0.569 ± 0.048	0.525 ± 0.038	0.563 ± 0.047	0.543 ± 0.048	0.584 ± 0.031	0.548 ± 0.028
	BAcc	0.181 ± 0.028	0.224 ± 0.048	0.212 ± 0.046	0.240 ± 0.020	0.136 ± 0.042	0.131 ± 0.030	0.160 ± 0.032	0.131 ± 0.024	0.131 ± 0.035	0.138 ± 0.027	0.145 ± 0.046	0.140 ± 0.042	0.138 ± 0.011	0.133 ± 0.018	0.210 ± 0.039	0.152 ± 0.016	0.186 ± 0.030	0.174 ± 0.059	0.231 ± 0.057	0.164 ± 0.051
	Acc.1	0.181 ± 0.028	0.224 ± 0.048	0.212 ± 0.046	0.238 ± 0.017	0.136 ± 0.042	0.131 ± 0.030	0.160 ± 0.032	0.131 ± 0.024	0.129 ± 0.040	0.140 ± 0.023	0.150 ± 0.043	0.143 ± 0.043	0.138 ± 0.011	0.133 ± 0.018	0.210 ± 0.039	0.152 ± 0.016	0.181 ± 0.030	0.172 ± 0.055	0.227 ± 0.054	0.165 ± 0.052
	Acc.2	0.369 ± 0.037	0.402 ± 0.055	0.369 ± 0.069	0.388 ± 0.054	0.288 ± 0.031	0.262 ± 0.056	0.312 ± 0.039	0.274 ± 0.035	0.279 ± 0.044	0.281 ± 0.041	0.292 ± 0.041	0.295 ± 0.043	0.271 ± 0.032	0.288 ± 0.043	0.333 ± 0.079	0.295 ± 0.023	0.362 ± 0.075	0.304 ± 0.070	0.373 ± 0.049	0.339 ± 0.054
sub11	κ	0.128 ± 0.048	0.069 ± 0.035	0.081 ± 0.039	0.133 ± 0.033	-0.022 ± 0.008	-0.019 ± 0.016	0.028 ± 0.035	0.003 ± 0.039	0.025 ± 0.042	0.000 ± 0.000	0.039 ± 0.049	0.042 ± 0.043	0.000 ± 0.000	-0.003 ± 0.027	0.083 ± 0.040	0.008 ± 0.045	0.136 ± 0.068	0.000 ± 0.029	0.119 ± 0.023	0.011 ± 0.021
	AUC	0.607 ± 0.028	0.577 ± 0.034	0.584 ± 0.038	0.615 ± 0.040	0.493 ± 0.015	0.463 ± 0.014	0.557 ± 0.026	0.508 ± 0.036	0.507 ± 0.052	0.503 ± 0.052	0.533 ± 0.032	0.538 ± 0.051	0.479 ± 0.028	0.518 ± 0.033	0.574 ± 0.042	0.515 ± 0.031	0.590 ± 0.042	0.514 ± 0.023	0.600 ± 0.012	0.514 ± 0.019
	BAcc	0.252 ± 0.041	0.202 ± 0.030	0.212 ± 0.033	0.257 ± 0.029	0.124 ± 0.007	0.126 ± 0.014	0.167 ± 0.030	0.145 ± 0.033	0.164 ± 0.036	0.143 ± 0.000	0.176 ± 0.042	0.179 ± 0.037	0.143 ± 0.000	0.140 ± 0.023	0.214 ± 0.035	0.214 ± 0.038	0.260 ± 0.058	0.143 ± 0.025	0.245 ± 0.020	0.152 ± 0.018
	Acc.1	0.252 ± 0.041	0.202 ± 0.030	0.212 ± 0.033	0.257 ± 0.029	0.124 ± 0.007	0.126 ± 0.014	0.167 ± 0.030	0.145 ± 0.033	0.164 ± 0.036	0.143 ± 0.000	0.174 ± 0.044	0.181 ± 0.035	0.147 ± 0.011	0.140 ± 0.023	0.214 ± 0.035	0.150 ± 0.038	0.258 ± 0.056	0.142 ± 0.028	0.247 ± 0.022	0.156 ± 0.023
	Acc.2	0.412 ± 0.031	0.386 ± 0.053	0.379 ± 0.052	0.424 ± 0.064	0.290 ± 0.022	0.271 ± 0.034	0.329 ± 0.040	0.279 ± 0.025	0.290 ± 0.049	0.302 ± 0.029	0.337 ± 0.052	0.340 ± 0.050	0.282 ± 0.012	0.267 ± 0.042	0.364 ± 0.052	0.283 ± 0.036	0.400 ± 0.068	0.280 ± 0.029	0.401 ± 0.027	0.287 ± 0.028

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub12	κ	0.119 ± 0.064	0.050 ± 0.058	0.089 ± 0.040	0.069 ± 0.033	0.047 ± 0.035	-0.017 ± 0.015	0.064 ± 0.053	-0.022 ± 0.029	-0.006 ± 0.032	0.003 ± 0.006	0.025 ± 0.069	0.050 ± 0.042	0.000 ± 0.000	0.008 ± 0.025	0.125 \pm 0.040	0.047 ± 0.025	0.111 ± 0.047	0.081 ± 0.053	0.169 ± 0.052	0.075 ± 0.027
	AUC	0.641 \pm 0.047	0.591 ± 0.042	0.606 ± 0.034	0.606 ± 0.031	0.534 ± 0.025	0.506 ± 0.038	0.575 ± 0.041	0.502 ± 0.030	0.485 ± 0.034	0.489 ± 0.034	0.506 ± 0.064	0.530 ± 0.044	0.499 ± 0.004	0.474 ± 0.029	0.599 ± 0.022	0.567 ± 0.031	0.598 ± 0.037	0.569 ± 0.033	0.660 ± 0.018	0.571 ± 0.035
	BAcc	0.245 ± 0.055	0.186 ± 0.050	0.219 ± 0.034	0.202 ± 0.028	0.183 ± 0.030	0.129 ± 0.013	0.198 ± 0.046	0.124 ± 0.025	0.138 ± 0.027	0.145 ± 0.005	0.164 ± 0.059	0.186 ± 0.036	0.143 ± 0.000	0.150 ± 0.022	0.250 \pm 0.035	0.183 ± 0.022	0.238 ± 0.040	0.212 ± 0.046	0.288 ± 0.045	0.207 ± 0.023
	Acc_1	0.245 ± 0.055	0.186 ± 0.050	0.219 ± 0.034	0.202 ± 0.028	0.183 ± 0.030	0.129 ± 0.013	0.198 ± 0.046	0.124 ± 0.025	0.135 ± 0.022	0.150 ± 0.016	0.171 ± 0.056	0.184 ± 0.043	0.146 ± 0.006	0.150 ± 0.022	0.250 \pm 0.035	0.186 ± 0.026	0.233 ± 0.039	0.209 ± 0.047	0.286 ± 0.044	0.209 ± 0.029
	Acc_2	0.400 ± 0.104	0.393 ± 0.059	0.390 ± 0.062	0.362 ± 0.039	0.319 ± 0.055	0.300 ± 0.033	0.369 ± 0.048	0.264 ± 0.044	0.268 ± 0.037	0.286 ± 0.000	0.312 ± 0.067	0.320 ± 0.082	0.288 ± 0.010	0.317 ± 0.034	0.410 \pm 0.039	0.364 ± 0.060	0.409 ± 0.026	0.377 ± 0.017	0.494 ± 0.021	0.339 ± 0.063
sub13	κ	0.019 ± 0.035	0.044 ± 0.063	0.028 ± 0.038	0.014 ± 0.042	-0.039 ± 0.035	0.056 ± 0.037	0.008 ± 0.038	-0.028 ± 0.014	0.019 ± 0.023	-0.006 ± 0.036	0.017 ± 0.035	-0.011 ± 0.065	0.006 ± 0.016	0.017 ± 0.041	0.094 ± 0.064	0.006 ± 0.012	0.056 ± 0.055	0.031 ± 0.055	0.075 \pm 0.066	0.019 ± 0.025
	AUC	0.578 ± 0.042	0.553 ± 0.028	0.568 ± 0.033	0.535 ± 0.044	0.491 ± 0.033	0.534 ± 0.047	0.553 ± 0.029	0.485 ± 0.023	0.523 ± 0.036	0.466 ± 0.035	0.522 ± 0.032	0.525 ± 0.046	0.508 ± 0.012	0.487 ± 0.051	0.554 ± 0.048	0.486 ± 0.010	0.544 ± 0.057	0.497 ± 0.044	0.571 \pm 0.027	0.504 ± 0.032
	BAcc	0.160 ± 0.030	0.181 ± 0.054	0.167 ± 0.032	0.155 ± 0.036	0.110 ± 0.030	0.190 ± 0.031	0.150 ± 0.032	0.119 ± 0.012	0.160 ± 0.020	0.138 ± 0.031	0.157 ± 0.030	0.133 ± 0.056	0.148 ± 0.014	0.157 ± 0.035	0.224 ± 0.055	0.148 ± 0.011	0.190 ± 0.047	0.169 ± 0.047	0.207 \pm 0.057	0.160 ± 0.022
	Acc_1	0.160 ± 0.030	0.181 ± 0.054	0.167 ± 0.032	0.155 ± 0.036	0.112 ± 0.038	0.186 ± 0.032	0.150 ± 0.032	0.119 ± 0.012	0.163 ± 0.018	0.136 ± 0.031	0.159 ± 0.032	0.135 ± 0.059	0.145 ± 0.009	0.155 ± 0.037	0.224 ± 0.055	0.148 ± 0.011	0.189 ± 0.054	0.165 ± 0.058	0.209 \pm 0.054	0.158 ± 0.021
	Acc_2	0.340 ± 0.036	0.333 ± 0.045	0.339 ± 0.048	0.295 ± 0.039	0.247 ± 0.063	0.328 ± 0.050	0.326 ± 0.046	0.260 ± 0.016	0.310 ± 0.029	0.281 ± 0.029	0.313 ± 0.030	0.297 ± 0.062	0.288 ± 0.013	0.283 ± 0.057	0.362 \pm 0.057	0.281 ± 0.025	0.360 ± 0.089	0.299 ± 0.057	0.411 ± 0.048	0.335 ± 0.030
sub14	κ	0.100 ± 0.051	0.083 ± 0.051	0.047 ± 0.052	0.089 ± 0.067	0.036 ± 0.032	0.000 ± 0.014	0.028 ± 0.069	0.014 ± 0.049	0.006 ± 0.032	0.008 ± 0.012	0.014 ± 0.022	0.017 ± 0.025	-0.017 ± 0.018	-0.014 ± 0.026	0.114 \pm 0.074	0.008 ± 0.036	0.081 ± 0.053	0.033 ± 0.043	0.194 ± 0.042	-0.000 ± 0.051
	AUC	0.600 ± 0.056	0.598 ± 0.024	0.587 ± 0.042	0.609 \pm 0.045	0.537 ± 0.034	0.493 ± 0.028	0.540 ± 0.049	0.505 ± 0.035	0.504 ± 0.041	0.474 ± 0.021	0.539 ± 0.025	0.523 ± 0.040	0.502 ± 0.012	0.498 ± 0.040	0.599 ± 0.043	0.513 ± 0.041	0.569 ± 0.040	0.519 ± 0.033	0.637 ± 0.027	0.511 ± 0.048
	BAcc	0.229 ± 0.044	0.214 ± 0.044	0.183 ± 0.044	0.219 ± 0.057	0.174 ± 0.027	0.143 ± 0.012	0.167 ± 0.059	0.155 ± 0.042	0.148 ± 0.027	0.150 ± 0.011	0.155 ± 0.019	0.157 ± 0.021	0.129 ± 0.016	0.131 ± 0.022	0.240 \pm 0.064	0.150 ± 0.031	0.212 ± 0.046	0.171 ± 0.037	0.310 ± 0.036	0.143 ± 0.044
	Acc_1	0.229 ± 0.044	0.214 ± 0.044	0.183 ± 0.044	0.221 ± 0.056	0.174 ± 0.027	0.143 ± 0.012	0.167 ± 0.059	0.155 ± 0.042	0.148 ± 0.027	0.148 ± 0.007	0.155 ± 0.019	0.160 ± 0.023	0.129 ± 0.021	0.133 ± 0.021	0.240 \pm 0.064	0.150 ± 0.031	0.218 ± 0.053	0.160 ± 0.033	0.316 ± 0.029	0.136 ± 0.047
	Acc_2	0.390 ± 0.068	0.369 ± 0.046	0.395 ± 0.070	0.402 ± 0.072	0.310 ± 0.042	0.302 ± 0.042	0.331 ± 0.051	0.293 ± 0.047	0.276 ± 0.046	0.271 ± 0.020	0.332 ± 0.032	0.313 ± 0.027	0.245 ± 0.041	0.290 ± 0.020	0.407 \pm 0.074	0.290 ± 0.050	0.374 ± 0.055	0.282 ± 0.037	0.486 ± 0.055	0.270 ± 0.055
sub15	κ	0.144 \pm 0.035	0.092 ± 0.029	0.078 ± 0.041	0.133 ± 0.041	-0.017 ± 0.027	0.008 ± 0.032	0.042 ± 0.064	0.019 ± 0.065	-0.006 ± 0.036	0.025 ± 0.030	0.056 ± 0.033	-0.000 ± 0.072	0.008 ± 0.019	0.022 ± 0.029	0.125 ± 0.035	0.028 ± 0.069	0.133 ± 0.063	0.042 ± 0.040	0.183 ± 0.045	0.025 ± 0.097

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	AUC	0.655 ± 0.037	0.614 ± 0.017	0.586 ± 0.032	0.648 ± 0.020	0.487 ± 0.042	0.515 ± 0.039	0.548 ± 0.030	0.526 ± 0.054	0.520 ± 0.034	0.506 ± 0.053	0.530 ± 0.024	0.505 ± 0.045	0.506 ± 0.014	0.526 ± 0.013	0.592 ± 0.031	0.553 ± 0.042	0.633 ± 0.050	0.542 ± 0.045	0.656 ± 0.027	0.565 ± 0.041
	BAcc	0.267 ± 0.030	0.221 ± 0.025	0.210 ± 0.035	0.257 ± 0.035	0.129 ± 0.023	0.150 ± 0.027	0.179 ± 0.055	0.160 ± 0.056	0.164 ± 0.031	0.164 ± 0.026	0.190 ± 0.028	0.143 ± 0.062	0.150 ± 0.016	0.162 ± 0.025	0.250 ± 0.030	0.167 ± 0.060	0.257 ± 0.054	0.179 ± 0.035	0.300 ± 0.039	0.164 ± 0.083
	Acc.1	0.267 ± 0.030	0.219 ± 0.020	0.210 ± 0.035	0.257 ± 0.035	0.129 ± 0.023	0.150 ± 0.027	0.179 ± 0.055	0.157 ± 0.057	0.138 ± 0.031	0.155 ± 0.028	0.192 ± 0.027	0.142 ± 0.066	0.143 ± 0.000	0.162 ± 0.025	0.250 ± 0.030	0.167 ± 0.060	0.264 ± 0.058	0.176 ± 0.031	0.312 ± 0.047	0.158 ± 0.086
	Acc.2	0.431 ± 0.042	0.386 ± 0.025	0.371 ± 0.037	0.421 ± 0.040	0.288 ± 0.046	0.269 ± 0.032	0.345 ± 0.061	0.298 ± 0.067	0.295 ± 0.013	0.286 ± 0.008	0.325 ± 0.050	0.310 ± 0.060	0.286 ± 0.000	0.295 ± 0.026	0.429 ± 0.053	0.338 ± 0.062	0.442 ± 0.064	0.317 ± 0.063	0.496 ± 0.028	0.345 ± 0.079
	κ	0.161 ± 0.038	0.125 ± 0.073	0.083 ± 0.026	0.122 ± 0.048	0.017 ± 0.067	0.011 ± 0.027	0.044 ± 0.039	-0.011 ± 0.036	-0.014 ± 0.024	0.000 ± 0.000	0.008 ± 0.048	0.028 ± 0.053	0.000 ± 0.000	0.008 ± 0.019	0.153 ± 0.058	0.019 ± 0.027	0.128 ± 0.036	0.039 ± 0.040	0.183 ± 0.028	0.003 ± 0.015
sub2	AUC	0.659 ± 0.033	0.648 ± 0.058	0.610 ± 0.036	0.632 ± 0.028	0.531 ± 0.038	0.513 ± 0.033	0.566 ± 0.055	0.494 ± 0.022	0.502 ± 0.023	0.510 ± 0.029	0.511 ± 0.036	0.528 ± 0.030	0.500 ± 0.003	0.483 ± 0.023	0.629 ± 0.063	0.521 ± 0.032	0.627 ± 0.033	0.532 ± 0.027	0.663 ± 0.022	0.550 ± 0.029
	BAcc	0.281 ± 0.032	0.250 ± 0.063	0.214 ± 0.022	0.248 ± 0.041	0.157 ± 0.057	0.152 ± 0.023	0.181 ± 0.033	0.133 ± 0.031	0.131 ± 0.021	0.143 ± 0.000	0.150 ± 0.041	0.167 ± 0.045	0.143 ± 0.000	0.150 ± 0.016	0.274 ± 0.050	0.160 ± 0.023	0.252 ± 0.031	0.176 ± 0.034	0.300 ± 0.024	0.145 ± 0.013
	Acc.1	0.281 ± 0.032	0.250 ± 0.063	0.214 ± 0.022	0.248 ± 0.041	0.157 ± 0.057	0.152 ± 0.023	0.181 ± 0.033	0.133 ± 0.031	0.129 ± 0.021	0.143 ± 0.000	0.146 ± 0.042	0.167 ± 0.045	0.143 ± 0.000	0.152 ± 0.021	0.274 ± 0.050	0.160 ± 0.023	0.252 ± 0.031	0.180 ± 0.035	0.292 ± 0.027	0.146 ± 0.012
	Acc.2	0.448 ± 0.068	0.421 ± 0.073	0.379 ± 0.057	0.398 ± 0.048	0.293 ± 0.079	0.288 ± 0.018	0.362 ± 0.073	0.283 ± 0.039	0.283 ± 0.042	0.293 ± 0.016	0.290 ± 0.045	0.315 ± 0.026	0.283 ± 0.005	0.271 ± 0.032	0.448 ± 0.054	0.295 ± 0.040	0.388 ± 0.038	0.299 ± 0.045	0.451 ± 0.029	0.280 ± 0.031
	κ	0.094 ± 0.035	0.067 ± 0.018	0.053 ± 0.041	0.083 ± 0.026	-0.022 ± 0.055	-0.011 ± 0.025	0.006 ± 0.019	0.017 ± 0.032	0.011 ± 0.046	0.003 ± 0.006	0.011 ± 0.086	-0.011 ± 0.063	-0.006 ± 0.012	-0.014 ± 0.026	0.036 ± 0.012	0.022 ± 0.008	0.017 ± 0.021	0.017 ± 0.039	0.056 ± 0.035	0.011 ± 0.012
sub3	AUC	0.597 ± 0.016	0.595 ± 0.013	0.570 ± 0.037	0.605 ± 0.021	0.493 ± 0.043	0.478 ± 0.047	0.516 ± 0.014	0.499 ± 0.032	0.498 ± 0.053	0.464 ± 0.024	0.508 ± 0.038	0.476 ± 0.047	0.492 ± 0.020	0.505 ± 0.037	0.549 ± 0.033	0.533 ± 0.060	0.526 ± 0.038	0.524 ± 0.051	0.547 ± 0.017	0.523 ± 0.026
	BAcc	0.224 ± 0.030	0.200 ± 0.016	0.188 ± 0.035	0.214 ± 0.022	0.124 ± 0.047	0.133 ± 0.021	0.148 ± 0.016	0.157 ± 0.027	0.152 ± 0.040	0.145 ± 0.005	0.152 ± 0.074	0.133 ± 0.054	0.138 ± 0.011	0.131 ± 0.022	0.174 ± 0.011	0.162 ± 0.007	0.157 ± 0.018	0.157 ± 0.033	0.190 ± 0.030	0.152 ± 0.010
	Acc.1	0.224 ± 0.030	0.200 ± 0.016	0.188 ± 0.035	0.214 ± 0.022	0.126 ± 0.051	0.134 ± 0.021	0.148 ± 0.016	0.157 ± 0.027	0.152 ± 0.043	0.138 ± 0.007	0.148 ± 0.074	0.130 ± 0.058	0.125 ± 0.015	0.131 ± 0.022	0.174 ± 0.011	0.162 ± 0.007	0.159 ± 0.023	0.159 ± 0.034	0.187 ± 0.036	0.148 ± 0.003
	Acc.2	0.357 ± 0.048	0.369 ± 0.022	0.357 ± 0.051	0.352 ± 0.011	0.288 ± 0.057	0.299 ± 0.055	0.281 ± 0.035	0.288 ± 0.054	0.255 ± 0.051	0.276 ± 0.016	0.296 ± 0.064	0.270 ± 0.081	0.270 ± 0.031	0.279 ± 0.062	0.336 ± 0.042	0.288 ± 0.020	0.302 ± 0.047	0.314 ± 0.025	0.334 ± 0.055	0.302 ± 0.041
	κ	0.125 ± 0.066	0.100 ± 0.092	0.061 ± 0.053	0.092 ± 0.025	0.028 ± 0.045	-0.014 ± 0.017	0.075 ± 0.036	-0.025 ± 0.046	-0.011 ± 0.030	0.011 ± 0.018	0.014 ± 0.082	0.003 ± 0.057	0.000 ± 0.000	0.025 ± 0.043	0.128 ± 0.041	0.053 ± 0.053	0.172 ± 0.045	0.050 ± 0.071	0.147 ± 0.053	0.033 ± 0.016
sub4	AUC	0.655 ± 0.028	0.622 ± 0.061	0.602 ± 0.022	0.502 ± 0.025	0.617 ± 0.027	0.502 ± 0.009	0.554 ± 0.028	0.492 ± 0.021	0.515 ± 0.030	0.517 ± 0.030	0.514 ± 0.051	0.513 ± 0.034	0.496 ± 0.008	0.534 ± 0.033	0.592 ± 0.034	0.543 ± 0.046	0.641 ± 0.023	0.565 ± 0.028	0.625 ± 0.054	0.560 ± 0.032

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub5	BAcc	0.250 ±0.056	0.229 ±0.079	0.195 ±0.046	0.221 ±0.022	0.167 ±0.039	0.131 ±0.015	0.207 ±0.031	0.121 ±0.040	0.133 ±0.026	0.152 ±0.016	0.155 ±0.070	0.145 ±0.049	0.143 ±0.000	0.164 ±0.037	0.252 ±0.035	0.188 ±0.046	0.290 ±0.038	0.186 ±0.061	0.269 ±0.046	0.171 ±0.014
	Acc_1	0.248 ±0.053	0.229 ±0.079	0.195 ±0.046	0.221 ±0.022	0.167 ±0.039	0.131 ±0.015	0.207 ±0.031	0.121 ±0.040	0.133 ±0.026	0.155 ±0.019	0.162 ±0.065	0.145 ±0.047	0.143 ±0.000	0.164 ±0.037	0.252 ±0.035	0.186 ±0.043	0.290 ±0.041	0.189 ±0.060	0.274 ±0.050	0.170 ±0.014
	Acc_2	0.460 ±0.060	0.402 ±0.115	0.407 ±0.065	0.364 ±0.054	0.305 ±0.064	0.264 ±0.036	0.343 ±0.021	0.267 ±0.022	0.293 ±0.054	0.317 ±0.036	0.296 ±0.047	0.281 ±0.050	0.283 ±0.005	0.312 ±0.016	0.414 ±0.051	0.343 ±0.078	0.451 ±0.023	0.342 ±0.053	0.453 ±0.091	0.337 ±0.040
	κ	0.172 ±0.099	0.167 ±0.054	0.108 ±0.039	0.111 ±0.058	-0.006 ±0.012	-0.019 ±0.027	0.033 ±0.053	0.044 ±0.051	-0.025 ±0.045	-0.008 ±0.012	0.008 ±0.012	-0.000 ±0.035	0.000 ±0.000	0.014 ±0.017	0.153 ±0.073	0.056 ±0.064	0.119 ±0.061	0.039 ±0.054	0.175 ±0.050	0.011 ±0.037
	AUC	0.656 ±0.057	0.652 ±0.049	0.617 ±0.028	0.651 ±0.040	0.505 ±0.022	0.518 ±0.039	0.578 ±0.042	0.545 ±0.029	0.479 ±0.035	0.535 ±0.038	0.510 ±0.040	0.519 ±0.040	0.500 ±0.000	0.542 ±0.005	0.610 ±0.050	0.532 ±0.049	0.596 ±0.024	0.558 ±0.037	0.657 ±0.042	0.554 ±0.048
	BAcc	0.290 ±0.084	0.286 ±0.046	0.236 ±0.033	0.238 ±0.050	0.138 ±0.011	0.126 ±0.023	0.171 ±0.045	0.181 ±0.044	0.121 ±0.039	0.136 ±0.011	0.150 ±0.011	0.143 ±0.030	0.143 ±0.000	0.155 ±0.015	0.274 ±0.063	0.190 ±0.055	0.245 ±0.052	0.176 ±0.046	0.293 ±0.043	0.152 ±0.032
sub6	Acc_1	0.290 ±0.084	0.286 ±0.046	0.236 ±0.033	0.238 ±0.050	0.132 ±0.013	0.125 ±0.026	0.171 ±0.045	0.181 ±0.044	0.128 ±0.044	0.138 ±0.007	0.152 ±0.007	0.144 ±0.028	0.139 ±0.005	0.155 ±0.015	0.274 ±0.063	0.193 ±0.054	0.246 ±0.047	0.177 ±0.045	0.291 ±0.043	0.151 ±0.027
	Acc_2	0.450 ±0.098	0.445 ±0.081	0.402 ±0.055	0.445 ±0.073	0.283 ±0.021	0.280 ±0.037	0.340 ±0.035	0.338 ±0.018	0.249 ±0.023	0.293 ±0.020	0.305 ±0.050	0.312 ±0.046	0.285 ±0.009	0.288 ±0.027	0.440 ±0.069	0.329 ±0.057	0.410 ±0.054	0.345 ±0.055	0.487 ±0.035	0.312 ±0.040
	κ	0.164 ±0.036	0.103 ±0.036	0.114 ±0.056	0.100 ±0.051	0.000 ±0.052	-0.008 ±0.021	0.028 ±0.020	0.031 ±0.036	0.008 ±0.012	0.000 ±0.000	0.014 ±0.056	0.017 ±0.023	0.000 ±0.000	-0.003 ±0.006	0.125 ±0.035	0.031 ±0.018	0.119 ±0.068	0.008 ±0.016	0.172 ±0.025	0.069 ±0.017
	AUC	0.654 ±0.034	0.615 ±0.034	0.632 ±0.044	0.624 ±0.020	0.498 ±0.062	0.490 ±0.030	0.576 ±0.026	0.511 ±0.044	0.486 ±0.057	0.504 ±0.022	0.525 ±0.031	0.520 ±0.045	0.501 ±0.002	0.526 ±0.025	0.603 ±0.014	0.541 ±0.039	0.616 ±0.040	0.533 ±0.017	0.644 ±0.011	0.522 ±0.019
	BAcc	0.283 ±0.031	0.231 ±0.031	0.240 ±0.048	0.229 ±0.044	0.143 ±0.045	0.136 ±0.018	0.167 ±0.017	0.169 ±0.031	0.150 ±0.011	0.143 ±0.000	0.155 ±0.048	0.157 ±0.020	0.143 ±0.000	0.140 ±0.005	0.250 ±0.030	0.169 ±0.016	0.245 ±0.058	0.150 ±0.014	0.290 ±0.022	0.202 ±0.015
sub7	Acc_1	0.283 ±0.031	0.233 ±0.030	0.240 ±0.048	0.229 ±0.044	0.143 ±0.045	0.136 ±0.018	0.167 ±0.017	0.167 ±0.030	0.148 ±0.007	0.143 ±0.000	0.159 ±0.045	0.163 ±0.021	0.143 ±0.000	0.140 ±0.005	0.250 ±0.030	0.169 ±0.016	0.246 ±0.062	0.151 ±0.017	0.288 ±0.025	0.209 ±0.021
	Acc_2	0.455 ±0.054	0.395 ±0.026	0.433 ±0.059	0.414 ±0.047	0.264 ±0.074	0.288 ±0.020	0.369 ±0.049	0.324 ±0.055	0.290 ±0.011	0.286 ±0.000	0.302 ±0.066	0.318 ±0.075	0.286 ±0.000	0.279 ±0.011	0.407 ±0.020	0.307 ±0.046	0.413 ±0.071	0.331 ±0.029	0.484 ±0.044	0.320 ±0.012
	κ	0.067 ±0.065	0.061 ±0.023	0.050 ±0.038	0.092 ±0.049	0.008 ±0.049	0.031 ±0.069	0.061 ±0.079	0.008 ±0.040	0.028 ±0.056	-0.003 ±0.006	0.042 ±0.017	0.025 ±0.054	-0.003 ±0.006	-0.022 ±0.050	0.067 ±0.053	0.022 ±0.032	0.100 ±0.082	0.028 ±0.038	0.100 ±0.082	0.008 ±0.048
	AUC	0.574 ±0.030	0.597 ±0.011	0.576 ±0.023	0.601 ±0.022	0.511 ±0.026	0.517 ±0.034	0.563 ±0.045	0.506 ±0.027	0.533 ±0.062	0.501 ±0.027	0.526 ±0.025	0.530 ±0.029	0.508 ±0.038	0.500 ±0.037	0.568 ±0.041	0.538 ±0.048	0.594 ±0.048	0.552 ±0.055	0.621 ±0.053	0.541 ±0.053
	BAcc	0.200 ±0.055	0.195 ±0.020	0.186 ±0.032	0.221 ±0.042	0.169 ±0.042	0.169 ±0.059	0.195 ±0.068	0.150 ±0.034	0.167 ±0.048	0.140 ±0.005	0.179 ±0.015	0.164 ±0.046	0.140 ±0.005	0.124 ±0.043	0.200 ±0.046	0.162 ±0.027	0.229 ±0.070	0.167 ±0.033	0.229 ±0.070	0.150 ±0.041

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	Acc.1	0.200 ±0.055	0.195 ±0.020	0.186 ±0.032	0.221 ±0.042	0.150 ±0.042	0.169 ±0.059	0.195 ±0.068	0.150 ±0.034	0.167 ±0.048	0.140 ±0.005	0.176 ±0.028	0.159 ±0.043	0.136 ±0.011	0.126 ±0.040	0.200 ±0.046	0.162 ±0.027	0.234 ±0.069	0.163 ±0.030	0.228 ± 0.064	0.143 ±0.035
	Acc.2	0.360 ±0.030	0.393 ±0.031	0.331 ±0.051	0.393 ±0.062	0.295 ±0.042	0.293 ±0.068	0.360 ±0.046	0.300 ±0.045	0.331 ±0.066	0.286 ±0.000	0.307 ±0.052	0.307 ±0.012	0.290 ±0.011	0.314 ±0.038	0.393 ±0.030	0.331 ±0.083	0.423 ± 0.057	0.346 ±0.078	0.435 ±0.073	0.319 ±0.053
	κ	0.075 ±0.027	0.094 ±0.035	0.064 ±0.029	0.131 ±0.057	-0.028 ±0.040	0.000 ±0.000	0.047 ±0.035	-0.006 ±0.042	0.003 ±0.012	-0.006 ±0.008	0.011 ±0.039	-0.003 ±0.036	0.000 ±0.000	-0.019 ±0.029	0.089 ±0.066	-0.025 ±0.040	0.094 ±0.055	0.064 ±0.059	0.122 ± 0.062	0.006 ±0.027
sub8	AUC	0.620 ± 0.022	0.613 ±0.033	0.588 ±0.025	0.640 ±0.044	0.503 ±0.033	0.505 ±0.044	0.557 ±0.042	0.497 ±0.024	0.517 ±0.017	0.501 ±0.053	0.498 ±0.027	0.487 ±0.027	0.496 ±0.007	0.481 ±0.033	0.583 ±0.060	0.520 ±0.014	0.588 ±0.028	0.552 ±0.035	0.615 ±0.041	0.549 ±0.010
	BAcc	0.207 ±0.023	0.224 ±0.030	0.198 ±0.025	0.255 ±0.049	0.119 ±0.035	0.143 ±0.000	0.183 ±0.030	0.138 ±0.036	0.145 ±0.010	0.138 ±0.007	0.152 ±0.033	0.140 ±0.031	0.143 ±0.000	0.126 ±0.025	0.219 ±0.056	0.121 ±0.034	0.224 ±0.047	0.198 ±0.051	0.248 ± 0.054	0.148 ±0.023
	Acc.1	0.207 ±0.023	0.224 ±0.030	0.198 ±0.025	0.252 ±0.051	0.119 ±0.035	0.143 ±0.000	0.183 ±0.030	0.138 ±0.036	0.145 ±0.010	0.138 ±0.007	0.150 ±0.028	0.139 ±0.031	0.143 ±0.000	0.129 ±0.027	0.219 ±0.056	0.121 ±0.034	0.222 ±0.051	0.199 ±0.051	0.249 ± 0.057	0.158 ±0.028
sub9	Acc.2	0.367 ±0.036	0.395 ±0.051	0.369 ±0.048	0.414 ± 0.060	0.290 ±0.047	0.281 ±0.039	0.357 ±0.055	0.281 ±0.029	0.293 ±0.022	0.286 ±0.008	0.276 ±0.036	0.289 ±0.025	0.286 ±0.000	0.283 ±0.010	0.386 ±0.062	0.295 ±0.039	0.407 ±0.047	0.328 ±0.047	0.435 ±0.067	0.302 ±0.029
	κ	0.086 ±0.066	0.069 ±0.028	0.072 ±0.076	0.036 ±0.069	0.022 ±0.036	-0.003 ±0.027	0.058 ±0.055	-0.011 ±0.053	-0.003 ±0.052	-0.003 ±0.006	-0.011 ±0.055	0.028 ±0.017	0.000 ±0.000	0.017 ±0.032	0.078 ±0.008	0.011 ±0.058	0.031 ±0.028	0.008 ±0.035	0.081 ± 0.041	0.033 ±0.019
	AUC	0.604 ± 0.050	0.598 ±0.039	0.564 ±0.038	0.605 ±0.052	0.511 ±0.038	0.494 ±0.030	0.551 ±0.026	0.472 ±0.037	0.487 ±0.032	0.455 ±0.034	0.508 ±0.058	0.519 ±0.030	0.500 ±0.000	0.499 ±0.034	0.565 ±0.024	0.515 ±0.016	0.552 ±0.012	0.509 ±0.011	0.576 ±0.025	0.532 ±0.024
	BAcc	0.217 ±0.057	0.202 ±0.024	0.205 ±0.065	0.174 ±0.059	0.162 ±0.031	0.140 ±0.023	0.193 ±0.047	0.133 ±0.046	0.140 ±0.045	0.140 ±0.005	0.133 ±0.047	0.167 ±0.015	0.143 ±0.000	0.157 ±0.027	0.210 ±0.007	0.152 ±0.050	0.169 ±0.024	0.150 ±0.030	0.212 ± 0.035	0.171 ±0.016
	Acc.1	0.217 ±0.057	0.202 ±0.024	0.205 ±0.065	0.174 ±0.059	0.160 ±0.031	0.140 ±0.023	0.193 ±0.047	0.133 ±0.046	0.135 ±0.038	0.133 ±0.016	0.130 ±0.043	0.163 ±0.021	0.139 ±0.005	0.150 ±0.027	0.210 ±0.007	0.152 ±0.050	0.172 ±0.020	0.151 ±0.032	0.210 ± 0.037	0.170 ±0.016
	Acc.2	0.355 ±0.081	0.376 ± 0.050	0.371 ±0.064	0.360 ±0.059	0.295 ±0.066	0.305 ±0.037	0.352 ±0.046	0.255 ±0.066	0.279 ±0.021	0.274 ±0.017	0.263 ±0.070	0.328 ±0.039	0.285 ±0.007	0.281 ±0.038	0.374 ±0.038	0.329 ±0.040	0.347 ±0.054	0.323 ±0.026	0.381 ±0.047	0.316 ±0.041

D.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 35: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.144	0.648	0.266	0.266	0.447
DeepConvnet	± 0.048	± 0.031	± 0.041	± 0.042	± 0.040
	0.136	0.643	0.259	0.259	0.442
EEGNet	± 0.034	± 0.028	± 0.029	± 0.029	± 0.033
	0.121	0.626	0.247	0.247	0.430
Conformer	± 0.034	± 0.027	± 0.030	± 0.030	± 0.032
	0.147	0.648	0.269	0.269	0.456
CTNet	± 0.039	± 0.027	± 0.034	± 0.034	± 0.038
	0.016	0.513	0.157	0.157	0.300
BIOT (f)	± 0.019	± 0.013	± 0.017	± 0.016	± 0.018
	-0.014	0.482	0.131	0.131	0.263
BIOT (l)	± 0.017	± 0.019	± 0.015	± 0.015	± 0.020
	0.063	0.571	0.197	0.196	0.361
BENDR (f)	± 0.032	± 0.030	± 0.027	± 0.027	± 0.039
	0.008	0.517	0.149	0.150	0.311
BENDR (l)	± 0.024	± 0.015	± 0.020	± 0.020	± 0.020
	-0.008	0.491	0.136	0.137	0.276
CBraMod (f)	± 0.015	± 0.015	± 0.013	± 0.013	± 0.021
	0.000	0.498	0.143	0.143	0.285
CBraMod (l)	± 0.001	± 0.007	± 0.001	± 0.001	± 0.001
	0.015	0.521	0.156	0.157	0.314
EEGPT (f)	± 0.020	± 0.017	± 0.017	± 0.017	± 0.022
	0.004	0.516	0.146	0.146	0.299
EEGPT (l)	± 0.024	± 0.022	± 0.021	± 0.023	± 0.027
	-0.006	0.480	0.138	0.136	0.273
LaBraM (f)	± 0.012	± 0.016	± 0.010	± 0.010	± 0.015
	-0.033	0.460	0.115	0.114	0.243
LaBraM (l)	± 0.018	± 0.022	± 0.016	± 0.015	± 0.027
	0.156	0.625	0.277	0.277	0.446
STEEGformer-s (f)	± 0.036	± 0.024	± 0.031	± 0.031	± 0.036
	0.022	0.516	0.162	0.162	0.305
STEEGformer-s (l)	± 0.017	± 0.018	± 0.014	± 0.014	± 0.022
	0.153	0.636	0.274	0.274	0.454
STEEGformer-b (f)	± 0.047	± 0.031	± 0.040	± 0.043	± 0.044
	0.044	0.530	0.181	0.181	0.321
STEEGformer-b (l)	± 0.027	± 0.024	± 0.023	± 0.024	± 0.027
	0.199	0.671	0.313	0.314	0.511
STEEGformer-l (f)	± 0.046	± 0.034	± 0.040	± 0.040	± 0.045
	0.030	0.537	0.169	0.169	0.325
STEEGformer-l (l)	± 0.028	± 0.023	± 0.024	± 0.023	± 0.023

Table 36: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.106 ± 0.074	0.139 ± 0.033	0.117 ± 0.064	0.128 ± 0.066	0.022 ± 0.066	-0.000 ± 0.031	0.056 ± 0.059	0.003 ± 0.050	-0.003 ± 0.042	0.003 ± 0.006	-0.011 ± 0.049	-0.006 ± 0.032	-0.011 ± 0.018	-0.003 ± 0.036	0.136 ± 0.012	0.025 ± 0.032	0.158 ± 0.088	0.053 ± 0.036	0.183 ± 0.053	0.089 ± 0.063
	AUC	0.628 ± 0.046	0.650 ± 0.027	0.628 ± 0.037	0.643 ± 0.037	0.495 ± 0.032	0.487 ± 0.035	0.566 ± 0.025	0.511 ± 0.053	0.506 ± 0.053	0.507 ± 0.017	0.491 ± 0.028	0.507 ± 0.017	0.484 ± 0.027	0.463 ± 0.020	0.609 ± 0.017	0.518 ± 0.045	0.638 ± 0.041	0.539 ± 0.036	0.662 ± 0.036	0.566 ± 0.042
	BAcc	0.233 ± 0.063	0.262 ± 0.028	0.243 ± 0.055	0.252 ± 0.057	0.162 ± 0.057	0.143 ± 0.027	0.190 ± 0.051	0.145 ± 0.043	0.140 ± 0.036	0.145 ± 0.005	0.133 ± 0.042	0.138 ± 0.027	0.133 ± 0.016	0.140 ± 0.031	0.260 ± 0.010	0.164 ± 0.027	0.279 ± 0.076	0.188 ± 0.031	0.300 ± 0.046	0.219 ± 0.054
	Acc ₁	0.231 ± 0.062	0.262 ± 0.028	0.243 ± 0.055	0.252 ± 0.057	0.162 ± 0.057	0.143 ± 0.027	0.190 ± 0.051	0.145 ± 0.043	0.140 ± 0.036	0.143 ± 0.000	0.133 ± 0.045	0.143 ± 0.026	0.131 ± 0.021	0.138 ± 0.026	0.260 ± 0.010	0.164 ± 0.027	0.273 ± 0.070	0.186 ± 0.036	0.301 ± 0.047	0.217 ± 0.052
	Acc ₂	0.438 ± 0.084	0.417 ± 0.030	0.424 ± 0.060	0.433 ± 0.047	0.307 ± 0.049	0.290 ± 0.042	0.367 ± 0.026	0.293 ± 0.043	0.295 ± 0.054	0.286 ± 0.000	0.273 ± 0.062	0.289 ± 0.024	0.276 ± 0.013	0.260 ± 0.042	0.421 ± 0.036	0.317 ± 0.056	0.465 ± 0.056	0.317 ± 0.053	0.494 ± 0.083	0.330 ± 0.061
sub10	κ	0.086 ± 0.028	0.139 ± 0.068	0.061 ± 0.029	0.111 ± 0.026	0.000 ± 0.043	-0.011 ± 0.027	0.028 ± 0.040	-0.008 ± 0.047	0.000 ± 0.035	0.003 ± 0.006	0.039 ± 0.046	-0.017 ± 0.021	-0.042 ± 0.042	-0.028 ± 0.049	0.136 ± 0.099	0.036 ± 0.036	0.089 ± 0.073	0.075 ± 0.061	0.153 ± 0.038	0.036 ± 0.043
	AUC	0.614 ± 0.022	0.638 ± 0.037	0.572 ± 0.031	0.616 ± 0.031	0.507 ± 0.030	0.476 ± 0.032	0.559 ± 0.028	0.512 ± 0.022	0.497 ± 0.039	0.490 ± 0.016	0.551 ± 0.042	0.490 ± 0.034	0.449 ± 0.049	0.475 ± 0.041	0.608 ± 0.068	0.509 ± 0.061	0.599 ± 0.051	0.530 ± 0.053	0.633 ± 0.020	0.551 ± 0.032
	BAcc	0.217 ± 0.024	0.262 ± 0.058	0.195 ± 0.025	0.238 ± 0.022	0.143 ± 0.037	0.133 ± 0.023	0.167 ± 0.035	0.136 ± 0.040	0.143 ± 0.030	0.145 ± 0.005	0.176 ± 0.040	0.129 ± 0.018	0.107 ± 0.036	0.119 ± 0.042	0.260 ± 0.085	0.174 ± 0.031	0.219 ± 0.062	0.207 ± 0.052	0.274 ± 0.033	0.174 ± 0.037
	Acc ₁	0.217 ± 0.024	0.262 ± 0.058	0.195 ± 0.025	0.238 ± 0.022	0.143 ± 0.037	0.133 ± 0.023	0.167 ± 0.035	0.136 ± 0.040	0.145 ± 0.027	0.145 ± 0.005	0.180 ± 0.026	0.128 ± 0.023	0.105 ± 0.037	0.119 ± 0.042	0.260 ± 0.085	0.174 ± 0.031	0.215 ± 0.067	0.201 ± 0.046	0.270 ± 0.033	0.175 ± 0.039
	Acc ₂	0.371 ± 0.023	0.448 ± 0.052	0.381 ± 0.042	0.419 ± 0.023	0.267 ± 0.034	0.257 ± 0.034	0.345 ± 0.035	0.310 ± 0.049	0.293 ± 0.067	0.286 ± 0.000	0.312 ± 0.019	0.283 ± 0.054	0.231 ± 0.052	0.276 ± 0.064	0.452 ± 0.088	0.331 ± 0.073	0.407 ± 0.110	0.304 ± 0.074	0.465 ± 0.037	0.343 ± 0.037
sub11	κ	0.089 ± 0.063	0.103 ± 0.047	0.128 ± 0.033	0.106 ± 0.043	0.008 ± 0.035	-0.022 ± 0.051	0.028 ± 0.038	0.011 ± 0.015	-0.008 ± 0.055	0.003 ± 0.006	-0.025 ± 0.048	0.039 ± 0.032	0.000 ± 0.000	-0.069 ± 0.026	0.117 ± 0.081	0.058 ± 0.036	0.119 ± 0.041	0.036 ± 0.060	0.139 ± 0.024	0.000 ± 0.029
	AUC	0.602 ± 0.019	0.611 ± 0.028	0.621 ± 0.030	0.614 ± 0.025	0.519 ± 0.032	0.472 ± 0.020	0.535 ± 0.043	0.509 ± 0.050	0.487 ± 0.040	0.500 ± 0.000	0.508 ± 0.012	0.550 ± 0.039	0.482 ± 0.025	0.451 ± 0.011	0.601 ± 0.048	0.548 ± 0.030	0.615 ± 0.024	0.531 ± 0.023	0.609 ± 0.039	0.530 ± 0.030
	BAcc	0.219 ± 0.054	0.231 ± 0.040	0.252 ± 0.028	0.233 ± 0.037	0.150 ± 0.030	0.124 ± 0.043	0.167 ± 0.033	0.152 ± 0.013	0.136 ± 0.047	0.145 ± 0.005	0.121 ± 0.041	0.176 ± 0.027	0.143 ± 0.000	0.083 ± 0.022	0.243 ± 0.070	0.193 ± 0.031	0.245 ± 0.035	0.174 ± 0.052	0.262 ± 0.021	0.143 ± 0.025
	Acc ₁	0.219 ± 0.054	0.231 ± 0.040	0.252 ± 0.028	0.233 ± 0.037	0.150 ± 0.030	0.124 ± 0.043	0.167 ± 0.033	0.152 ± 0.013	0.136 ± 0.047	0.143 ± 0.000	0.124 ± 0.042	0.169 ± 0.025	0.140 ± 0.005	0.083 ± 0.022	0.243 ± 0.070	0.193 ± 0.031	0.243 ± 0.041	0.173 ± 0.048	0.259 ± 0.016	0.146 ± 0.022
	Acc ₂	0.410 ± 0.057	0.414 ± 0.058	0.417 ± 0.042	0.393 ± 0.051	0.310 ± 0.059	0.262 ± 0.021	0.326 ± 0.040	0.329 ± 0.095	0.288 ± 0.079	0.286 ± 0.000	0.290 ± 0.045	0.313 ± 0.034	0.282 ± 0.008	0.212 ± 0.044	0.400 ± 0.082	0.333 ± 0.019	0.399 ± 0.028	0.312 ± 0.033	0.415 ± 0.057	0.320 ± 0.029

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub12	κ	0.161 ± 0.068	0.122 ± 0.018	0.142 ± 0.033	0.156 ± 0.072	0.019 ± 0.047	-0.036 ± 0.030	0.083 ± 0.047	0.044 ± 0.063	-0.003 ± 0.048	0.000 ± 0.000	0.022 ± 0.038	0.003 ± 0.025	-0.011 ± 0.023	-0.039 ± 0.035	0.167 ± 0.038	0.042 ± 0.042	0.186 ± 0.094	0.058 ± 0.036	0.233 ± 0.073	0.053 ± 0.039
	AUC	0.677 ± 0.036	0.645 ± 0.026	0.644 ± 0.034	0.655 ± 0.038	0.520 ± 0.047	0.459 ± 0.017	0.616 ± 0.054	0.535 ± 0.026	0.488 ± 0.036	0.501 ± 0.002	0.493 ± 0.038	0.510 ± 0.025	0.458 ± 0.013	0.448 ± 0.056	0.643 ± 0.021	0.526 ± 0.025	0.645 ± 0.048	0.542 ± 0.029	0.699 ± 0.040	0.533 ± 0.032
	BAcc	0.281 ± 0.059	0.248 ± 0.016	0.264 ± 0.028	0.276 ± 0.062	0.160 ± 0.040	0.112 ± 0.026	0.214 ± 0.040	0.181 ± 0.054	0.140 ± 0.041	0.143 ± 0.000	0.162 ± 0.032	0.145 ± 0.021	0.133 ± 0.020	0.110 ± 0.030	0.286 ± 0.033	0.179 ± 0.036	0.302 ± 0.081	0.193 ± 0.031	0.343 ± 0.063	0.188 ± 0.033
	Acc_1	0.283 ± 0.060	0.248 ± 0.016	0.264 ± 0.028	0.276 ± 0.062	0.160 ± 0.040	0.112 ± 0.026	0.214 ± 0.040	0.181 ± 0.054	0.140 ± 0.040	0.143 ± 0.000	0.162 ± 0.031	0.147 ± 0.020	0.128 ± 0.019	0.110 ± 0.030	0.286 ± 0.033	0.179 ± 0.036	0.297 ± 0.075	0.195 ± 0.030	0.333 ± 0.058	0.185 ± 0.031
	Acc_2	0.474 ± 0.085	0.462 ± 0.039	0.462 ± 0.031	0.479 ± 0.057	0.300 ± 0.026	0.217 ± 0.042	0.402 ± 0.043	0.333 ± 0.030	0.270 ± 0.044	0.286 ± 0.000	0.273 ± 0.042	0.300 ± 0.063	0.263 ± 0.046	0.221 ± 0.046	0.448 ± 0.043	0.319 ± 0.036	0.470 ± 0.074	0.361 ± 0.013	0.531 ± 0.100	0.307 ± 0.037
sub13	κ	0.131 ± 0.076	0.117 ± 0.050	0.083 ± 0.039	0.106 ± 0.083	0.014 ± 0.059	-0.003 ± 0.036	0.033 ± 0.052	0.008 ± 0.039	-0.025 ± 0.036	-0.003 ± 0.006	0.000 ± 0.066	0.006 ± 0.032	0.006 ± 0.016	-0.025 ± 0.018	0.119 ± 0.058	0.011 ± 0.057	0.083 ± 0.049	0.014 ± 0.047	0.114 ± 0.036	0.028 ± 0.026
	AUC	0.625 ± 0.035	0.629 ± 0.025	0.605 ± 0.021	0.637 ± 0.029	0.518 ± 0.035	0.490 ± 0.040	0.563 ± 0.049	0.519 ± 0.037	0.463 ± 0.045	0.493 ± 0.016	0.532 ± 0.035	0.515 ± 0.035	0.488 ± 0.031	0.488 ± 0.045	0.589 ± 0.042	0.515 ± 0.055	0.595 ± 0.032	0.504 ± 0.041	0.631 ± 0.015	0.541 ± 0.039
	BAcc	0.255 ± 0.065	0.243 ± 0.043	0.214 ± 0.034	0.233 ± 0.071	0.155 ± 0.051	0.140 ± 0.031	0.171 ± 0.044	0.150 ± 0.033	0.121 ± 0.031	0.140 ± 0.005	0.143 ± 0.056	0.148 ± 0.027	0.148 ± 0.014	0.121 ± 0.016	0.245 ± 0.050	0.152 ± 0.049	0.214 ± 0.042	0.155 ± 0.040	0.240 ± 0.031	0.167 ± 0.022
	Acc_1	0.252 ± 0.065	0.243 ± 0.043	0.214 ± 0.034	0.233 ± 0.071	0.158 ± 0.055	0.142 ± 0.029	0.171 ± 0.044	0.150 ± 0.033	0.122 ± 0.031	0.140 ± 0.005	0.152 ± 0.058	0.140 ± 0.025	0.145 ± 0.015	0.121 ± 0.016	0.245 ± 0.050	0.152 ± 0.049	0.212 ± 0.040	0.152 ± 0.025	0.239 ± 0.029	0.166 ± 0.020
	Acc_2	0.431 ± 0.084	0.412 ± 0.070	0.396 ± 0.045	0.407 ± 0.064	0.319 ± 0.052	0.272 ± 0.042	0.333 ± 0.053	0.333 ± 0.044	0.240 ± 0.063	0.283 ± 0.005	0.331 ± 0.065	0.301 ± 0.070	0.270 ± 0.011	0.271 ± 0.031	0.417 ± 0.053	0.279 ± 0.052	0.393 ± 0.036	0.266 ± 0.053	0.474 ± 0.034	0.351 ± 0.027
sub14	κ	0.128 ± 0.036	0.136 ± 0.037	0.114 ± 0.033	0.136 ± 0.040	-0.003 ± 0.045	-0.011 ± 0.023	0.075 ± 0.047	0.014 ± 0.049	-0.025 ± 0.021	0.000 ± 0.000	0.033 ± 0.033	-0.008 ± 0.033	-0.011 ± 0.025	-0.058 ± 0.023	0.111 ± 0.034	0.011 ± 0.025	0.117 ± 0.068	0.022 ± 0.063	0.175 ± 0.060	0.017 ± 0.057
	AUC	0.637 ± 0.026	0.640 ± 0.022	0.635 ± 0.032	0.644 ± 0.025	0.521 ± 0.031	0.464 ± 0.040	0.586 ± 0.039	0.521 ± 0.034	0.486 ± 0.016	0.481 ± 0.037	0.521 ± 0.054	0.524 ± 0.035	0.490 ± 0.025	0.413 ± 0.030	0.610 ± 0.039	0.490 ± 0.030	0.581 ± 0.063	0.517 ± 0.023	0.657 ± 0.029	0.497 ± 0.049
	BAcc	0.252 ± 0.031	0.260 ± 0.032	0.240 ± 0.028	0.260 ± 0.034	0.140 ± 0.039	0.133 ± 0.020	0.207 ± 0.040	0.155 ± 0.042	0.121 ± 0.018	0.143 ± 0.000	0.171 ± 0.029	0.136 ± 0.029	0.133 ± 0.021	0.093 ± 0.020	0.238 ± 0.029	0.152 ± 0.021	0.243 ± 0.059	0.162 ± 0.054	0.293 ± 0.052	0.157 ± 0.049
	Acc_1	0.252 ± 0.031	0.257 ± 0.032	0.240 ± 0.028	0.260 ± 0.034	0.140 ± 0.039	0.133 ± 0.020	0.207 ± 0.040	0.155 ± 0.042	0.121 ± 0.018	0.143 ± 0.000	0.176 ± 0.034	0.131 ± 0.021	0.140 ± 0.021	0.090 ± 0.016	0.238 ± 0.029	0.152 ± 0.021	0.246 ± 0.060	0.159 ± 0.054	0.300 ± 0.045	0.158 ± 0.048
	Acc_2	0.440 ± 0.045	0.440 ± 0.044	0.421 ± 0.040	0.476 ± 0.039	0.307 ± 0.038	0.262 ± 0.037	0.390 ± 0.058	0.302 ± 0.076	0.269 ± 0.029	0.281 ± 0.011	0.328 ± 0.077	0.277 ± 0.057	0.274 ± 0.034	0.195 ± 0.038	0.402 ± 0.042	0.279 ± 0.043	0.396 ± 0.082	0.309 ± 0.039	0.510 ± 0.033	0.281 ± 0.020
sub15	κ	0.169 ± 0.027	0.142 ± 0.058	0.139 ± 0.035	0.144 ± 0.049	0.039 ± 0.028	-0.025 ± 0.039	0.067 ± 0.032	0.028 ± 0.062	0.017 ± 0.058	0.000 ± 0.000	0.050 ± 0.052	-0.006 ± 0.038	-0.003 ± 0.006	-0.014 ± 0.042	0.172 ± 0.053	0.019 ± 0.025	0.192 ± 0.048	0.067 ± 0.045	0.231 ± 0.045	-0.008 ± 0.042
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	AUC	0.674 ± 0.013	0.635 ± 0.013	0.624 ± 0.034	0.645 ± 0.037	0.519 ± 0.022	0.489 ± 0.024	0.567 ± 0.035	0.547 ± 0.043	0.502 ± 0.049	0.493 ± 0.016	0.526 ± 0.015	0.513 ± 0.044	0.472 ± 0.034	0.481 ± 0.047	0.619 ± 0.010	0.537 ± 0.036	0.663 ± 0.040	0.538 ± 0.041	0.695 ± 0.024	0.539 ± 0.039
	BAcc	0.288 ± 0.023	0.264 ± 0.049	0.262 ± 0.030	0.267 ± 0.042	0.176 ± 0.024	0.121 ± 0.033	0.200 ± 0.027	0.167 ± 0.053	0.157 ± 0.050	0.143 ± 0.000	0.186 ± 0.044	0.138 ± 0.032	0.140 ± 0.005	0.131 ± 0.036	0.290 ± 0.046	0.160 ± 0.022	0.307 ± 0.041	0.200 ± 0.039	0.340 ± 0.038	0.136 ± 0.036
	Acc.1	0.288 ± 0.023	0.264 ± 0.049	0.262 ± 0.030	0.267 ± 0.042	0.176 ± 0.024	0.121 ± 0.033	0.200 ± 0.027	0.167 ± 0.053	0.157 ± 0.050	0.143 ± 0.000	0.186 ± 0.048	0.136 ± 0.032	0.131 ± 0.017	0.131 ± 0.036	0.290 ± 0.046	0.162 ± 0.025	0.315 ± 0.037	0.203 ± 0.046	0.347 ± 0.045	0.131 ± 0.031
	Acc.2	0.483 ± 0.025	0.426 ± 0.021	0.440 ± 0.053	0.419 ± 0.060	0.312 ± 0.037	0.252 ± 0.028	0.364 ± 0.078	0.329 ± 0.045	0.324 ± 0.071	0.286 ± 0.000	0.331 ± 0.039	0.300 ± 0.062	0.274 ± 0.027	0.252 ± 0.036	0.448 ± 0.014	0.345 ± 0.056	0.497 ± 0.064	0.345 ± 0.055	0.527 ± 0.026	0.314 ± 0.080
	κ	0.175 ± 0.059	0.156 ± 0.045	0.158 ± 0.046	0.183 ± 0.036	0.014 ± 0.028	-0.025 ± 0.018	0.072 ± 0.058	0.047 ± 0.061	0.003 ± 0.015	0.000 ± 0.000	0.008 ± 0.045	-0.003 ± 0.018	0.006 ± 0.012	-0.014 ± 0.033	0.183 ± 0.056	-0.003 ± 0.018	0.164 ± 0.102	0.017 ± 0.064	0.228 ± 0.067	0.003 ± 0.033
	AUC	0.666 ± 0.024	0.653 ± 0.038	0.662 ± 0.026	0.660 ± 0.019	0.496 ± 0.039	0.478 ± 0.015	0.571 ± 0.073	0.532 ± 0.021	0.496 ± 0.013	0.500 ± 0.001	0.497 ± 0.038	0.501 ± 0.011	0.505 ± 0.007	0.468 ± 0.023	0.660 ± 0.026	0.518 ± 0.027	0.657 ± 0.055	0.521 ± 0.031	0.705 ± 0.044	0.530 ± 0.029
	BAcc	0.293 ± 0.051	0.276 ± 0.039	0.279 ± 0.039	0.300 ± 0.031	0.155 ± 0.024	0.121 ± 0.016	0.205 ± 0.050	0.183 ± 0.052	0.145 ± 0.013	0.143 ± 0.000	0.150 ± 0.038	0.140 ± 0.016	0.148 ± 0.011	0.131 ± 0.028	0.300 ± 0.048	0.140 ± 0.016	0.283 ± 0.088	0.157 ± 0.055	0.338 ± 0.057	0.145 ± 0.028
	Acc.1	0.293 ± 0.051	0.276 ± 0.039	0.279 ± 0.039	0.300 ± 0.031	0.155 ± 0.024	0.121 ± 0.016	0.205 ± 0.050	0.183 ± 0.052	0.145 ± 0.013	0.143 ± 0.000	0.155 ± 0.035	0.143 ± 0.019	0.143 ± 0.000	0.129 ± 0.028	0.300 ± 0.048	0.145 ± 0.023	0.285 ± 0.086	0.156 ± 0.054	0.340 ± 0.057	0.150 ± 0.022
	Acc.2	0.486 ± 0.030	0.471 ± 0.057	0.479 ± 0.064	0.467 ± 0.035	0.283 ± 0.040	0.245 ± 0.022	0.381 ± 0.082	0.352 ± 0.062	0.283 ± 0.005	0.286 ± 0.000	0.315 ± 0.019	0.275 ± 0.039	0.288 ± 0.005	0.260 ± 0.018	0.493 ± 0.039	0.293 ± 0.034	0.470 ± 0.053	0.333 ± 0.052	0.546 ± 0.054	0.328 ± 0.030
sub2	κ	0.133 ± 0.035	0.089 ± 0.053	0.069 ± 0.047	0.122 ± 0.035	-0.017 ± 0.043	0.003 ± 0.032	0.006 ± 0.049	0.019 ± 0.075	-0.006 ± 0.040	0.000 ± 0.000	0.006 ± 0.047	-0.033 ± 0.053	-0.008 ± 0.019	-0.053 ± 0.036	0.175 ± 0.068	0.019 ± 0.064	0.114 ± 0.055	0.031 ± 0.043	0.244 ± 0.063	0.011 ± 0.023
	AUC	0.648 ± 0.031	0.604 ± 0.020	0.591 ± 0.032	0.628 ± 0.016	0.490 ± 0.031	0.464 ± 0.036	0.510 ± 0.031	0.520 ± 0.037	0.491 ± 0.040	0.506 ± 0.008	0.511 ± 0.028	0.490 ± 0.030	0.473 ± 0.050	0.434 ± 0.031	0.643 ± 0.029	0.506 ± 0.050	0.637 ± 0.033	0.508 ± 0.057	0.712 ± 0.026	0.521 ± 0.029
	BAcc	0.257 ± 0.030	0.219 ± 0.045	0.202 ± 0.040	0.248 ± 0.030	0.129 ± 0.037	0.145 ± 0.027	0.148 ± 0.042	0.160 ± 0.064	0.138 ± 0.034	0.143 ± 0.000	0.148 ± 0.040	0.114 ± 0.046	0.136 ± 0.016	0.098 ± 0.031	0.293 ± 0.058	0.160 ± 0.055	0.240 ± 0.047	0.169 ± 0.037	0.352 ± 0.054	0.152 ± 0.020
	Acc.1	0.260 ± 0.027	0.219 ± 0.045	0.202 ± 0.040	0.248 ± 0.030	0.134 ± 0.042	0.150 ± 0.029	0.148 ± 0.042	0.160 ± 0.064	0.140 ± 0.041	0.143 ± 0.000	0.150 ± 0.035	0.115 ± 0.049	0.136 ± 0.018	0.098 ± 0.031	0.293 ± 0.058	0.162 ± 0.052	0.239 ± 0.046	0.175 ± 0.040	0.350 ± 0.063	0.157 ± 0.017
	Acc.2	0.448 ± 0.034	0.395 ± 0.053	0.386 ± 0.067	0.448 ± 0.045	0.288 ± 0.066	0.270 ± 0.030	0.252 ± 0.061	0.298 ± 0.048	0.261 ± 0.084	0.286 ± 0.000	0.313 ± 0.061	0.268 ± 0.047	0.253 ± 0.045	0.221 ± 0.052	0.476 ± 0.051	0.281 ± 0.043	0.457 ± 0.071	0.306 ± 0.036	0.555 ± 0.056	0.330 ± 0.030
	κ	0.186 ± 0.047	0.214 ± 0.023	0.178 ± 0.058	0.214 ± 0.050	0.011 ± 0.050	-0.017 ± 0.023	0.100 ± 0.037	-0.042 ± 0.042	0.011 ± 0.039	0.000 ± 0.000	0.047 ± 0.038	0.028 ± 0.049	0.008 ± 0.008	-0.039 ± 0.028	0.194 ± 0.037	0.028 ± 0.053	0.222 ± 0.063	0.078 ± 0.036	0.231 ± 0.065	0.069 ± 0.035
sub4	AUC	0.670 ± 0.025	0.691 ± 0.016	0.662 ± 0.036	0.671 ± 0.017	0.517 ± 0.020	0.491 ± 0.045	0.618 ± 0.009	0.518 ± 0.042	0.520 ± 0.040	0.505 ± 0.021	0.533 ± 0.035	0.542 ± 0.021	0.473 ± 0.016	0.474 ± 0.049	0.647 ± 0.032	0.518 ± 0.032	0.662 ± 0.048	0.553 ± 0.025	0.665 ± 0.049	0.548 ± 0.017

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	BAcc	0.302 ±0.040	0.326 ±0.020	0.295 ±0.049	0.326 ±0.043	0.152 ±0.043	0.129 ±0.020	0.229 ±0.032	0.107 ±0.036	0.152 ±0.033	0.143 ±0.000	0.183 ±0.032	0.167 ±0.042	0.150 ±0.007	0.110 ±0.024	0.310 ±0.031	0.167 ±0.045	0.333 ± 0.054	0.210 ±0.031	0.340 ± 0.056	0.202 ±0.030
	Acc_1	0.302 ±0.040	0.326 ±0.020	0.295 ±0.049	0.326 ±0.043	0.152 ±0.043	0.129 ±0.020	0.229 ±0.032	0.107 ±0.036	0.152 ±0.033	0.143 ±0.000	0.183 ±0.031	0.165 ±0.045	0.143 ±0.015	0.110 ±0.024	0.310 ±0.031	0.167 ±0.045	0.336 ± 0.050	0.213 ±0.033	0.342 ± 0.064	0.201 ±0.031
	Acc_2	0.443 ±0.057	0.505 ±0.027	0.474 ±0.061	0.510 ± 0.039	0.312 ±0.026	0.281 ±0.052	0.398 ±0.014	0.283 ±0.070	0.298 ±0.064	0.283 ±0.005	0.346 ±0.026	0.341 ±0.066	0.276 ±0.010	0.267 ±0.077	0.476 ±0.044	0.305 ±0.059	0.465 ±0.060	0.350 ±0.057	0.507 ± 0.090	0.331 ±0.027
	κ	0.111 ±0.037	0.092 ±0.097	0.083 ±0.060	0.142 ±0.032	-0.006 ±0.039	0.031 ±0.045	0.031 ±0.046	0.017 ±0.065	-0.006 ±0.053	0.000 ±0.000	0.006 ±0.053	-0.022 ±0.032	0.000 ±0.000	-0.025 ±0.041	0.236 ± 0.088	0.039 ±0.042	0.208 ±0.054	0.067 ±0.064	0.222 ± 0.063	0.058 ±0.070
sub5	AUC	0.657 ±0.019	0.624 ±0.042	0.611 ±0.035	0.630 ±0.003	0.495 ±0.040	0.507 ±0.039	0.534 ±0.008	0.521 ±0.042	0.492 ±0.025	0.506 ±0.014	0.522 ±0.042	0.502 ±0.033	0.493 ±0.010	0.453 ±0.015	0.666 ±0.040	0.531 ±0.044	0.671 ± 0.051	0.567 ±0.048	0.716 ± 0.024	0.568 ±0.062
	BAcc	0.238 ±0.031	0.221 ±0.083	0.214 ±0.051	0.264 ±0.027	0.138 ±0.033	0.169 ±0.039	0.169 ±0.040	0.157 ±0.055	0.138 ±0.046	0.143 ±0.000	0.148 ±0.045	0.124 ±0.027	0.143 ±0.000	0.121 ±0.035	0.345 ± 0.075	0.176 ±0.036	0.321 ±0.046	0.200 ±0.055	0.333 ± 0.054	0.193 ±0.060
	Acc_1	0.238 ±0.031	0.221 ±0.083	0.214 ±0.051	0.264 ±0.027	0.136 ±0.035	0.167 ±0.047	0.169 ±0.040	0.157 ±0.055	0.142 ±0.048	0.143 ±0.000	0.147 ±0.048	0.125 ±0.026	0.145 ±0.010	0.119 ±0.035	0.345 ± 0.075	0.176 ±0.036	0.329 ± 0.045	0.199 ±0.062	0.328 ±0.055	0.196 ±0.055
	Acc_2	0.436 ±0.043	0.402 ±0.047	0.402 ±0.065	0.450 ±0.030	0.276 ±0.043	0.294 ±0.056	0.319 ±0.016	0.302 ±0.032	0.268 ±0.061	0.286 ±0.000	0.319 ±0.050	0.292 ±0.066	0.287 ±0.010	0.240 ±0.031	0.517 ± 0.088	0.298 ±0.056	0.498 ±0.061	0.360 ±0.063	0.564 ± 0.051	0.366 ±0.063
sub6	κ	0.239 ± 0.081	0.158 ±0.008	0.156 ±0.066	0.206 ±0.041	0.025 ±0.033	-0.014 ±0.029	0.064 ±0.025	0.022 ±0.068	0.008 ±0.019	0.000 ±0.000	0.008 ±0.030	0.008 ±0.032	0.000 ±0.000	-0.019 ±0.008	0.189 ±0.040	0.003 ±0.054	0.222 ±0.064	0.031 ±0.058	0.244 ± 0.068	0.006 ±0.040
	AUC	0.706 ± 0.014	0.669 ±0.017	0.652 ±0.037	0.686 ± 0.026	0.528 ±0.046	0.462 ±0.061	0.570 ±0.017	0.521 ±0.050	0.511 ±0.026	0.500 ±0.000	0.536 ±0.038	0.528 ±0.020	0.500 ±0.000	0.498 ±0.029	0.641 ±0.018	0.521 ±0.055	0.683 ±0.041	0.532 ±0.039	0.667 ±0.019	0.531 ±0.025
	BAcc	0.348 ± 0.069	0.279 ±0.007	0.276 ±0.057	0.319 ±0.035	0.164 ±0.028	0.131 ±0.025	0.198 ±0.022	0.162 ±0.059	0.150 ±0.016	0.143 ±0.000	0.150 ±0.026	0.150 ±0.027	0.143 ±0.000	0.126 ±0.007	0.305 ±0.034	0.145 ±0.046	0.333 ±0.055	0.169 ±0.050	0.352 ± 0.058	0.148 ±0.034
	Acc_1	0.348 ± 0.069	0.279 ±0.007	0.279 ±0.057	0.319 ±0.035	0.164 ±0.028	0.131 ±0.025	0.195 ±0.026	0.162 ±0.059	0.150 ±0.016	0.143 ±0.000	0.147 ±0.027	0.149 ±0.030	0.143 ±0.000	0.126 ±0.007	0.305 ±0.034	0.145 ±0.046	0.340 ±0.055	0.167 ±0.051	0.356 ± 0.067	0.148 ±0.033
sub7	Acc_2	0.540 ± 0.033	0.479 ±0.037	0.474 ±0.057	0.500 ±0.033	0.305 ±0.069	0.248 ±0.028	0.362 ±0.040	0.317 ±0.068	0.290 ±0.011	0.286 ±0.000	0.295 ±0.027	0.310 ±0.047	0.286 ±0.000	0.252 ±0.020	0.481 ±0.026	0.312 ±0.075	0.520 ± 0.067	0.321 ±0.057	0.517 ±0.039	0.317 ±0.035
	κ	0.094 ±0.039	0.114 ±0.043	0.106 ±0.063	0.114 ±0.049	0.014 ±0.075	-0.025 ±0.035	0.092 ±0.051	-0.017 ±0.032	-0.039 ±0.048	0.000 ±0.000	0.011 ±0.027	-0.003 ±0.045	-0.019 ±0.019	-0.039 ±0.039	0.117 ± 0.047	0.031 ±0.045	0.142 ± 0.077	0.078 ±0.041	0.142 ± 0.073	0.031 ±0.058
	AUC	0.609 ±0.017	0.609 ±0.037	0.601 ±0.024	0.628 ± 0.022	0.513 ±0.042	0.485 ±0.022	0.589 ±0.037	0.491 ±0.018	0.474 ±0.032	0.499 ±0.017	0.519 ±0.029	0.515 ±0.036	0.464 ±0.027	0.456 ±0.026	0.598 ±0.039	0.521 ±0.043	0.612 ±0.036	0.543 ±0.047	0.634 ± 0.041	0.537 ±0.046
	BAcc	0.224 ±0.033	0.240 ±0.037	0.233 ±0.054	0.240 ±0.042	0.155 ±0.065	0.121 ±0.030	0.221 ±0.043	0.129 ±0.027	0.110 ±0.041	0.143 ±0.000	0.152 ±0.023	0.140 ±0.039	0.126 ±0.016	0.110 ±0.033	0.243 ±0.040	0.169 ±0.039	0.243 ± 0.066	0.210 ±0.035	0.264 ± 0.063	0.169 ±0.049

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	Acc.1	0.221 ±0.036	0.240 ±0.037	0.233 ±0.054	0.240 ±0.042	0.155 ±0.065	0.121 ±0.030	0.221 ±0.043	0.131 ±0.028	0.110 ±0.041	0.143 ±0.000	0.151 ±0.025	0.139 ±0.042	0.126 ±0.016	0.112 ±0.032	0.243 ±0.040	0.167 ±0.035	0.259 ± 0.063	0.215 ±0.034	<div>0.267 ± 0.057</div>	0.168 ±0.055
	Acc.2	0.405 ±0.030	0.426 ±0.066	0.417 ±0.050	0.438 ±0.035	0.300 ±0.057	0.267 ±0.051	0.393 ±0.048	0.307 ±0.045	0.255 ±0.045	0.286 ±0.000	0.312 ±0.051	0.288 ±0.059	0.274 ±0.029	0.226 ±0.035	0.398 ±0.047	0.300 ±0.066	0.446 ± 0.054	0.326 ±0.056	<div>0.461 ± 0.072</div>	0.326 ±0.048
	κ	0.239 ± 0.081	0.194 ±0.075	0.164 ±0.064	0.225 ±0.069	0.064 ±0.068	-0.011 ±0.018	0.131 ±0.075	-0.017 ±0.039	-0.019 ±0.021	0.000 ±0.000	0.019 ±0.067	0.067 ±0.046	0.000 ±0.000	-0.019 ±0.023	0.167 ±0.064	0.006 ±0.038	0.181 ±0.044	0.056 ±0.014	<div>0.272 ± 0.074</div>	0.056 ±0.033
sub8	AUC	0.696 ±0.042	0.708 ±0.043	0.662 ±0.010	<div>0.722 ± 0.018</div>	0.540 ±0.075	0.536 ±0.042	0.616 ±0.066	0.494 ±0.022	0.489 ±0.023	0.500 ±0.000	0.534 ±0.050	0.564 ±0.040	0.501 ±0.001	0.459 ±0.019	0.642 ±0.066	0.519 ±0.024	0.674 ±0.023	0.561 ±0.034	0.719 ± 0.046	0.573 ±0.041
	BAcc	0.348 ± 0.070	0.310 ±0.064	0.283 ±0.055	0.336 ±0.059	0.198 ±0.059	0.133 ±0.016	0.255 ±0.064	0.129 ±0.033	0.126 ±0.018	0.143 ±0.000	0.160 ±0.057	0.200 ±0.040	0.143 ±0.000	0.126 ±0.020	0.286 ±0.055	0.148 ±0.032	0.298 ±0.038	0.190 ±0.012	<div>0.376 ± 0.063</div>	0.190 ±0.028
	Acc.1	0.348 ± 0.070	0.310 ±0.064	0.283 ±0.055	0.336 ±0.059	0.198 ±0.059	0.133 ±0.016	0.255 ±0.064	0.129 ±0.033	0.126 ±0.018	0.143 ±0.000	0.160 ±0.063	0.214 ±0.034	0.143 ±0.000	0.124 ±0.023	0.286 ±0.055	0.145 ±0.031	0.298 ±0.038	0.192 ±0.016	<div>0.381 ± 0.070</div>	0.188 ±0.029
	Acc.2	0.486 ±0.065	0.498 ±0.046	0.467 ±0.031	0.531 ± 0.061	0.336 ±0.062	0.286 ±0.000	0.405 ±0.101	0.283 ±0.018	0.260 ±0.036	0.286 ±0.000	0.334 ±0.093	0.374 ±0.064	0.286 ±0.000	0.286 ±0.008	0.445 ±0.089	0.317 ±0.018	0.527 ±0.077	0.336 ±0.032	<div>0.602 ± 0.077</div>	0.351 ±0.044
	κ	0.114 ±0.042	0.122 ±0.066	0.125 ± 0.039	0.117 ±0.052	0.036 ±0.043	-0.042 ±0.028	0.075 ±0.071	-0.017 ±0.027	-0.019 ±0.066	0.000 ±0.000	0.017 ±0.036	0.008 ±0.053	0.000 ±0.000	-0.050 ±0.021	0.119 ±0.047	0.003 ±0.030	0.092 ±0.063	-0.017 ±0.033	<div>0.169 ± 0.035</div>	0.008 ±0.016
	AUC	0.617 ±0.046	0.638 ±0.048	0.615 ±0.038	0.647 ± 0.038	0.513 ±0.015	0.474 ±0.017	0.570 ±0.036	0.498 ±0.032	0.470 ±0.060	0.494 ±0.013	0.541 ±0.060	0.487 ±0.025	0.473 ±0.026	0.432 ±0.039	0.599 ±0.030	0.469 ±0.022	0.605 ±0.025	0.469 ±0.022	<div>0.660 ± 0.031</div>	0.490 ±0.052
sub9	BAcc	0.240 ±0.036	0.248 ±0.057	0.250 ± 0.034	0.243 ±0.044	0.174 ±0.037	0.107 ±0.024	0.207 ±0.061	0.129 ±0.023	0.126 ±0.056	0.143 ±0.000	0.157 ±0.031	0.150 ±0.045	0.143 ±0.000	0.100 ±0.018	0.245 ±0.040	0.145 ±0.026	0.221 ±0.054	0.129 ±0.028	<div>0.288 ± 0.030</div>	0.150 ±0.014
	Acc.1	0.240 ±0.036	0.248 ±0.057	0.250 ± 0.034	0.243 ±0.044	0.171 ±0.039	0.107 ±0.024	0.207 ±0.061	0.129 ±0.023	0.127 ±0.054	0.143 ±0.000	0.154 ±0.024	0.151 ±0.050	0.144 ±0.008	0.100 ±0.018	0.245 ±0.040	0.145 ±0.026	0.221 ±0.046	0.131 ±0.021	<div>0.292 ± 0.035</div>	0.153 ±0.010
	Acc.2	0.421 ±0.089	0.436 ±0.038	0.417 ±0.029	0.464 ± 0.055	0.272 ±0.019	0.236 ±0.026	0.374 ±0.027	0.293 ±0.023	0.253 ±0.070	0.286 ±0.000	0.341 ±0.064	0.278 ±0.031	0.281 ±0.006	0.207 ±0.027	0.414 ±0.046	0.267 ±0.034	0.406 ±0.061	0.271 ±0.029	<div>0.500 ± 0.054</div>	0.281 ±0.050

D.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 37: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.066	0.063	0.057	0.057	0.066
DeepConvnet	± 0.015	± 0.009	± 0.013	± 0.013	± 0.013
	0.053	0.052	0.046	0.046	0.057
EEGNet	± 0.013	± 0.009	± 0.011	± 0.011	± 0.010
	0.035	0.036	0.030	0.030	0.040
Conformer	± 0.010	± 0.006	± 0.009	± 0.009	± 0.010
	0.070	0.072	0.060	0.060	0.078
CTNet	± 0.016	± 0.011	± 0.014	± 0.014	± 0.015
	0.007	0.005	0.006	0.006	0.005
BIOT (f)	± 0.006	± 0.005	± 0.005	± 0.005	± 0.010
	-0.011	-0.013	-0.009	-0.009	-0.012
BIOT (l)	± 0.007	± 0.007	± 0.006	± 0.006	± 0.005
	0.011	0.010	0.009	0.009	0.012
BENDR (f)	± 0.009	± 0.004	± 0.008	± 0.008	± 0.008
	0.001	0.002	0.001	0.001	0.001
BENDR (l)	± 0.004	± 0.004	± 0.004	± 0.004	± 0.006
	-0.013	-0.019	-0.011	-0.012	-0.019
CBraMod (f)	± 0.008	± 0.009	± 0.007	± 0.007	± 0.009
	-0.009	-0.029	-0.007	-0.008	-0.014
CBraMod (l)	± 0.003	± 0.004	± 0.002	± 0.002	± 0.004
	0.006	0.005	0.005	0.005	0.006
EEGPT (f)	± 0.004	± 0.003	± 0.004	± 0.004	± 0.005
	0.017	0.020	0.014	0.015	0.022
EEGPT (l)	± 0.007	± 0.008	± 0.006	± 0.006	± 0.007
	-0.002	-0.004	-0.002	-0.002	-0.003
LaBraM (f)	± 0.003	± 0.004	± 0.003	± 0.002	± 0.003
	-0.009	-0.016	-0.007	-0.008	-0.012
LaBraM (l)	± 0.005	± 0.005	± 0.004	± 0.004	± 0.004
	0.022	0.019	0.019	0.019	0.034
STEEGformer-s (f)	± 0.013	± 0.009	± 0.011	± 0.011	± 0.012
	0.015	0.010	0.013	0.013	0.014
STEEGformer-s (l)	± 0.009	± 0.005	± 0.008	± 0.008	± 0.007
	0.019	0.014	0.016	0.016	0.025
STEEGformer-b (f)	± 0.015	± 0.011	± 0.013	± 0.013	± 0.011
	0.015	0.005	0.013	0.014	0.017
STEEGformer-b (l)	± 0.008	± 0.004	± 0.007	± 0.007	± 0.007
	0.032	0.023	0.027	0.028	0.047
STEEGformer-l (f)	± 0.015	± 0.012	± 0.013	± 0.012	± 0.016
	0.013	0.009	0.011	0.011	0.012
STEEGformer-l (l)	± 0.009	± 0.005	± 0.008	± 0.008	± 0.008

Table 38: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (i)	BIOT (i)	BENDR (i)	BENDR (i)	CBraMod (i)	CBraMod (i)	EEGPT (i)	EEGPT (i)	LaBraM (i)	LaBraM (i)	STEEGformer-s (i)	STEEGformer-s (i)	STEEGformer-b (i)	STEEGformer-b (i)	STEEGformer-l (i)	STEEGformer-l (i)
sub1	κ	0.076 ± 0.036	0.074 ± 0.031	0.032 ± 0.032	0.091 ± 0.039	0.018 ± 0.026	-0.022 ± 0.033	0.001 ± 0.025	-0.001 ± 0.021	-0.016 ± 0.019	-0.008 ± 0.019	0.002 ± 0.020	0.022 ± 0.031	-0.001 ± 0.008	-0.012 ± 0.021	0.028 ± 0.029	0.016 ± 0.020	0.036 ± 0.026	0.009 ± 0.023	0.050 ± 0.030	0.010 ± 0.026
	AUC	0.067 ± 0.020	0.061 ± 0.019	0.036 ± 0.021	0.086 ± 0.028	0.006 ± 0.014	-0.016 ± 0.023	0.005 ± 0.014	-0.000 ± 0.011	-0.020 ± 0.014	-0.026 ± 0.029	0.001 ± 0.009	0.014 ± 0.021	-0.005 ± 0.012	-0.020 ± 0.026	0.020 ± 0.022	0.006 ± 0.010	0.024 ± 0.014	0.002 ± 0.011	0.038 ± 0.013	0.007 ± 0.009
	BAcc	0.065 ± 0.031	0.063 ± 0.026	0.027 ± 0.028	0.078 ± 0.033	0.015 ± 0.022	-0.019 ± 0.029	0.001 ± 0.022	-0.001 ± 0.018	-0.014 ± 0.016	-0.007 ± 0.016	0.002 ± 0.017	0.019 ± 0.026	-0.001 ± 0.007	-0.011 ± 0.018	0.024 ± 0.025	0.013 ± 0.017	0.031 ± 0.022	0.007 ± 0.020	0.043 ± 0.026	0.008 ± 0.022
	Acc.1	0.065 ± 0.031	0.063 ± 0.026	0.027 ± 0.028	0.078 ± 0.034	0.015 ± 0.022	-0.019 ± 0.029	0.001 ± 0.022	-0.001 ± 0.018	-0.014 ± 0.016	-0.007 ± 0.012	0.002 ± 0.017	0.018 ± 0.027	-0.003 ± 0.007	-0.012 ± 0.019	0.024 ± 0.025	0.013 ± 0.017	0.029 ± 0.022	0.008 ± 0.020	0.044 ± 0.026	0.007 ± 0.023
	Acc.2	0.072 ± 0.030	0.075 ± 0.036	0.049 ± 0.038	0.090 ± 0.042	-0.000 ± 0.032	-0.010 ± 0.023	0.007 ± 0.021	-0.002 ± 0.026	-0.018 ± 0.023	-0.006 ± 0.019	0.004 ± 0.019	0.023 ± 0.036	-0.007 ± 0.009	-0.015 ± 0.030	0.030 ± 0.025	0.002 ± 0.035	0.030 ± 0.034	0.015 ± 0.021	0.059 ± 0.030	0.007 ± 0.023
sub10	κ	0.065 ± 0.043	0.069 ± 0.025	0.035 ± 0.034	0.067 ± 0.029	0.007 ± 0.025	-0.001 ± 0.025	0.018 ± 0.029	0.006 ± 0.019	-0.007 ± 0.020	-0.009 ± 0.014	0.003 ± 0.025	0.035 ± 0.030	-0.008 ± 0.010	-0.014 ± 0.029	0.021 ± 0.021	0.030 ± 0.022	0.012 ± 0.025	0.018 ± 0.014	0.043 ± 0.024	0.013 ± 0.029
	AUC	0.064 ± 0.017	0.066 ± 0.011	0.039 ± 0.016	0.077 ± 0.016	0.006 ± 0.020	0.001 ± 0.020	0.010 ± 0.015	0.005 ± 0.010	-0.009 ± 0.021	-0.029 ± 0.031	0.005 ± 0.014	0.031 ± 0.025	-0.011 ± 0.015	-0.014 ± 0.026	0.020 ± 0.012	0.010 ± 0.019	0.005 ± 0.011	0.007 ± 0.016	0.023 ± 0.016	0.010 ± 0.017
	BAcc	0.056 ± 0.037	0.060 ± 0.021	0.030 ± 0.030	0.058 ± 0.025	0.006 ± 0.022	-0.001 ± 0.022	0.015 ± 0.025	0.005 ± 0.016	-0.006 ± 0.017	-0.008 ± 0.012	0.002 ± 0.022	0.030 ± 0.025	-0.007 ± 0.009	-0.012 ± 0.025	0.018 ± 0.018	0.026 ± 0.019	0.010 ± 0.021	0.016 ± 0.012	0.037 ± 0.021	0.011 ± 0.025
	Acc.1	0.056 ± 0.037	0.059 ± 0.021	0.030 ± 0.030	0.057 ± 0.025	0.006 ± 0.022	-0.001 ± 0.022	0.015 ± 0.025	0.005 ± 0.016	-0.008 ± 0.017	-0.006 ± 0.011	0.004 ± 0.023	0.029 ± 0.026	-0.008 ± 0.009	-0.013 ± 0.025	0.018 ± 0.018	0.025 ± 0.018	0.010 ± 0.022	0.017 ± 0.011	0.037 ± 0.021	0.013 ± 0.025
	Acc.2	0.065 ± 0.032	0.074 ± 0.025	0.034 ± 0.028	0.088 ± 0.029	0.014 ± 0.035	0.001 ± 0.022	0.013 ± 0.022	0.007 ± 0.024	-0.012 ± 0.022	-0.014 ± 0.022	-0.001 ± 0.026	0.030 ± 0.025	-0.006 ± 0.012	-0.008 ± 0.021	0.041 ± 0.022	0.019 ± 0.032	0.031 ± 0.018	0.015 ± 0.021	0.058 ± 0.021	0.008 ± 0.023
sub11	κ	0.084 ± 0.041	0.065 ± 0.042	0.044 ± 0.037	0.093 ± 0.025	0.006 ± 0.032	-0.005 ± 0.018	0.011 ± 0.027	-0.006 ± 0.024	-0.027 ± 0.015	-0.012 ± 0.017	-0.001 ± 0.016	0.010 ± 0.022	-0.001 ± 0.008	-0.001 ± 0.020	0.049 ± 0.027	0.020 ± 0.030	0.033 ± 0.019	0.036 ± 0.025	0.068 ± 0.026	0.040 ± 0.024
	AUC	0.075 ± 0.021	0.063 ± 0.025	0.040 ± 0.022	0.088 ± 0.019	0.005 ± 0.016	-0.003 ± 0.024	0.014 ± 0.018	0.004 ± 0.012	-0.030 ± 0.017	-0.028 ± 0.019	0.004 ± 0.010	0.013 ± 0.014	-0.009 ± 0.011	-0.012 ± 0.022	0.036 ± 0.010	0.018 ± 0.021	0.034 ± 0.012	0.011 ± 0.012	0.053 ± 0.013	0.024 ± 0.012
	BAcc	0.072 ± 0.035	0.055 ± 0.036	0.037 ± 0.032	0.080 ± 0.021	0.005 ± 0.027	-0.005 ± 0.015	0.009 ± 0.023	-0.005 ± 0.021	-0.023 ± 0.013	-0.010 ± 0.014	-0.001 ± 0.014	0.008 ± 0.019	-0.001 ± 0.007	-0.001 ± 0.017	0.042 ± 0.023	0.017 ± 0.026	0.028 ± 0.016	0.031 ± 0.021	0.058 ± 0.023	0.034 ± 0.021
	Acc.1	0.072 ± 0.035	0.055 ± 0.036	0.038 ± 0.032	0.080 ± 0.021	0.005 ± 0.027	-0.005 ± 0.015	0.009 ± 0.023	-0.005 ± 0.021	-0.024 ± 0.013	-0.008 ± 0.013	-0.002 ± 0.014	0.011 ± 0.017	-0.002 ± 0.006	-0.002 ± 0.018	0.042 ± 0.023	0.018 ± 0.026	0.028 ± 0.016	0.032 ± 0.022	0.059 ± 0.024	0.035 ± 0.020
	Acc.2	0.094 ± 0.034	0.070 ± 0.041	0.051 ± 0.050	0.107 ± 0.026	0.012 ± 0.024	-0.009 ± 0.032	0.021 ± 0.020	0.009 ± 0.034	-0.024 ± 0.028	-0.015 ± 0.022	0.008 ± 0.013	0.015 ± 0.027	-0.006 ± 0.007	-0.012 ± 0.025	0.055 ± 0.022	0.015 ± 0.022	0.052 ± 0.025	0.028 ± 0.023	0.087 ± 0.023	0.031 ± 0.021

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub12	κ	0.062 ± 0.032	0.046 ± 0.030	0.044 ± 0.025	0.070 ± 0.022	0.001 ± 0.025	-0.011 ± 0.018	0.016 ± 0.018	0.007 ± 0.016	-0.002 ± 0.016	-0.003 ± 0.020	0.008 ± 0.019	0.008 ± 0.030	-0.000 ± 0.003	-0.002 ± 0.015	0.008 ± 0.027	0.005 ± 0.022	-0.003 ± 0.037	0.016 ± 0.022	0.035 ± 0.020	0.011 ± 0.019
	AUC	0.061 ± 0.022	0.052 ± 0.021	0.041 ± 0.018	0.068 ± 0.021	0.003 ± 0.020	-0.015 ± 0.025	0.013 ± 0.016	0.003 ± 0.012	-0.006 ± 0.022	-0.026 ± 0.023	0.004 ± 0.015	0.014 ± 0.024	0.002 ± 0.012	-0.016 ± 0.024	0.009 ± 0.011	0.002 ± 0.014	0.002 ± 0.012	0.001 ± 0.013	0.013 ± 0.008	0.005 ± 0.016
	BAcc	0.054 ± 0.028	0.039 ± 0.025	0.038 ± 0.022	0.060 ± 0.019	0.001 ± 0.022	-0.009 ± 0.015	0.014 ± 0.016	0.006 ± 0.014	-0.001 ± 0.014	-0.002 ± 0.017	0.007 ± 0.017	0.007 ± 0.026	-0.000 ± 0.002	-0.001 ± 0.013	0.007 ± 0.023	0.004 ± 0.018	-0.003 ± 0.031	0.014 ± 0.019	0.030 ± 0.017	0.010 ± 0.016
	Acc_1	0.053 ± 0.028	0.040 ± 0.025	0.038 ± 0.022	0.060 ± 0.019	0.001 ± 0.022	-0.009 ± 0.015	0.013 ± 0.016	0.006 ± 0.014	-0.002 ± 0.014	-0.003 ± 0.017	0.008 ± 0.018	0.009 ± 0.026	0.000 ± 0.005	-0.001 ± 0.014	0.007 ± 0.023	0.004 ± 0.019	-0.003 ± 0.034	0.014 ± 0.019	0.029 ± 0.017	0.008 ± 0.016
	Acc_2	0.067 ± 0.031	0.052 ± 0.030	0.055 ± 0.026	0.082 ± 0.025	0.003 ± 0.026	-0.018 ± 0.016	0.010 ± 0.021	0.002 ± 0.023	-0.012 ± 0.027	-0.005 ± 0.023	0.005 ± 0.021	0.012 ± 0.033	-0.001 ± 0.006	-0.011 ± 0.019	0.038 ± 0.024	0.007 ± 0.027	0.016 ± 0.035	0.012 ± 0.023	0.044 ± 0.038	0.008 ± 0.022
sub13	κ	0.091 ± 0.032	0.072 ± 0.030	0.052 ± 0.031	0.092 ± 0.039	0.008 ± 0.030	-0.007 ± 0.024	0.028 ± 0.034	0.001 ± 0.023	-0.004 ± 0.024	-0.008 ± 0.010	0.010 ± 0.022	0.009 ± 0.033	-0.001 ± 0.008	-0.007 ± 0.027	0.021 ± 0.031	0.031 ± 0.026	0.020 ± 0.022	0.015 ± 0.024	0.030 ± 0.016	0.009 ± 0.035
	AUC	0.073 ± 0.018	0.054 ± 0.018	0.043 ± 0.021	0.084 ± 0.024	0.005 ± 0.024	-0.019 ± 0.023	0.013 ± 0.010	0.006 ± 0.013	-0.004 ± 0.017	-0.035 ± 0.025	0.007 ± 0.013	0.014 ± 0.020	-0.008 ± 0.019	-0.011 ± 0.026	0.023 ± 0.017	0.018 ± 0.022	0.021 ± 0.011	0.005 ± 0.016	0.023 ± 0.009	0.012 ± 0.017
	BAcc	0.078 ± 0.028	0.061 ± 0.026	0.044 ± 0.026	0.079 ± 0.033	0.007 ± 0.026	-0.006 ± 0.020	0.024 ± 0.030	0.001 ± 0.019	-0.004 ± 0.021	-0.007 ± 0.008	0.008 ± 0.019	0.007 ± 0.028	-0.001 ± 0.007	-0.006 ± 0.023	0.018 ± 0.027	0.027 ± 0.023	0.017 ± 0.019	0.013 ± 0.020	0.026 ± 0.014	0.008 ± 0.030
	Acc_1	0.078 ± 0.027	0.061 ± 0.026	0.044 ± 0.026	0.079 ± 0.033	0.009 ± 0.025	-0.007 ± 0.020	0.024 ± 0.029	0.001 ± 0.019	-0.003 ± 0.022	-0.006 ± 0.008	0.008 ± 0.020	0.008 ± 0.028	-0.003 ± 0.006	-0.006 ± 0.023	0.018 ± 0.027	0.027 ± 0.022	0.017 ± 0.018	0.013 ± 0.022	0.026 ± 0.013	0.007 ± 0.030
	Acc_2	0.080 ± 0.029	0.061 ± 0.035	0.050 ± 0.033	0.094 ± 0.039	-0.002 ± 0.026	-0.014 ± 0.029	0.015 ± 0.029	0.009 ± 0.029	0.001 ± 0.028	-0.015 ± 0.019	0.015 ± 0.027	0.033 ± 0.022	-0.002 ± 0.009	-0.012 ± 0.026	0.032 ± 0.026	0.022 ± 0.024	0.019 ± 0.022	0.016 ± 0.029	0.042 ± 0.021	0.012 ± 0.022
sub14	κ	0.084 ± 0.043	0.071 ± 0.037	0.049 ± 0.036	0.087 ± 0.038	0.010 ± 0.022	-0.000 ± 0.024	0.023 ± 0.024	0.005 ± 0.021	-0.020 ± 0.023	-0.006 ± 0.011	0.006 ± 0.025	0.019 ± 0.037	-0.003 ± 0.006	-0.008 ± 0.023	0.020 ± 0.031	0.023 ± 0.032	0.022 ± 0.018	0.013 ± 0.022	0.032 ± 0.029	0.015 ± 0.026
	AUC	0.062 ± 0.019	0.060 ± 0.014	0.038 ± 0.026	0.072 ± 0.019	0.017 ± 0.018	-0.012 ± 0.020	0.010 ± 0.014	0.002 ± 0.017	-0.026 ± 0.018	-0.025 ± 0.017	0.003 ± 0.010	0.033 ± 0.031	-0.011 ± 0.011	-0.010 ± 0.020	0.021 ± 0.021	0.011 ± 0.020	0.018 ± 0.013	0.005 ± 0.013	0.025 ± 0.011	0.007 ± 0.011
	BAcc	0.072 ± 0.037	0.061 ± 0.031	0.042 ± 0.031	0.074 ± 0.032	0.008 ± 0.019	0.000 ± 0.021	0.020 ± 0.021	0.004 ± 0.018	-0.017 ± 0.020	-0.005 ± 0.009	0.005 ± 0.022	0.016 ± 0.032	-0.003 ± 0.006	-0.006 ± 0.020	0.017 ± 0.027	0.019 ± 0.028	0.019 ± 0.015	0.011 ± 0.018	0.027 ± 0.025	0.013 ± 0.022
	Acc_1	0.072 ± 0.036	0.061 ± 0.031	0.042 ± 0.031	0.074 ± 0.032	0.008 ± 0.019	0.000 ± 0.021	0.021 ± 0.020	0.004 ± 0.018	-0.017 ± 0.020	-0.007 ± 0.010	0.004 ± 0.021	0.016 ± 0.032	-0.003 ± 0.004	-0.007 ± 0.021	0.017 ± 0.027	0.019 ± 0.027	0.018 ± 0.015	0.013 ± 0.020	0.029 ± 0.023	0.014 ± 0.024
	Acc_2	0.072 ± 0.029	0.067 ± 0.033	0.042 ± 0.033	0.076 ± 0.018	0.015 ± 0.036	-0.009 ± 0.023	0.017 ± 0.032	-0.001 ± 0.025	-0.030 ± 0.028	-0.014 ± 0.016	-0.003 ± 0.027	0.019 ± 0.033	-0.005 ± 0.009	-0.007 ± 0.018	0.027 ± 0.028	0.022 ± 0.031	0.032 ± 0.023	0.018 ± 0.027	0.049 ± 0.009	0.007 ± 0.029
sub15	κ	0.044 ± 0.022	0.034 ± 0.022	0.014 ± 0.024	0.048 ± 0.020	0.004 ± 0.027	-0.003 ± 0.022	0.009 ± 0.022	-0.002 ± 0.027	-0.014 ± 0.030	-0.004 ± 0.015	0.016 ± 0.020	0.025 ± 0.016	-0.009 ± 0.008	-0.011 ± 0.015	0.004 ± 0.020	0.009 ± 0.025	0.005 ± 0.017	0.015 ± 0.027	0.013 ± 0.018	0.010 ± 0.025

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	AUC	0.055 ±0.016	0.044 ±0.014	0.029 ±0.012	0.061 ±0.011	0.002 ±0.015	-0.004 ±0.029	0.006 ±0.016	-0.003 ±0.011	-0.020 ±0.019	-0.028 ±0.031	0.011 ±0.014	0.016 ±0.022	-0.005 ±0.008	-0.016 ±0.014	0.008 ±0.013	0.010 ±0.018	0.002 ±0.008	0.008 ±0.015	0.010 ±0.010	0.008 ±0.013
	BAcc	0.038 ±0.019	0.029 ±0.019	0.012 ±0.021	0.041 ±0.017	0.004 ±0.023	-0.003 ±0.018	0.008 ±0.019	-0.002 ±0.023	-0.012 ±0.025	-0.004 ±0.013	0.014 ±0.017	0.021 ±0.014	-0.008 ±0.007	-0.009 ±0.013	0.003 ±0.017	0.007 ±0.022	0.004 ±0.014	0.013 ±0.023	0.011 ±0.015	0.008 ±0.022
	Acc.1	0.038 ±0.019	0.029 ±0.019	0.012 ±0.021	0.042 ±0.017	0.004 ±0.023	-0.003 ±0.018	0.008 ±0.019	-0.002 ±0.023	-0.013 ±0.025	-0.004 ±0.012	0.014 ±0.018	0.023 ±0.017	-0.005 ±0.006	-0.010 ±0.014	0.003 ±0.017	0.007 ±0.022	0.007 ±0.016	0.014 ±0.021	0.013 ±0.015	0.007 ±0.024
	Acc.2	0.059 ±0.026	0.053 ±0.025	0.028 ±0.019	0.066 ±0.022	0.010 ±0.026	-0.007 ±0.030	0.013 ±0.017	-0.011 ±0.032	-0.021 ±0.035	-0.013 ±0.024	0.010 ±0.021	0.016 ±0.030	-0.008 ±0.010	-0.016 ±0.023	0.010 ±0.022	0.021 ±0.023	0.018 ±0.015	0.014 ±0.030	0.034 ±0.025	0.010 ±0.021
	sub2	κ	0.065 ±0.032	0.038 ±0.015	0.023 ±0.027	0.057 ±0.020	0.009 ±0.032	-0.021 ±0.019	0.008 ±0.025	-0.004 ±0.019	-0.020 ±0.019	-0.011 ±0.018	0.009 ±0.024	0.009 ±0.031	-0.001 ±0.005	-0.004 ±0.019	0.040 ±0.045	0.017 ±0.018	0.003 ±0.031	0.020 ±0.027	0.035 ±0.021
AUC		0.060 ±0.018	0.043 ±0.015	0.027 ±0.018	0.067 ±0.019	-0.002 ±0.022	-0.017 ±0.025	0.011 ±0.014	-0.001 ±0.013	-0.027 ±0.016	-0.035 ±0.025	0.009 ±0.012	0.013 ±0.034	-0.002 ±0.010	-0.016 ±0.020	0.030 ±0.017	0.014 ±0.013	0.012 ±0.013	0.013 ±0.013	0.021 ±0.014	0.012 ±0.013
BAcc		0.056 ±0.028	0.032 ±0.013	0.020 ±0.023	0.049 ±0.017	0.007 ±0.027	-0.018 ±0.016	0.007 ±0.022	-0.003 ±0.017	-0.018 ±0.016	-0.009 ±0.015	0.008 ±0.020	0.007 ±0.026	-0.001 ±0.004	-0.004 ±0.016	0.034 ±0.039	0.014 ±0.016	0.003 ±0.027	0.017 ±0.023	0.030 ±0.018	0.021 ±0.028
Acc.1		0.056 ±0.027	0.032 ±0.013	0.020 ±0.023	0.049 ±0.017	0.007 ±0.027	-0.018 ±0.016	0.007 ±0.022	-0.003 ±0.017	-0.019 ±0.017	-0.009 ±0.015	0.009 ±0.021	0.010 ±0.028	-0.001 ±0.005	-0.005 ±0.017	0.034 ±0.039	0.014 ±0.016	0.003 ±0.028	0.017 ±0.022	0.029 ±0.021	0.020 ±0.028
Acc.2		0.059 ±0.036	0.043 ±0.031	0.020 ±0.030	0.063 ±0.027	0.002 ±0.033	-0.013 ±0.023	0.011 ±0.023	-0.001 ±0.033	-0.026 ±0.020	-0.015 ±0.019	0.010 ±0.029	0.012 ±0.038	0.001 ±0.006	-0.007 ±0.023	0.046 ±0.031	0.012 ±0.015	0.016 ±0.027	0.024 ±0.022	0.031 ±0.018	0.031 ±0.022
sub3	κ	0.085 ±0.037	0.050 ±0.029	0.031 ±0.035	0.093 ±0.038	0.003 ±0.020	-0.013 ±0.020	0.012 ±0.019	0.004 ±0.024	-0.007 ±0.022	-0.007 ±0.012	0.006 ±0.021	0.020 ±0.027	-0.000 ±0.005	-0.008 ±0.016	0.037 ±0.018	0.010 ±0.016	0.059 ±0.039	0.016 ±0.024	0.041 ±0.030	0.014 ±0.039
	AUC	0.075 ±0.024	0.051 ±0.023	0.037 ±0.025	0.089 ±0.026	0.010 ±0.010	-0.008 ±0.019	0.016 ±0.016	0.008 ±0.017	-0.017 ±0.021	-0.025 ±0.027	0.002 ±0.012	0.021 ±0.019	0.001 ±0.017	-0.012 ±0.022	0.023 ±0.017	0.008 ±0.021	0.040 ±0.022	0.004 ±0.018	0.028 ±0.020	0.005 ±0.019
	BAcc	0.073 ±0.032	0.043 ±0.025	0.027 ±0.030	0.080 ±0.033	0.003 ±0.017	-0.011 ±0.017	0.011 ±0.017	0.003 ±0.021	-0.006 ±0.018	-0.006 ±0.010	0.005 ±0.018	0.017 ±0.023	-0.000 ±0.004	-0.007 ±0.014	0.032 ±0.016	0.009 ±0.014	0.051 ±0.033	0.013 ±0.021	0.036 ±0.025	0.012 ±0.033
	Acc.1	0.073 ±0.032	0.043 ±0.025	0.027 ±0.030	0.080 ±0.033	0.003 ±0.018	-0.012 ±0.018	0.010 ±0.016	0.003 ±0.021	-0.007 ±0.020	-0.007 ±0.010	0.003 ±0.016	0.019 ±0.023	-0.003 ±0.007	-0.007 ±0.015	0.032 ±0.016	0.009 ±0.013	0.049 ±0.033	0.014 ±0.021	0.034 ±0.029	0.012 ±0.035
	Acc.2	0.081 ±0.036	0.061 ±0.034	0.036 ±0.028	0.097 ±0.036	0.012 ±0.030	-0.013 ±0.018	0.011 ±0.027	0.001 ±0.024	-0.015 ±0.036	-0.017 ±0.017	0.006 ±0.018	0.015 ±0.029	-0.001 ±0.009	-0.013 ±0.023	0.040 ±0.023	0.019 ±0.022	0.045 ±0.031	0.024 ±0.023	0.040 ±0.028	0.013 ±0.028
sub4	κ	0.051 ±0.028	0.049 ±0.029	0.034 ±0.029	0.066 ±0.029	0.017 ±0.022	-0.002 ±0.021	-0.002 ±0.021	0.004 ±0.013	-0.015 ±0.019	-0.011 ±0.014	0.008 ±0.027	0.008 ±0.022	-0.008 ±0.008	-0.020 ±0.021	0.017 ±0.032	0.017 ±0.030	0.015 ±0.017	0.006 ±0.019	0.030 ±0.030	0.018 ±0.024
	AUC	0.061 ±0.016	0.051 ±0.012	0.039 ±0.020	0.073 ±0.025	0.009 ±0.016	-0.013 ±0.021	0.007 ±0.015	-0.004 ±0.013	-0.017 ±0.016	-0.036 ±0.026	0.006 ±0.015	0.009 ±0.019	-0.007 ±0.019	-0.030 ±0.036	0.013 ±0.015	0.001 ±0.018	0.014 ±0.012	0.000 ±0.015	0.029 ±0.018	0.007 ±0.017
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(f)	BIOT ^(f)	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEGformer-s ^(f)	STEGformer-s ^(f)	STEGformer-b ^(f)	STEGformer-b ^(f)	STEGformer-b ^(f)	STEGformer-b ^(f)
	BAcc	0.043 ±0.024	0.042 ±0.025	0.029 ±0.025	0.057 ±0.025	0.015 ±0.019	-0.002 ±0.018	-0.002 ±0.018	0.004 ±0.011	-0.013 ± 0.016	-0.010 ±0.012	0.007 ±0.024	0.007 ±0.019	-0.007 ±0.007	-0.017 ± 0.018	0.015 ±0.027	0.015 ±0.025	0.013 ±0.015	0.005 ±0.017	0.026 ±0.026	0.015 ±0.020
	Acc_1	0.044 ±0.024	0.042 ±0.024	0.029 ±0.025	0.057 ±0.025	0.015 ±0.019	-0.002 ±0.018	-0.002 ±0.018	0.004 ±0.011	-0.013 ± 0.016	-0.011 ±0.015	0.007 ±0.024	0.004 ±0.020	-0.005 ±0.008	-0.017 ± 0.016	0.015 ±0.027	0.014 ±0.025	0.014 ±0.017	0.005 ±0.017	0.026 ±0.024	0.015 ±0.021
	Acc_2	0.053	0.054	0.045	0.071	0.021	-0.013	0.007	-0.000	-0.025	-0.011	0.002	0.014	-0.008	-0.021	0.020	0.006	0.017	0.007	0.061	0.020
		±0.027	±0.027	±0.032	±0.033	±0.033	±0.027	±0.021	±0.030	± 0.020	±0.020	±0.029	±0.020	±0.011	± 0.018	±0.027	±0.020	±0.016	±0.028	±0.030	±0.021
sub5	κ	0.052 ±0.029	0.043 ±0.027	0.026 ±0.026	0.043 ±0.038	0.000 ±0.034	-0.012 ± 0.021	-0.005 ±0.022	-0.000 ±0.024	-0.004 ±0.024	-0.011 ±0.014	0.006 ±0.023	0.017 ±0.023	0.000 ±0.000	-0.011 ± 0.022	-0.001 ±0.024	0.009 ±0.023	0.018 ±0.023	0.017 ±0.021	0.012 ±0.018	0.000 ±0.021
		0.045 ±0.015	0.035 ±0.022	0.027 ±0.016	0.046 ±0.021	0.005 ±0.025	-0.016 ±0.019	0.002 ±0.014	0.007 ±0.007	-0.009 ±0.019	-0.032 ± 0.026	0.006 ±0.012	0.025 ±0.025	-0.002 ±0.006	-0.023 ± 0.029	-0.002 ±0.014	0.013 ±0.016	0.008 ±0.015	0.006 ±0.011	0.004 ±0.011	0.009 ±0.014
	BAcc	0.044 ±0.025	0.037 ±0.023	0.022 ±0.022	0.037 ±0.032	0.000 ±0.030	-0.010 ± 0.018	-0.005 ±0.018	-0.000 ±0.020	-0.004 ±0.021	-0.009 ±0.012	0.005 ±0.020	0.014 ±0.020	0.000 ±0.000	-0.010 ± 0.019	-0.001 ±0.021	0.008 ±0.019	0.015 ±0.020	0.014 ±0.018	0.011 ±0.016	0.000 ±0.018
	Acc_1	0.045 ±0.025	0.037 ±0.023	0.021 ±0.022	0.037 ±0.032	0.003 ±0.030	-0.012 ± 0.018	-0.005 ±0.018	-0.000 ±0.021	-0.005 ±0.021	-0.009 ±0.012	0.004 ±0.022	0.013 ±0.022	-0.001 ±0.004	-0.010 ± 0.020	-0.001 ±0.021	0.009 ±0.018	0.014 ±0.021	0.015 ±0.017	0.011 ±0.015	-0.000 ±0.016
	Acc_2	0.047	0.050	0.027	0.051	-0.013	-0.014	-0.008	0.011	-0.010	-0.019	0.009	0.023	-0.002	-0.021	0.013	0.015	0.018	0.009	0.018	0.008
		±0.027	±0.027	±0.027	±0.034	±0.032	±0.019	±0.034	±0.020	±0.025	± 0.024	±0.022	±0.032	±0.007	± 0.030	±0.032	±0.032	±0.025	±0.029	±0.019	±0.016
	κ	0.047 ±0.030	0.043 ±0.029	0.034 ±0.029	0.057 ±0.035	-0.002 ±0.023	-0.010 ± 0.018	0.008 ±0.016	-0.004 ±0.024	-0.016 ± 0.015	-0.009 ±0.015	0.001 ±0.028	0.016 ±0.029	0.000 ±0.001	-0.009 ±0.017	0.026 ±0.026	0.006 ±0.023	0.031 ±0.022	0.016 ±0.025	0.027 ±0.027	0.009 ±0.030
sub6	AUC	0.050 ±0.013	0.040 ±0.021	0.027 ±0.021	0.060 ±0.019	0.006 ±0.023	-0.007 ±0.021	0.009 ±0.011	-0.002 ±0.012	-0.023 ± 0.012	-0.029 ± 0.022	0.000 ±0.015	0.019 ±0.023	-0.000 ±0.002	-0.017 ±0.021	0.021 ±0.020	0.011 ±0.019	0.019 ±0.017	0.007 ±0.015	0.030 ±0.010	0.006 ±0.019
	BAcc	0.040 ±0.026	0.037 ±0.025	0.029 ±0.025	0.049 ±0.030	-0.002 ±0.020	-0.009 ± 0.016	0.007 ±0.014	-0.003 ±0.020	-0.014 ± 0.013	-0.008 ±0.013	0.001 ±0.024	0.013 ±0.025	0.000 ±0.001	-0.007 ±0.015	0.022 ±0.022	0.005 ±0.020	0.027 ±0.019	0.014 ±0.022	0.023 ±0.023	0.008 ±0.026
	Acc_1	0.040 ±0.026	0.037 ±0.025	0.029 ±0.025	0.049 ±0.030	-0.002 ±0.020	-0.009 ± 0.016	0.007 ±0.014	-0.004 ±0.021	-0.013 ± 0.012	-0.008 ±0.012	0.000 ±0.025	0.014 ±0.027	0.000 ±0.001	-0.008 ±0.014	0.022 ±0.022	0.006 ±0.019	0.029 ±0.019	0.015 ±0.024	0.027 ±0.026	0.007 ±0.026
	Acc_2	0.050	0.039	0.034	0.064	0.001	-0.008	0.004	-0.001	-0.017	-0.015	-0.001	0.025	-0.000	-0.012	0.039	0.019	0.031	0.017	0.044	0.014
		±0.026	±0.035	±0.026	±0.031	±0.021	±0.023	±0.024	±0.023	± 0.014	± 0.019	±0.024	±0.037	±0.006	±0.022	±0.029	±0.023	±0.027	±0.026	±0.023	±0.026
sub7	κ	0.074 ±0.026	0.057 ±0.035	0.046 ±0.039	0.063 ±0.031	0.008 ±0.022	-0.017 ± 0.015	0.020 ±0.028	0.002 ±0.026	-0.012 ± 0.021	-0.009 ±0.016	0.008 ±0.012	0.013 ±0.023	0.002 ±0.013	-0.011 ±0.015	0.026 ±0.026	-0.004 ±0.017	0.012 ±0.019	-0.001 ±0.033	0.016 ±0.019	0.008 ±0.034
		0.078 ±0.013	0.058 ±0.015	0.041 ±0.024	0.075 ±0.018	0.003 ±0.016	-0.019 ±0.018	0.018 ±0.011	0.005 ±0.017	-0.032 ± 0.022	-0.025 ± 0.029	0.009 ±0.009	0.024 ±0.015	-0.007 ±0.018	-0.017 ±0.018	0.026 ±0.013	0.007 ±0.015	0.004 ±0.015	-0.002 ±0.009	0.018 ±0.012	0.003 ±0.015
	AUC	0.063 ±0.022	0.049 ±0.030	0.039 ±0.034	0.054 ±0.026	0.007 ±0.019	-0.015 ± 0.013	0.017 ±0.024	0.002 ±0.022	-0.010 ± 0.018	-0.007 ±0.013	0.007 ±0.010	0.011 ±0.020	0.002 ±0.011	-0.010 ±0.013	0.023 ±0.023	-0.003 ±0.015	0.010 ±0.017	-0.001 ±0.028	0.014 ±0.016	0.007 ±0.029
	BAcc	0.063 ±0.022	0.049 ±0.030	0.039 ±0.034	0.054 ±0.026	0.007 ±0.019	-0.015 ± 0.013	0.017 ±0.024	0.002 ±0.022	-0.010 ± 0.018	-0.007 ±0.013	0.007 ±0.010	0.011 ±0.020	0.002 ±0.011	-0.010 ±0.013	0.023 ±0.023	-0.003 ±0.015	0.010 ±0.017	-0.001 ±0.028	0.014 ±0.016	0.007 ±0.029

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(f)	BIOT ^(f)	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)	STEEGformer-b ^(f)	STEEGformer-b ^(f)	STEEGformer-b ^(f)	STEEGformer-b ^(f)
sub8	Acc.1	0.064 ±0.022	0.048 ±0.030	0.039 ±0.034	0.053 ±0.026	0.007 ±0.019	-0.015 ± 0.013	0.017 ±0.024	0.002 ±0.022	-0.010 ± 0.018	-0.007 ±0.013	0.006 ±0.011	0.012 ±0.021	0.001 ±0.010	-0.010 ±0.013	0.022 ±0.022	-0.003 ±0.014	0.008 ±0.018	0.000 ±0.028	0.016 ±0.017	0.008 ±0.029
	Acc.2	0.077 ±0.027	0.053 ±0.033	0.051 ±0.040	0.079 ±0.030	-0.002 ±0.032	-0.019 ± 0.025	0.023 ±0.022	0.003 ±0.024	-0.015 ± 0.025	-0.015 ±0.021	0.012 ±0.019	0.032 ±0.026	-0.002 ±0.012	-0.011 ±0.018	0.046 ±0.021	0.002 ±0.028	0.012 ±0.028	0.003 ±0.032	0.038 ±0.027	0.007 ±0.026
	κ	0.052 ±0.043	0.039 ±0.022	0.027 ±0.035	0.059 ±0.037	0.013 ±0.026	-0.016 ± 0.022	-0.000 ±0.022	-0.004 ±0.016	-0.029 ± 0.022	-0.010 ±0.016	0.000 ±0.021	0.023 ±0.026	-0.002 ±0.004	-0.010 ±0.022	0.017 ±0.030	0.027 ±0.032	0.018 ±0.029	0.023 ±0.023	0.027 ±0.028	0.003 ±0.025
	AUC	0.060 ±0.025	0.049 ±0.018	0.036 ±0.024	0.066 ±0.022	0.009 ±0.022	-0.017 ±0.012	0.004 ±0.015	-0.002 ±0.014	-0.031 ± 0.025	-0.029 ± 0.029	0.004 ±0.009	0.033 ±0.030	-0.003 ±0.007	-0.008 ±0.019	0.012 ±0.014	0.015 ±0.017	0.003 ±0.012	0.010 ±0.009	0.013 ±0.015	0.012 ±0.020
	BAcc	0.044 ±0.037	0.033 ±0.019	0.023 ±0.030	0.051 ±0.032	0.011 ±0.022	-0.013 ± 0.019	-0.000 ±0.019	-0.003 ±0.014	-0.024 ± 0.019	-0.008 ±0.013	0.000 ±0.018	0.020 ±0.023	-0.002 ±0.003	-0.008 ±0.019	0.014 ±0.025	0.023 ±0.028	0.016 ±0.025	0.020 ±0.020	0.023 ±0.024	0.003 ±0.022
	Acc.1	0.044 ±0.037	0.034 ±0.019	0.023 ±0.030	0.051 ±0.032	0.011 ±0.022	-0.013 ± 0.019	-0.001 ±0.020	-0.003 ±0.014	-0.024 ± 0.019	-0.007 ±0.014	-0.000 ±0.018	0.021 ±0.024	-0.002 ±0.003	-0.009 ±0.019	0.014 ±0.026	0.023 ±0.028	0.016 ±0.026	0.020 ±0.021	0.024 ±0.025	0.003 ±0.021
sub9	Acc.2	0.062 ±0.040	0.053 ±0.029	0.037 ±0.027	0.069 ±0.036	0.016 ±0.028	-0.010 ±0.023	0.005 ±0.025	-0.005 ±0.026	-0.038 ± 0.025	-0.018 ± 0.023	0.002 ±0.026	0.029 ±0.029	-0.002 ±0.006	-0.009 ±0.022	0.032 ±0.036	0.017 ±0.026	0.020 ±0.023	0.022 ±0.031	0.059 ±0.024	0.004 ±0.032
	κ	0.061 ±0.028	0.053 ±0.027	0.040 ±0.024	0.061 ±0.034	0.001 ±0.021	-0.019 ± 0.022	0.014 ±0.025	0.006 ±0.015	-0.005 ±0.026	-0.012 ± 0.018	0.002 ±0.020	0.017 ±0.020	-0.000 ±0.001	-0.003 ±0.019	0.020 ±0.024	0.013 ±0.027	0.003 ±0.017	0.014 ±0.018	0.014 ±0.028	0.015 ±0.032
	AUC	0.063 ±0.018	0.058 ±0.020	0.041 ±0.016	0.071 ±0.021	-0.007 ±0.020	-0.024 ± 0.023	0.014 ±0.013	0.001 ±0.011	-0.014 ±0.022	-0.028 ± 0.030	0.008 ±0.011	0.018 ±0.014	-0.001 ±0.008	-0.010 ±0.017	0.020 ±0.016	0.010 ±0.019	0.009 ±0.013	0.003 ±0.016	0.013 ±0.017	0.007 ±0.019
	BAcc	0.053 ±0.024	0.045 ±0.023	0.034 ±0.021	0.052 ±0.029	0.001 ±0.018	-0.017 ± 0.019	0.012 ±0.022	0.005 ±0.013	-0.005 ±0.023	-0.010 ± 0.016	0.002 ±0.017	0.015 ±0.017	-0.000 ±0.001	-0.003 ±0.017	0.018 ±0.021	0.011 ±0.023	0.003 ±0.015	0.012 ±0.015	0.012 ±0.024	0.013 ±0.027
	Acc.1	0.053 ±0.024	0.045 ±0.023	0.034 ±0.021	0.053 ±0.030	0.003 ±0.019	-0.017 ± 0.019	0.013 ±0.021	0.005 ±0.013	-0.004 ±0.022	-0.012 ± 0.017	0.002 ±0.015	0.016 ±0.017	-0.001 ±0.003	-0.001 ±0.017	0.018 ±0.021	0.011 ±0.024	0.003 ±0.016	0.014 ±0.018	0.011 ±0.026	0.012 ±0.028
	Acc.2	0.055 ±0.037	0.058 ±0.026	0.041 ±0.022	0.080 ±0.034	-0.010 ±0.024	-0.021 ± 0.026	0.025 ±0.028	0.002 ±0.013	-0.009 ±0.022	-0.020 ± 0.018	0.011 ±0.017	0.026 ±0.015	-0.000 ±0.006	-0.009 ±0.020	0.040 ±0.032	0.011 ±0.022	0.018 ±0.023	0.023 ±0.026	0.049 ±0.032	0.005 ±0.026

E 4-COMMAND INNER SPEECH CLASSIFICATION

E.1 POPULATION-LEVEL RESULTS

Table 39: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.057	0.563	0.293	0.293	0.558
DeepConvnet	± 0.030	± 0.036	± 0.022	± 0.022	± 0.051
	0.055	0.554	0.291	0.291	0.563
EEGNet	± 0.029	± 0.020	± 0.022	± 0.022	± 0.031
	0.054	0.546	0.291	0.291	0.559
Conformer	± 0.037	± 0.027	± 0.028	± 0.028	± 0.035
	0.056	0.559	0.292	0.292	0.568
CTNet	± 0.044	± 0.031	± 0.033	± 0.033	± 0.027
	-0.019	0.491	0.236	0.236	0.495
BIOT (f)	± 0.024	± 0.027	± 0.018	± 0.018	± 0.030
	-0.002	0.499	0.249	0.249	0.502
BIOT (l)	± 0.048	± 0.025	± 0.036	± 0.036	± 0.036
	0.061	0.545	0.296	0.296	0.535
BENDR (f)	± 0.027	± 0.019	± 0.020	± 0.020	± 0.017
	0.004	0.516	0.253	0.253	0.512
BENDR (l)	± 0.048	± 0.032	± 0.036	± 0.036	± 0.034
	0.085	0.564	0.314	0.314	0.561
CBraMod (f)	± 0.045	± 0.029	± 0.034	± 0.033	± 0.027
	0.054	0.544	0.290	0.290	0.538
CBraMod (l)	± 0.022	± 0.027	± 0.017	± 0.017	± 0.035
	0.001	0.499	0.250	0.251	0.496
EEGPT (f)	± 0.045	± 0.030	± 0.033	± 0.034	± 0.036
	0.026	0.530	0.270	0.270	0.536
EEGPT (l)	± 0.033	± 0.025	± 0.025	± 0.025	± 0.034
	0.000	0.502	0.250	0.250	0.499
LaBraM (f)	± 0.044	± 0.026	± 0.033	± 0.033	± 0.028
	0.016	0.518	0.262	0.262	0.523
LaBraM (l)	± 0.030	± 0.024	± 0.022	± 0.022	± 0.029
	0.005	0.514	0.254	0.253	0.522
STEEGformer-s (f)	± 0.040	± 0.021	± 0.030	± 0.030	± 0.044
	-0.017	0.491	0.237	0.236	0.491
STEEGformer-s (l)	± 0.036	± 0.021	± 0.027	± 0.027	± 0.022
	0.010	0.510	0.258	0.258	0.508
STEEGformer-b (f)	± 0.024	± 0.023	± 0.018	± 0.018	± 0.025
	0.007	0.498	0.255	0.255	0.499
STEEGformer-b (l)	± 0.033	± 0.021	± 0.024	± 0.025	± 0.024
	0.024	0.519	0.268	0.264	0.518
STEEGformer-l (f)	± 0.038	± 0.018	± 0.029	± 0.035	± 0.037
	-0.010	0.478	0.242	0.243	0.478
STEEGformer-l (l)	± 0.020	± 0.029	± 0.015	± 0.016	± 0.028

Table 40: Per-Subject Performance Metrics of Population-Trained Models

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	$\begin{matrix} 0.107 \\ \pm 0.060 \end{matrix}$	0.047 ± 0.135	0.013 ± 0.096	-0.007 ± 0.121	-0.033 ± 0.075	-0.033 ± 0.113	0.087 ± 0.090	0.027 ± 0.119	0.100 ± 0.053	0.040 ± 0.015	0.053 ± 0.117	0.007 ± 0.060	-0.013 ± 0.143	0.013 ± 0.065	-0.033 ± 0.078	0.007 ± 0.043	-0.007 ± 0.060	-0.020 ± 0.119	0.013 ± 0.056	-0.007 ± 0.095
	AUC	$\begin{matrix} 0.588 \\ \pm 0.076 \end{matrix}$	0.546 ± 0.061	0.540 ± 0.065	0.538 ± 0.025	0.468 ± 0.024	0.489 ± 0.088	0.566 ± 0.048	0.566 ± 0.035	0.572 ± 0.055	0.538 ± 0.037	0.521 ± 0.090	0.510 ± 0.043	0.503 ± 0.085	0.535 ± 0.029	0.493 ± 0.071	0.483 ± 0.064	0.534 ± 0.048	0.495 ± 0.062	0.516 ± 0.037	0.458 ± 0.073
	BAcc	$\begin{matrix} 0.330 \\ \pm 0.045 \end{matrix}$	0.285 ± 0.101	0.260 ± 0.072	0.245 ± 0.091	0.225 ± 0.056	0.225 ± 0.085	0.315 ± 0.068	0.270 ± 0.089	0.325 ± 0.040	0.280 ± 0.011	0.290 ± 0.088	0.255 ± 0.045	0.240 ± 0.107	0.260 ± 0.049	0.225 ± 0.059	0.255 ± 0.033	0.245 ± 0.045	0.235 ± 0.089	0.260 ± 0.042	0.245 ± 0.072
	Acc.1	$\begin{matrix} 0.330 \\ \pm 0.045 \end{matrix}$	0.285 ± 0.101	0.260 ± 0.072	0.245 ± 0.091	0.225 ± 0.056	0.225 ± 0.085	0.315 ± 0.068	0.270 ± 0.089	0.325 ± 0.040	0.280 ± 0.011	0.290 ± 0.088	0.255 ± 0.045	0.240 ± 0.107	0.265 ± 0.055	0.225 ± 0.059	0.250 ± 0.040	0.245 ± 0.045	0.235 ± 0.089	0.247 ± 0.040	0.245 ± 0.072
	Acc.2	0.580 ± 0.076	0.540 ± 0.060	0.580 ± 0.114	$\begin{matrix} 0.590 \\ \pm 0.049 \end{matrix}$	0.460 ± 0.022	0.515 ± 0.101	0.545 ± 0.060	0.540 ± 0.088	$\begin{matrix} 0.590 \\ \pm 0.049 \end{matrix}$	0.550 ± 0.056	0.530 ± 0.069	0.490 ± 0.068	0.510 ± 0.129	0.555 ± 0.057	0.490 ± 0.060	0.480 ± 0.062	0.565 ± 0.084	0.505 ± 0.048	0.531 ± 0.059	0.485 ± 0.095
sub10	κ	$\begin{matrix} 0.050 \\ \pm 0.099 \end{matrix}$	0.044 ± 0.082	0.044 ± 0.130	0.022 ± 0.105	-0.050 ± 0.101	0.028 ± 0.071	0.056 ± 0.116	-0.056 ± 0.104	0.039 ± 0.087	$\begin{matrix} 0.067 \\ \pm 0.082 \end{matrix}$	0.056 ± 0.071	0.056 ± 0.081	-0.022 ± 0.077	-0.011 ± 0.058	0.011 ± 0.091	-0.050 ± 0.087	-0.011 ± 0.054	-0.044 ± 0.061	-0.017 ± 0.064	-0.033 ± 0.077
	AUC	$\begin{matrix} 0.538 \\ \pm 0.059 \end{matrix}$	0.565 ± 0.053	0.521 ± 0.074	0.521 ± 0.043	0.462 ± 0.036	0.517 ± 0.038	0.527 ± 0.055	0.470 ± 0.052	0.566 ± 0.076	$\begin{matrix} 0.584 \\ \pm 0.019 \end{matrix}$	0.531 ± 0.036	0.547 ± 0.042	0.466 ± 0.084	0.497 ± 0.035	0.501 ± 0.084	0.464 ± 0.033	0.489 ± 0.036	0.470 ± 0.020	0.498 ± 0.038	0.455 ± 0.039
	BAcc	$\begin{matrix} 0.287 \\ \pm 0.074 \end{matrix}$	0.283 ± 0.062	0.283 ± 0.097	0.267 ± 0.079	0.212 ± 0.076	0.271 ± 0.053	0.292 ± 0.087	0.208 ± 0.078	0.279 ± 0.065	$\begin{matrix} 0.300 \\ \pm 0.062 \end{matrix}$	0.292 ± 0.053	0.292 ± 0.061	0.233 ± 0.058	0.242 ± 0.043	0.258 ± 0.068	0.212 ± 0.065	0.242 ± 0.041	0.217 ± 0.046	0.237 ± 0.048	0.225 ± 0.058
	Acc.1	$\begin{matrix} 0.287 \\ \pm 0.074 \end{matrix}$	0.283 ± 0.062	0.283 ± 0.097	0.267 ± 0.079	0.212 ± 0.076	0.271 ± 0.053	0.292 ± 0.087	0.208 ± 0.078	0.279 ± 0.065	$\begin{matrix} 0.300 \\ \pm 0.062 \end{matrix}$	0.292 ± 0.053	0.292 ± 0.061	0.233 ± 0.058	0.242 ± 0.043	0.258 ± 0.068	0.212 ± 0.065	0.242 ± 0.041	0.217 ± 0.046	0.237 ± 0.056	0.225 ± 0.058
	Acc.2	$\begin{matrix} 0.504 \\ \pm 0.085 \end{matrix}$	0.588 ± 0.031	0.521 ± 0.104	0.542 ± 0.069	0.463 ± 0.054	0.504 ± 0.048	0.512 ± 0.043	0.492 ± 0.032	0.562 ± 0.090	$\begin{matrix} 0.596 \\ \pm 0.056 \end{matrix}$	0.512 ± 0.024	0.525 ± 0.031	0.438 ± 0.078	0.483 ± 0.027	0.517 ± 0.099	0.450 ± 0.052	0.492 ± 0.032	0.438 ± 0.026	0.456 ± 0.034	0.433 ± 0.060
sub2	κ	0.089 ± 0.119	0.072 ± 0.101	0.039 ± 0.032	0.056 ± 0.086	-0.011 ± 0.119	0.039 ± 0.042	0.033 ± 0.084	-0.067 ± 0.085	0.028 ± 0.068	0.033 ± 0.072	-0.039 ± 0.089	-0.056 ± 0.068	$\begin{matrix} 0.128 \\ \pm 0.061 \end{matrix}$	0.039 ± 0.078	-0.022 ± 0.023	-0.078 ± 0.012	0.000 ± 0.056	-0.011 ± 0.097	0.050 ± 0.108	-0.033 ± 0.050
	AUC	$\begin{matrix} 0.595 \\ \pm 0.079 \end{matrix}$	0.562 ± 0.039	0.533 ± 0.033	0.529 ± 0.047	0.478 ± 0.060	0.538 ± 0.039	0.566 ± 0.068	0.467 ± 0.052	0.537 ± 0.067	0.512 ± 0.050	0.456 ± 0.039	0.468 ± 0.038	$\begin{matrix} 0.561 \\ \pm 0.030 \end{matrix}$	0.560 ± 0.082	0.509 ± 0.021	0.454 ± 0.043	0.502 ± 0.026	0.456 ± 0.048	0.527 ± 0.074	0.492 ± 0.064
	BAcc	0.317 ± 0.089	0.304 ± 0.076	0.279 ± 0.024	0.292 ± 0.064	0.242 ± 0.089	0.279 ± 0.032	0.275 ± 0.063	0.200 ± 0.064	0.271 ± 0.051	0.275 ± 0.054	0.221 ± 0.067	0.208 ± 0.051	$\begin{matrix} 0.346 \\ \pm 0.046 \end{matrix}$	0.279 ± 0.058	0.233 ± 0.017	0.192 ± 0.009	0.250 ± 0.042	0.242 ± 0.073	0.287 ± 0.081	0.225 ± 0.037
	Acc.1	0.317 ± 0.089	0.304 ± 0.076	0.279 ± 0.024	0.292 ± 0.064	0.242 ± 0.089	0.279 ± 0.032	0.275 ± 0.063	0.200 ± 0.064	0.271 ± 0.051	0.275 ± 0.054	0.221 ± 0.067	0.208 ± 0.051	$\begin{matrix} 0.346 \\ \pm 0.046 \end{matrix}$	0.275 ± 0.058	0.233 ± 0.017	0.192 ± 0.009	0.250 ± 0.042	0.237 ± 0.079	0.300 ± 0.093	0.225 ± 0.037

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub3	Acc.2	0.596 ± 0.098	0.567 ± 0.048	0.525 ± 0.048	0.525 ± 0.076	0.500 ± 0.078	0.525 ± 0.061	0.533 ± 0.098	0.454 ± 0.104	0.558 ± 0.113	0.533 ± 0.060	0.408 ± 0.068	0.496 ± 0.040	0.508 ± 0.019	0.575 ± 0.054	0.508 ± 0.011	0.467 ± 0.067	0.542 ± 0.042	0.475 ± 0.061	0.516 ± 0.116	0.471 ± 0.054
	κ	0.007 ± 0.096	0.052 ± 0.100	-0.022 ± 0.042	-0.007 ± 0.092	-0.007 ± 0.080	-0.096 ± 0.050	0.052 ± 0.081	-0.074 ± 0.128	0.119 ± 0.084	0.044 ± 0.151	-0.067 ± 0.066	-0.007 ± 0.112	-0.044 ± 0.099	0.022 ± 0.125	-0.052 ± 0.133	-0.059 ± 0.033	-0.044 ± 0.071	0.007 ± 0.088	0.044 ± 0.066	-0.015 ± 0.093
	AUC	0.496 ± 0.101	0.549 ± 0.092	0.490 ± 0.068	0.545 ± 0.081	0.506 ± 0.067	0.467 ± 0.053	0.507 ± 0.040	0.478 ± 0.067	0.545 ± 0.060	0.508 ± 0.088	0.487 ± 0.043	0.508 ± 0.049	0.499 ± 0.047	0.509 ± 0.060	0.479 ± 0.068	0.493 ± 0.031	0.459 ± 0.055	0.500 ± 0.045	0.516 ± 0.044	0.456 ± 0.038
	BAcc	0.256 ± 0.072	0.289 ± 0.075	0.233 ± 0.032	0.244 ± 0.069	0.244 ± 0.060	0.178 ± 0.037	0.289 ± 0.061	0.194 ± 0.096	0.339 ± 0.063	0.283 ± 0.114	0.200 ± 0.050	0.244 ± 0.084	0.217 ± 0.075	0.267 ± 0.093	0.211 ± 0.099	0.206 ± 0.025	0.217 ± 0.053	0.256 ± 0.066	0.283 ± 0.050	0.239 ± 0.070
	Acc.1	0.256 ± 0.072	0.289 ± 0.075	0.233 ± 0.032	0.244 ± 0.069	0.244 ± 0.060	0.178 ± 0.037	0.289 ± 0.061	0.194 ± 0.096	0.339 ± 0.063	0.283 ± 0.114	0.200 ± 0.050	0.244 ± 0.084	0.217 ± 0.075	0.261 ± 0.101	0.211 ± 0.099	0.206 ± 0.025	0.217 ± 0.053	0.256 ± 0.066	0.291 ± 0.075	0.239 ± 0.070
	Acc.2	0.461 ± 0.105	0.533 ± 0.120	0.494 ± 0.053	0.567 ± 0.144	0.467 ± 0.087	0.478 ± 0.093	0.500 ± 0.071	0.450 ± 0.082	0.539 ± 0.075	0.472 ± 0.119	0.506 ± 0.060	0.511 ± 0.087	0.556 ± 0.044	0.539 ± 0.099	0.417 ± 0.086	0.494 ± 0.053	0.489 ± 0.050	0.533 ± 0.012	0.500 ± 0.100	0.461 ± 0.080
sub4	κ	0.067 ± 0.046	0.078 ± 0.023	0.100 ± 0.067	0.128 ± 0.130	-0.072 ± 0.050	-0.017 ± 0.064	0.056 ± 0.083	0.022 ± 0.060	0.172 ± 0.046	0.033 ± 0.053	0.011 ± 0.082	0.044 ± 0.058	-0.006 ± 0.120	0.067 ± 0.101	-0.006 ± 0.060	-0.044 ± 0.091	0.039 ± 0.105	0.017 ± 0.070	0.067 ± 0.133	0.017 ± 0.061
	AUC	0.592 ± 0.038	0.560 ± 0.041	0.562 ± 0.051	0.603 ± 0.061	0.443 ± 0.014	0.470 ± 0.017	0.548 ± 0.044	0.511 ± 0.055	0.599 ± 0.046	0.550 ± 0.035	0.521 ± 0.073	0.554 ± 0.056	0.492 ± 0.048	0.539 ± 0.089	0.529 ± 0.064	0.496 ± 0.060	0.523 ± 0.049	0.514 ± 0.036	0.534 ± 0.074	0.479 ± 0.071
	BAcc	0.300 ± 0.035	0.308 ± 0.017	0.325 ± 0.050	0.346 ± 0.097	0.196 ± 0.038	0.237 ± 0.048	0.292 ± 0.062	0.267 ± 0.045	0.379 ± 0.034	0.275 ± 0.040	0.258 ± 0.062	0.283 ± 0.043	0.246 ± 0.090	0.300 ± 0.076	0.246 ± 0.045	0.217 ± 0.068	0.279 ± 0.079	0.263 ± 0.052	0.300 ± 0.099	0.263 ± 0.046
	Acc.1	0.300 ± 0.035	0.308 ± 0.017	0.325 ± 0.050	0.346 ± 0.097	0.196 ± 0.038	0.237 ± 0.048	0.292 ± 0.063	0.267 ± 0.045	0.379 ± 0.034	0.275 ± 0.040	0.258 ± 0.062	0.283 ± 0.043	0.246 ± 0.090	0.300 ± 0.076	0.246 ± 0.045	0.217 ± 0.068	0.279 ± 0.079	0.263 ± 0.052	0.297 ± 0.106	0.263 ± 0.046
	Acc.2	0.617 ± 0.076	0.550 ± 0.043	0.604 ± 0.079	0.621 ± 0.048	0.458 ± 0.074	0.429 ± 0.043	0.537 ± 0.065	0.512 ± 0.041	0.596 ± 0.043	0.529 ± 0.072	0.492 ± 0.085	0.554 ± 0.068	0.500 ± 0.049	0.529 ± 0.126	0.579 ± 0.063	0.479 ± 0.059	0.521 ± 0.075	0.508 ± 0.097	0.588 ± 0.093	0.479 ± 0.053
sub5	κ	0.050 ± 0.072	0.117 ± 0.103	0.056 ± 0.119	0.133 ± 0.123	-0.022 ± 0.036	0.028 ± 0.081	0.050 ± 0.082	0.011 ± 0.080	0.072 ± 0.054	0.056 ± 0.065	0.061 ± 0.108	0.039 ± 0.122	-0.011 ± 0.112	0.017 ± 0.159	0.072 ± 0.058	0.028 ± 0.056	0.044 ± 0.171	0.056 ± 0.071	-0.028 ± 0.102	0.006 ± 0.084
	AUC	0.569 ± 0.049	0.580 ± 0.085	0.573 ± 0.065	0.589 ± 0.074	0.475 ± 0.041	0.490 ± 0.085	0.547 ± 0.068	0.531 ± 0.030	0.556 ± 0.043	0.540 ± 0.031	0.540 ± 0.070	0.537 ± 0.087	0.492 ± 0.062	0.515 ± 0.063	0.546 ± 0.067	0.501 ± 0.039	0.528 ± 0.084	0.500 ± 0.032	0.518 ± 0.055	0.475 ± 0.048
	BAcc	0.287 ± 0.054	0.338 ± 0.077	0.292 ± 0.090	0.350 ± 0.092	0.233 ± 0.027	0.271 ± 0.061	0.287 ± 0.061	0.258 ± 0.060	0.304 ± 0.041	0.292 ± 0.049	0.296 ± 0.081	0.279 ± 0.092	0.242 ± 0.084	0.263 ± 0.119	0.304 ± 0.043	0.271 ± 0.042	0.283 ± 0.128	0.292 ± 0.053	0.229 ± 0.077	0.254 ± 0.063
	Acc.1	0.287 ± 0.054	0.338 ± 0.077	0.292 ± 0.090	0.350 ± 0.092	0.233 ± 0.027	0.271 ± 0.061	0.287 ± 0.061	0.258 ± 0.060	0.304 ± 0.041	0.292 ± 0.049	0.296 ± 0.081	0.279 ± 0.092	0.242 ± 0.084	0.263 ± 0.119	0.304 ± 0.043	0.271 ± 0.042	0.283 ± 0.128	0.296 ± 0.052	0.222 ± 0.079	0.254 ± 0.063
	Acc.2	0.287 ± 0.054	0.338 ± 0.077	0.292 ± 0.090	0.350 ± 0.092	0.233 ± 0.027	0.271 ± 0.061	0.287 ± 0.061	0.258 ± 0.060	0.304 ± 0.041	0.292 ± 0.049	0.296 ± 0.081	0.279 ± 0.092	0.242 ± 0.084	0.263 ± 0.119	0.304 ± 0.043	0.271 ± 0.042	0.283 ± 0.128	0.296 ± 0.052	0.222 ± 0.079	0.254 ± 0.063

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
		0.567 ±0.061	0.600 ±0.121	0.600 ±0.060	0.575 ±0.072	0.529 ±0.079	0.500 ±0.069	0.554 ±0.062	0.542 ±0.042	0.529 ±0.032	0.533 ±0.067	0.521 ±0.062	0.508 ±0.107	0.479 ±0.082	0.508 ±0.041	0.554 ±0.081	0.500 ±0.074	0.512 ±0.107	0.504 ±0.060	0.522 ±0.032	0.483 ±0.092
sub6	κ	0.041 ±0.113	0.061 ±0.092	0.092 ±0.105	0.050 ±0.114	-0.008 ±0.074	0.005 ±0.096	0.068 ±0.090	0.019 ±0.073	0.036 ±0.054	0.015 ±0.072	0.030 ±0.087	0.067 ±0.072	0.007 ±0.091	0.001 ±0.081	0.037 ±0.105	0.000 ±0.053	0.025 ±0.048	0.010 ±0.046	-0.050 ±0.044	-0.028 ±0.098
	AUC	0.514 ±0.071	0.530 ±0.084	0.552 ±0.056	0.536 ±0.071	0.504 ±0.028	0.492 ±0.076	0.521 ±0.050	0.517 ±0.070	0.512 ±0.040	0.527 ±0.027	0.527 ±0.063	0.560 ±0.048	0.531 ±0.086	0.485 ±0.048	0.525 ±0.065	0.518 ±0.055	0.530 ±0.036	0.538 ±0.023	0.475 ±0.040	0.503 ±0.047
	BAcc	0.280 ±0.086	0.294 ±0.071	0.320 ±0.077	0.288 ±0.086	0.244 ±0.055	0.255 ±0.071	0.301 ±0.067	0.263 ±0.057	0.277 ±0.040	0.262 ±0.054	0.271 ±0.066	0.301 ±0.055	0.256 ±0.070	0.251 ±0.062	0.278 ±0.077	0.250 ±0.040	0.269 ±0.036	0.257 ±0.033	0.212 ±0.034	0.230 ±0.076
	Acc.1	0.282 ±0.086	0.296 ±0.070	0.320 ±0.079	0.287 ±0.083	0.245 ±0.055	0.254 ±0.072	0.301 ±0.067	0.264 ±0.056	0.278 ±0.042	0.259 ±0.056	0.273 ±0.066	0.301 ±0.053	0.255 ±0.068	0.250 ±0.062	0.278 ±0.079	0.250 ±0.040	0.269 ±0.037	0.255 ±0.038	0.188 ±0.037	0.227 ±0.076
	Acc.2	0.482 ±0.060	0.523 ±0.104	0.551 ±0.054	0.532 ±0.077	0.481 ±0.078	0.472 ±0.091	0.524 ±0.080	0.513 ±0.124	0.519 ±0.063	0.518 ±0.046	0.542 ±0.096	0.565 ±0.062	0.528 ±0.094	0.523 ±0.026	0.528 ±0.046	0.505 ±0.086	0.481 ±0.054	0.500 ±0.030	0.484 ±0.119	0.486 ±0.070
	κ	0.022 ±0.046	0.044 ±0.058	0.033 ±0.080	0.067 ±0.107	-0.011 ±0.064	-0.022 ±0.087	0.011 ±0.058	0.017 ±0.082	0.089 ±0.069	0.072 ±0.037	-0.039 ±0.050	0.033 ±0.053	0.017 ±0.061	-0.056 ±0.071	-0.050 ±0.072	0.000 ±0.059	0.011 ±0.105	-0.039 ±0.046	0.033 ±0.077	-0.022 ±0.072
sub7	AUC	0.567 ±0.055	0.565 ±0.044	0.528 ±0.065	0.546 ±0.058	0.531 ±0.033	0.475 ±0.058	0.543 ±0.030	0.540 ±0.063	0.583 ±0.046	0.541 ±0.044	0.445 ±0.043	0.534 ±0.036	0.470 ±0.047	0.475 ±0.062	0.496 ±0.058	0.474 ±0.066	0.491 ±0.036	0.487 ±0.061	0.534 ±0.050	0.433 ±0.016
	BAcc	0.267 ±0.034	0.283 ±0.043	0.275 ±0.060	0.300 ±0.080	0.242 ±0.048	0.233 ±0.065	0.258 ±0.043	0.263 ±0.062	0.317 ±0.052	0.304 ±0.028	0.221 ±0.038	0.275 ±0.040	0.263 ±0.046	0.208 ±0.053	0.212 ±0.054	0.250 ±0.044	0.258 ±0.079	0.221 ±0.035	0.275 ±0.058	0.233 ±0.054
	Acc.1	0.267 ±0.034	0.283 ±0.043	0.275 ±0.060	0.300 ±0.080	0.242 ±0.048	0.233 ±0.065	0.258 ±0.043	0.263 ±0.062	0.317 ±0.052	0.304 ±0.028	0.221 ±0.038	0.275 ±0.040	0.263 ±0.046	0.208 ±0.053	0.208 ±0.049	0.250 ±0.044	0.258 ±0.079	0.221 ±0.035	0.291 ±0.056	0.233 ±0.054
	Acc.2	0.588 ±0.070	0.608 ±0.045	0.567 ±0.090	0.558 ±0.074	0.508 ±0.070	0.508 ±0.084	0.533 ±0.084	0.525 ±0.095	0.575 ±0.073	0.500 ±0.053	0.450 ±0.068	0.558 ±0.058	0.487 ±0.064	0.463 ±0.045	0.525 ±0.099	0.508 ±0.067	0.483 ±0.050	0.508 ±0.102	0.525 ±0.042	0.454 ±0.061
	κ	0.100 ±0.033	0.047 ±0.107	0.080 ±0.135	0.080 ±0.107	0.007 ±0.119	-0.047 ±0.112	0.087 ±0.090	0.047 ±0.065	0.147 ±0.087	0.093 ±0.114	0.000 ±0.122	0.027 ±0.028	-0.013 ±0.073	0.033 ±0.100	0.047 ±0.176	-0.020 ±0.069	0.020 ±0.122	0.047 ±0.084	0.047 ±0.090	-0.020 ±0.018
	AUC	0.622 ±0.045	0.578 ±0.036	0.592 ±0.086	0.621 ±0.054	0.516 ±0.058	0.505 ±0.069	0.568 ±0.041	0.530 ±0.044	0.621 ±0.035	0.603 ±0.083	0.486 ±0.069	0.548 ±0.049	0.519 ±0.039	0.533 ±0.040	0.551 ±0.097	0.495 ±0.080	0.541 ±0.082	0.506 ±0.059	0.538 ±0.056	0.478 ±0.060
sub8	BAcc	0.325 ±0.025	0.285 ±0.080	0.310 ±0.101	0.310 ±0.080	0.255 ±0.089	0.215 ±0.084	0.315 ±0.068	0.285 ±0.049	0.360 ±0.065	0.320 ±0.086	0.250 ±0.092	0.270 ±0.021	0.240 ±0.055	0.275 ±0.075	0.285 ±0.132	0.235 ±0.052	0.265 ±0.091	0.285 ±0.063	0.285 ±0.068	0.235 ±0.014
	Acc.1	0.325 ±0.025	0.285 ±0.080	0.310 ±0.101	0.310 ±0.080	0.255 ±0.089	0.215 ±0.084	0.315 ±0.068	0.285 ±0.049	0.360 ±0.065	0.320 ±0.086	0.250 ±0.092	0.270 ±0.021	0.240 ±0.055	0.275 ±0.075	0.285 ±0.132	0.230 ±0.054	0.265 ±0.091	0.285 ±0.063	0.263 ±0.080	0.235 ±0.014
	Acc.2	0.325 ±0.025	0.285 ±0.080	0.310 ±0.101	0.310 ±0.080	0.255 ±0.089	0.215 ±0.084	0.315 ±0.068	0.285 ±0.049	0.360 ±0.065	0.320 ±0.086	0.250 ±0.092	0.270 ±0.021	0.240 ±0.055	0.275 ±0.075	0.285 ±0.132	0.230 ±0.054	0.265 ±0.091	0.285 ±0.063	0.263 ±0.080	0.235 ±0.014

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s	STEEGformer-s	STEEGformer-b	STEEGformer-b	STEEGformer-l	STEEGformer-l
sub9	Acc.2	0.625 ± 0.053	0.600 ±0.061	0.605 ±0.084	0.600 ±0.077	0.535 ±0.065	0.500 ±0.077	0.540 ±0.076	0.520 ±0.078	0.605 ±0.048	0.600 ±0.059	0.510 ±0.060	0.610 ± 0.076	0.490 ±0.108	0.530 ±0.037	0.590 ±0.129	0.485 ±0.014	0.495 ±0.065	0.490 ±0.065	0.481 ±0.068	0.470 ±0.072
	κ	0.039 ±0.072	-0.011 ±0.070	0.106 ± 0.036	0.033 ±0.108	0.017 ±0.109	0.094 ±0.133	0.117 ± 0.057	0.089 ±0.110	0.050 ±0.101	0.083 ±0.092	-0.061 ±0.053	0.050 ±0.123	-0.039 ±0.072	0.033 ±0.057	0.044 ±0.112	0.044 ±0.058	0.022 ±0.075	0.050 ±0.084	0.078 ±0.077	0.033 ±0.093
	AUC	0.544 ±0.048	0.509 ±0.031	0.571 ± 0.032	0.561 ± 0.058	0.527 ±0.056	0.548 ±0.076	0.557 ±0.021	0.556 ±0.092	0.547 ±0.061	0.544 ±0.039	0.478 ±0.075	0.539 ±0.088	0.484 ±0.039	0.533 ±0.070	0.514 ±0.026	0.528 ±0.074	0.500 ±0.041	0.518 ±0.067	0.539 ±0.032	0.549 ±0.077
	BAcc	0.279 ±0.054	0.242 ±0.052	0.329 ± 0.027	0.275 ±0.081	0.263 ±0.081	0.321 ±0.099	0.338 ± 0.043	0.317 ±0.083	0.287 ±0.076	0.312 ±0.069	0.204 ±0.040	0.287 ±0.092	0.221 ±0.054	0.275 ±0.043	0.283 ±0.084	0.283 ±0.043	0.267 ±0.056	0.287 ±0.063	0.308 ±0.058	0.275 ±0.070
	Acc.1	0.279 ±0.054	0.242 ±0.052	0.329 ± 0.027	0.275 ±0.081	0.263 ±0.081	0.321 ±0.099	0.338 ± 0.043	0.317 ±0.083	0.287 ±0.076	0.312 ±0.069	0.204 ±0.040	0.287 ±0.092	0.221 ±0.054	0.279 ±0.048	0.283 ±0.084	0.283 ±0.043	0.267 ±0.056	0.287 ±0.063	0.300 ±0.068	0.279 ±0.072
	Acc.2	0.558 ±0.080	0.517 ±0.076	0.546 ±0.037	0.571 ±0.089	0.546 ±0.063	0.583 ± 0.093	0.567 ±0.060	0.571 ±0.094	0.537 ±0.071	0.550 ±0.056	0.492 ±0.094	0.546 ±0.101	0.496 ±0.068	0.525 ±0.037	0.512 ±0.035	0.537 ±0.111	0.504 ±0.081	0.525 ±0.104	0.575 ± 0.080	0.554 ±0.032

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E.2 PER-SUBJECT RESULTS

E.2.1 WITHIN-SUBJECT EVALUATION

Table 41: Average "Self" Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.038	0.538	0.279	0.279	0.527
DeepConvnet	± 0.030	± 0.020	± 0.022	± 0.022	± 0.030
	0.043	0.538	0.282	0.282	0.531
EEGNet	± 0.036	± 0.029	± 0.027	± 0.027	± 0.034
	0.048	0.546	0.286	0.286	0.544
Conformer	± 0.045	± 0.026	± 0.034	± 0.034	± 0.020
	0.047	0.553	0.285	0.285	0.552
CTNet	± 0.060	± 0.038	± 0.045	± 0.045	± 0.040
	0.026	0.508	0.269	0.269	0.498
BIOT (f)	± 0.038	± 0.023	± 0.028	± 0.028	± 0.031
	-0.013	0.491	0.240	0.240	0.484
BIOT (l)	± 0.038	± 0.023	± 0.028	± 0.028	± 0.041
	0.032	0.527	0.274	0.275	0.534
BENDR (f)	± 0.043	± 0.026	± 0.033	± 0.033	± 0.030
	0.024	0.520	0.268	0.268	0.515
BENDR (l)	± 0.038	± 0.018	± 0.028	± 0.027	± 0.037
	0.030	0.539	0.272	0.272	0.550
CBraMod (f)	± 0.067	± 0.054	± 0.051	± 0.050	± 0.060
	0.020	0.529	0.265	0.265	0.518
CBraMod (l)	± 0.037	± 0.035	± 0.028	± 0.028	± 0.031
	0.021	0.518	0.266	0.266	0.514
EEGPT (f)	± 0.058	± 0.035	± 0.043	± 0.043	± 0.043
	0.008	0.508	0.256	0.256	0.503
EEGPT (l)	± 0.061	± 0.049	± 0.046	± 0.046	± 0.055
	-0.005	0.495	0.246	0.246	0.497
LaBraM (f)	± 0.029	± 0.027	± 0.022	± 0.022	± 0.044
	-0.004	0.485	0.247	0.248	0.483
LaBraM (l)	± 0.031	± 0.018	± 0.023	± 0.023	± 0.028
	0.001	0.495	0.250	0.250	0.499
STEEGformer-s (f)	± 0.050	± 0.036	± 0.038	± 0.038	± 0.041
	-0.027	0.469	0.229	0.230	0.463
STEEGformer-s (l)	± 0.033	± 0.034	± 0.024	± 0.024	± 0.046
	-0.005	0.506	0.246	0.246	0.502
STEEGformer-b (f)	± 0.044	± 0.030	± 0.033	± 0.033	± 0.039
	-0.023	0.471	0.233	0.233	0.482
STEEGformer-b (l)	± 0.032	± 0.028	± 0.024	± 0.024	± 0.031
	0.012	0.507	0.259	0.254	0.503
STEEGformer-l (f)	± 0.048	± 0.037	± 0.036	± 0.044	± 0.050
	-0.026	0.473	0.231	0.231	0.480
STEEGformer-l (l)	± 0.047	± 0.039	± 0.035	± 0.035	± 0.036

Table 42: Per-Subject "Self" Performance (trained+tested on same subject)

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (i)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-b (f)
sub1	κ	0.040 ± 0.043	0.013 ± 0.145	0.007 ± 0.104	0.020 ± 0.112	0.000 ± 0.041	-0.007 ± 0.072	0.033 ± 0.111	-0.067 ± 0.041	-0.000 ± 0.085	0.073 ± 0.132	-0.073 ± 0.101	-0.073 ± 0.068	-0.020 ± 0.056	0.007 ± 0.104	0.013 ± 0.117	0.007 ± 0.116	-0.080 ± 0.069	0.007 ± 0.072	0.037 ± 0.086	0.007 ± 0.049
	AUC	0.538 ± 0.035	0.533 ± 0.090	0.521 ± 0.084	0.518 ± 0.082	0.466 ± 0.049	0.504 ± 0.042	0.504 ± 0.071	0.487 ± 0.076	0.498 ± 0.066	0.537 ± 0.064	0.466 ± 0.075	0.445 ± 0.065	0.515 ± 0.067	0.496 ± 0.059	0.485 ± 0.071	0.470 ± 0.082	0.445 ± 0.032	0.447 ± 0.044	0.529 ± 0.054	0.464 ± 0.065
	BAcc	0.280 ± 0.033	0.260 ± 0.108	0.255 ± 0.078	0.265 ± 0.084	0.250 ± 0.031	0.245 ± 0.054	0.275 ± 0.083	0.200 ± 0.031	0.250 ± 0.064	0.305 ± 0.099	0.195 ± 0.076	0.195 ± 0.051	0.235 ± 0.042	0.255 ± 0.078	0.260 ± 0.088	0.255 ± 0.087	0.190 ± 0.052	0.255 ± 0.054	0.278 ± 0.065	0.255 ± 0.037
	Acc.1	0.280 ± 0.033	0.260 ± 0.108	0.255 ± 0.078	0.265 ± 0.084	0.250 ± 0.031	0.245 ± 0.054	0.275 ± 0.083	0.205 ± 0.021	0.250 ± 0.064	0.305 ± 0.099	0.195 ± 0.076	0.195 ± 0.051	0.235 ± 0.042	0.255 ± 0.078	0.260 ± 0.088	0.255 ± 0.087	0.190 ± 0.052	0.255 ± 0.054	0.262 ± 0.095	0.255 ± 0.037
	Acc.2	0.555 ± 0.054	0.515 ± 0.060	0.530 ± 0.111	0.515 ± 0.095	0.430 ± 0.065	0.515 ± 0.063	0.535 ± 0.101	0.460 ± 0.093	0.510 ± 0.091	0.495 ± 0.065	0.455 ± 0.094	0.440 ± 0.074	0.590 ± 0.074	0.510 ± 0.082	0.480 ± 0.060	0.495 ± 0.084	0.415 ± 0.052	0.480 ± 0.054	0.488 ± 0.077	0.510 ± 0.104
	κ	0.050 ± 0.036	0.022 ± 0.119	0.067 ± 0.082	0.006 ± 0.060	0.033 ± 0.110	-0.006 ± 0.057	0.011 ± 0.058	0.089 ± 0.041	0.078 ± 0.095	0.028 ± 0.048	0.050 ± 0.046	-0.028 ± 0.052	-0.017 ± 0.042	-0.067 ± 0.099	-0.006 ± 0.093	-0.039 ± 0.085	-0.017 ± 0.080	-0.033 ± 0.075	0.089 ± 0.122	-0.083 ± 0.073
	AUC	0.546 ± 0.040	0.535 ± 0.051	0.554 ± 0.032	0.565 ± 0.037	0.506 ± 0.080	0.514 ± 0.054	0.517 ± 0.053	0.546 ± 0.035	0.576 ± 0.058	0.537 ± 0.066	0.550 ± 0.024	0.505 ± 0.026	0.480 ± 0.037	0.458 ± 0.066	0.494 ± 0.079	0.422 ± 0.041	0.490 ± 0.059	0.420 ± 0.032	0.557 ± 0.057	0.450 ± 0.022
	BAcc	0.287 ± 0.027	0.267 ± 0.089	0.300 ± 0.062	0.254 ± 0.045	0.275 ± 0.083	0.246 ± 0.043	0.258 ± 0.043	0.317 ± 0.031	0.308 ± 0.071	0.271 ± 0.036	0.287 ± 0.034	0.229 ± 0.039	0.237 ± 0.032	0.200 ± 0.075	0.246 ± 0.070	0.221 ± 0.064	0.237 ± 0.060	0.225 ± 0.056	0.317 ± 0.091	0.188 ± 0.055
sub10	Acc.1	0.287 ± 0.027	0.267 ± 0.089	0.300 ± 0.062	0.254 ± 0.045	0.275 ± 0.083	0.246 ± 0.043	0.258 ± 0.043	0.317 ± 0.031	0.308 ± 0.071	0.271 ± 0.036	0.287 ± 0.034	0.229 ± 0.039	0.237 ± 0.032	0.200 ± 0.075	0.246 ± 0.070	0.225 ± 0.068	0.237 ± 0.060	0.225 ± 0.056	0.319 ± 0.118	0.188 ± 0.055
	Acc.2	0.525 ± 0.058	0.546 ± 0.081	0.571 ± 0.054	0.579 ± 0.074	0.537 ± 0.106	0.529 ± 0.064	0.508 ± 0.102	0.558 ± 0.099	0.575 ± 0.075	0.508 ± 0.068	0.533 ± 0.070	0.479 ± 0.047	0.496 ± 0.079	0.450 ± 0.095	0.492 ± 0.088	0.438 ± 0.071	0.504 ± 0.065	0.417 ± 0.062	0.569 ± 0.098	0.458 ± 0.026
	κ	0.089 ± 0.112	0.033 ± 0.126	0.033 ± 0.060	0.100 ± 0.091	0.044 ± 0.067	-0.033 ± 0.087	0.044 ± 0.032	0.017 ± 0.120	0.039 ± 0.110	-0.028 ± 0.020	0.022 ± 0.030	0.028 ± 0.079	0.011 ± 0.050	0.022 ± 0.132	-0.039 ± 0.054	-0.011 ± 0.032	-0.039 ± 0.087	0.039 ± 0.075	0.056 ± 0.092	-0.044 ± 0.058
	AUC	0.558 ± 0.043	0.525 ± 0.051	0.544 ± 0.029	0.570 ± 0.030	0.537 ± 0.070	0.464 ± 0.051	0.535 ± 0.022	0.516 ± 0.079	0.547 ± 0.059	0.522 ± 0.035	0.528 ± 0.015	0.511 ± 0.035	0.528 ± 0.040	0.481 ± 0.077	0.498 ± 0.045	0.511 ± 0.044	0.507 ± 0.051	0.506 ± 0.048	0.538 ± 0.053	0.500 ± 0.051
	BAcc	0.317 ± 0.084	0.275 ± 0.095	0.275 ± 0.045	0.325 ± 0.068	0.283 ± 0.050	0.225 ± 0.065	0.283 ± 0.024	0.263 ± 0.090	0.279 ± 0.083	0.229 ± 0.015	0.267 ± 0.023	0.271 ± 0.059	0.258 ± 0.038	0.267 ± 0.099	0.221 ± 0.041	0.242 ± 0.024	0.221 ± 0.065	0.279 ± 0.056	0.292 ± 0.069	0.217 ± 0.043
	Acc.1	0.317 ± 0.084	0.275 ± 0.095	0.275 ± 0.045	0.325 ± 0.068	0.283 ± 0.050	0.225 ± 0.065	0.283 ± 0.024	0.263 ± 0.090	0.279 ± 0.083	0.229 ± 0.015	0.267 ± 0.023	0.271 ± 0.059	0.258 ± 0.038	0.267 ± 0.099	0.221 ± 0.041	0.242 ± 0.024	0.221 ± 0.065	0.279 ± 0.056	0.312 ± 0.077	0.217 ± 0.043
	Acc.2	0.512 ± 0.052	0.504 ± 0.111	0.529 ± 0.050	0.604 ± 0.079	0.508 ± 0.093	0.458 ± 0.093	0.521 ± 0.026	0.500 ± 0.097	0.567 ± 0.058	0.492 ± 0.054	0.533 ± 0.011	0.512 ± 0.054	0.521 ± 0.057	0.463 ± 0.099	0.471 ± 0.075	0.537 ± 0.052	0.508 ± 0.048	0.542 ± 0.071	0.531 ± 0.016	0.500 ± 0.085

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-h (f)	STEEGformer-h (f)
sub3	κ	-0.030 ± 0.147	-0.030 ± 0.066	0.015 ± 0.100	-0.000 ± 0.094	0.022 ± 0.056	0.044 ± 0.084	0.030 ± 0.103	0.022 ± 0.130	-0.096 ± 0.085	0.067 ± 0.048	0.022 ± 0.072	-0.067 ± 0.084	0.037 ± 0.087	-0.015 ± 0.093	-0.059 ± 0.107	-0.044 ± 0.071	-0.037 ± 0.059	-0.052 ± 0.093	0.000 ± 0.111	0.000 ± 0.114
	AUC	0.490 ± 0.085	0.480 ± 0.049	0.522 ± 0.080	0.509 ± 0.111	0.483 ± 0.019	0.533 ± 0.059	0.521 ± 0.053	0.498 ± 0.046	0.453 ± 0.090	0.526 ± 0.078	0.488 ± 0.052	0.430 ± 0.048	0.509 ± 0.015	0.477 ± 0.031	0.467 ± 0.086	0.484 ± 0.054	0.495 ± 0.057	0.473 ± 0.024	0.463 ± 0.073	0.481 ± 0.040
	BAcc	0.228 ± 0.110	0.228 ± 0.050	0.261 ± 0.075	0.250 ± 0.071	0.267 ± 0.042	0.283 ± 0.063	0.272 ± 0.077	0.267 ± 0.097	0.178 ± 0.064	0.300 ± 0.036	0.267 ± 0.054	0.200 ± 0.063	0.278 ± 0.065	0.239 ± 0.070	0.206 ± 0.080	0.217 ± 0.053	0.222 ± 0.044	0.211 ± 0.070	0.250 ± 0.083	0.250 ± 0.086
	Acc_1	0.228 ± 0.110	0.228 ± 0.050	0.261 ± 0.075	0.250 ± 0.071	0.267 ± 0.042	0.283 ± 0.063	0.272 ± 0.077	0.267 ± 0.097	0.178 ± 0.064	0.300 ± 0.036	0.267 ± 0.054	0.200 ± 0.063	0.278 ± 0.065	0.239 ± 0.070	0.206 ± 0.080	0.217 ± 0.050	0.222 ± 0.044	0.211 ± 0.070	0.184 ± 0.087	0.250 ± 0.086
	Acc_2	0.456 ± 0.072	0.478 ± 0.082	0.511 ± 0.105	0.478 ± 0.122	0.517 ± 0.050	0.528 ± 0.081	0.528 ± 0.116	0.483 ± 0.032	0.444 ± 0.088	0.511 ± 0.091	0.467 ± 0.082	0.411 ± 0.150	0.511 ± 0.050	0.478 ± 0.082	0.483 ± 0.067	0.483 ± 0.091	0.478 ± 0.053	0.489 ± 0.072	0.391 ± 0.097	0.494 ± 0.036
sub4	κ	0.050 ± 0.066	0.094 ± 0.061	0.044 ± 0.072	0.078 ± 0.101	0.006 ± 0.089	-0.022 ± 0.069	0.128 ± 0.025	0.056 ± 0.071	0.083 ± 0.086	0.039 ± 0.061	0.011 ± 0.089	0.111 ± 0.081	-0.028 ± 0.065	0.033 ± 0.082	0.044 ± 0.116	-0.044 ± 0.075	0.056 ± 0.083	-0.017 ± 0.042	0.019 ± 0.052	-0.022 ± 0.069
	AUC	0.552 ± 0.066	0.558 ± 0.021	0.544 ± 0.024	0.582 ± 0.054	0.508 ± 0.053	0.468 ± 0.052	0.578 ± 0.043	0.539 ± 0.044	0.591 ± 0.033	0.548 ± 0.030	0.532 ± 0.048	0.553 ± 0.049	0.480 ± 0.052	0.498 ± 0.046	0.526 ± 0.081	0.441 ± 0.035	0.560 ± 0.031	0.473 ± 0.014	0.528 ± 0.050	0.468 ± 0.037
	BAcc	0.287 ± 0.050	0.321 ± 0.046	0.283 ± 0.054	0.308 ± 0.076	0.254 ± 0.067	0.233 ± 0.052	0.346 ± 0.019	0.292 ± 0.053	0.312 ± 0.064	0.279 ± 0.046	0.258 ± 0.067	0.333 ± 0.061	0.229 ± 0.049	0.275 ± 0.061	0.283 ± 0.087	0.217 ± 0.056	0.292 ± 0.062	0.237 ± 0.032	0.264 ± 0.039	0.233 ± 0.052
	Acc_1	0.287 ± 0.050	0.321 ± 0.046	0.283 ± 0.054	0.308 ± 0.076	0.254 ± 0.067	0.233 ± 0.052	0.350 ± 0.017	0.292 ± 0.053	0.312 ± 0.064	0.279 ± 0.046	0.258 ± 0.067	0.333 ± 0.061	0.229 ± 0.049	0.275 ± 0.061	0.283 ± 0.087	0.217 ± 0.056	0.292 ± 0.062	0.242 ± 0.024	0.263 ± 0.057	0.233 ± 0.052
	Acc_2	0.542 ± 0.047	0.550 ± 0.024	0.558 ± 0.056	0.592 ± 0.070	0.492 ± 0.048	0.404 ± 0.035	0.588 ± 0.040	0.571 ± 0.056	0.617 ± 0.068	0.550 ± 0.070	0.533 ± 0.089	0.529 ± 0.060	0.446 ± 0.079	0.487 ± 0.052	0.533 ± 0.107	0.446 ± 0.050	0.550 ± 0.041	0.500 ± 0.039	0.544 ± 0.091	0.475 ± 0.045
sub5	κ	0.022 ± 0.046	0.072 ± 0.046	-0.006 ± 0.103	0.083 ± 0.062	0.011 ± 0.082	-0.094 ± 0.072	-0.006 ± 0.036	0.022 ± 0.063	-0.022 ± 0.060	-0.039 ± 0.015	-0.039 ± 0.064	-0.044 ± 0.061	-0.033 ± 0.077	0.011 ± 0.064	-0.044 ± 0.093	-0.028 ± 0.020	0.033 ± 0.036	0.006 ± 0.023	-0.072 ± 0.097	-0.033 ± 0.036
	AUC	0.543 ± 0.034	0.556 ± 0.029	0.542 ± 0.039	0.572 ± 0.020	0.516 ± 0.030	0.464 ± 0.060	0.512 ± 0.035	0.538 ± 0.031	0.482 ± 0.041	0.470 ± 0.028	0.496 ± 0.061	0.474 ± 0.054	0.465 ± 0.054	0.496 ± 0.029	0.458 ± 0.075	0.473 ± 0.016	0.507 ± 0.023	0.470 ± 0.021	0.460 ± 0.047	0.465 ± 0.031
	BAcc	0.267 ± 0.034	0.304 ± 0.035	0.246 ± 0.077	0.312 ± 0.047	0.258 ± 0.062	0.179 ± 0.054	0.246 ± 0.027	0.267 ± 0.048	0.233 ± 0.045	0.221 ± 0.011	0.221 ± 0.048	0.217 ± 0.046	0.225 ± 0.058	0.258 ± 0.048	0.217 ± 0.070	0.229 ± 0.015	0.275 ± 0.027	0.254 ± 0.017	0.196 ± 0.073	0.225 ± 0.027
	Acc_1	0.267 ± 0.034	0.304 ± 0.035	0.246 ± 0.077	0.312 ± 0.047	0.258 ± 0.062	0.179 ± 0.054	0.246 ± 0.027	0.267 ± 0.048	0.233 ± 0.045	0.221 ± 0.011	0.221 ± 0.048	0.217 ± 0.046	0.225 ± 0.058	0.258 ± 0.048	0.217 ± 0.070	0.229 ± 0.015	0.275 ± 0.027	0.254 ± 0.017	0.197 ± 0.072	0.225 ± 0.027
	Acc_2	0.550 ± 0.072	0.571 ± 0.058	0.546 ± 0.048	0.592 ± 0.032	0.512 ± 0.038	0.521 ± 0.103	0.554 ± 0.077	0.525 ± 0.045	0.479 ± 0.042	0.479 ± 0.059	0.525 ± 0.099	0.467 ± 0.076	0.471 ± 0.043	0.496 ± 0.048	0.471 ± 0.097	0.417 ± 0.042	0.517 ± 0.045	0.483 ± 0.040	0.456 ± 0.034	0.450 ± 0.032
sub6	κ	0.056 ± 0.156	0.043 ± 0.047	0.025 ± 0.054	-0.063 ± 0.013	0.051 ± 0.036	-0.043 ± 0.085	-0.025 ± 0.058	0.032 ± 0.049	-0.038 ± 0.073	0.012 ± 0.084	0.001 ± 0.081	0.049 ± 0.057	-0.024 ± 0.084	-0.048 ± 0.059	-0.045 ± 0.104	-0.004 ± 0.135	0.037 ± 0.063	-0.013 ± 0.082	-0.033 ± 0.153	-0.063 ± 0.077

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
	AUC	0.526 ±0.054	0.522 ±0.044	0.517 ±0.054	0.492 ±0.035	0.527 ±0.035	0.466 ±0.061	0.485 ±0.062	0.520 ±0.051	0.492 ±0.070	0.529 ± 0.078	0.506 ±0.030	0.559 ± 0.023	0.468 ±0.065	0.460 ±0.032	0.437 ±0.072	0.488 ±0.065	0.508 ±0.062	0.485 ±0.047	0.485 ±0.110	0.459 ±0.045
	BAcc	0.293 ± 0.117	0.280 ±0.036	0.270 ±0.039	0.202 ±0.010	0.288 ± 0.028	0.217 ±0.064	0.230 ±0.043	0.273 ±0.038	0.221 ±0.053	0.259 ±0.063	0.251 ±0.060	0.285 ±0.044	0.232 ±0.062	0.214 ±0.046	0.215 ±0.078	0.246 ±0.100	0.277 ±0.047	0.240 ±0.061	0.226 ±0.115	0.202 ±0.058
	Acc.1	0.292 ± 0.118	0.282 ±0.035	0.269 ±0.040	0.204 ±0.010	0.287 ± 0.026	0.217 ±0.064	0.232 ±0.044	0.273 ±0.036	0.222 ±0.055	0.259 ±0.063	0.250 ±0.061	0.287 ±0.043	0.232 ±0.063	0.218 ±0.051	0.213 ±0.080	0.245 ±0.103	0.278 ±0.047	0.241 ±0.060	0.215 ±0.102	0.203 ±0.059
	Acc.2	0.495 ±0.058	0.524 ±0.064	0.547 ± 0.104	0.519 ±0.049	0.514 ±0.029	0.435 ±0.060	0.487 ±0.080	0.542 ±0.075	0.510 ±0.084	0.514 ±0.052	0.500 ±0.096	0.574 ± 0.042	0.482 ±0.075	0.459 ±0.029	0.435 ±0.066	0.468 ±0.107	0.495 ±0.079	0.463 ±0.075	0.501 ±0.109	0.467 ±0.058
sub7	κ	0.028 ±0.034	0.033 ±0.082	0.039 ±0.064	-0.006 ±0.082	0.044 ± 0.042	-0.011 ±0.080	0.011 ±0.089	0.022 ±0.107	0.056 ± 0.121	-0.022 ±0.030	0.011 ±0.093	-0.028 ±0.076	-0.039 ±0.046	0.028 ±0.168	-0.017 ±0.058	-0.083 ±0.065	-0.011 ±0.042	-0.072 ±0.046	-0.033 ±0.053	-0.072 ±0.054
	AUC	0.525 ±0.023	0.516 ±0.042	0.537 ± 0.029	0.522 ±0.052	0.534 ±0.054	0.506 ±0.045	0.512 ±0.048	0.512 ±0.033	0.552 ± 0.073	0.489 ±0.050	0.481 ±0.048	0.480 ±0.056	0.460 ±0.041	0.469 ±0.067	0.484 ±0.044	0.464 ±0.032	0.489 ±0.054	0.491 ±0.036	0.467 ±0.043	0.428 ±0.065
	BAcc	0.271 ±0.026	0.275 ±0.061	0.279 ±0.048	0.246 ±0.061	0.283 ± 0.032	0.242 ±0.060	0.258 ±0.067	0.267 ±0.080	0.292 ± 0.091	0.233 ±0.023	0.258 ±0.070	0.229 ±0.057	0.221 ±0.035	0.271 ±0.126	0.237 ±0.043	0.188 ±0.049	0.242 ±0.032	0.196 ±0.035	0.225 ±0.040	0.196 ±0.041
	Acc.1	0.271 ±0.026	0.275 ±0.061	0.279 ±0.048	0.246 ±0.061	0.283 ± 0.032	0.242 ±0.060	0.258 ±0.067	0.267 ±0.080	0.292 ± 0.091	0.233 ±0.023	0.258 ±0.070	0.229 ±0.057	0.221 ±0.035	0.271 ±0.126	0.237 ±0.043	0.188 ±0.049	0.242 ±0.032	0.196 ±0.035	0.231 ±0.047	0.196 ±0.041
	Acc.2	0.533 ± 0.052	0.487 ±0.076	0.517 ±0.070	0.517 ±0.058	0.512 ±0.060	0.483 ±0.056	0.500 ±0.066	0.487 ±0.081	0.567 ± 0.081	0.508 ±0.083	0.458 ±0.071	0.500 ±0.083	0.421 ±0.045	0.446 ±0.097	0.496 ±0.097	0.429 ±0.070	0.483 ±0.050	0.492 ±0.052	0.481 ±0.066	0.433 ±0.096
	κ	0.020 ±0.122	0.060 ±0.095	0.140 ± 0.072	0.113 ±0.168	-0.053 ±0.038	0.033 ±0.129	0.007 ±0.043	0.040 ±0.086	0.153 ± 0.141	0.047 ±0.038	0.053 ±0.110	0.040 ±0.043	0.047 ±0.117	-0.013 ±0.038	0.053 ±0.099	-0.060 ±0.119	-0.040 ±0.132	-0.040 ±0.092	-0.007 ±0.104	-0.033 ±0.078
sub8	AUC	0.540 ±0.060	0.592 ±0.040	0.610 ± 0.018	0.606 ±0.094	0.481 ±0.047	0.504 ±0.116	0.549 ±0.030	0.529 ±0.048	0.633 ± 0.074	0.608 ±0.037	0.549 ±0.066	0.536 ±0.028	0.539 ±0.031	0.500 ±0.030	0.537 ±0.048	0.415 ±0.043	0.507 ±0.088	0.432 ±0.050	0.484 ±0.059	0.438 ±0.023
	BAcc	0.265 ±0.091	0.295 ±0.072	0.355 ± 0.054	0.335 ±0.126	0.210 ±0.029	0.275 ±0.097	0.255 ±0.033	0.280 ±0.065	0.365 ± 0.105	0.285 ±0.029	0.290 ±0.082	0.280 ±0.033	0.285 ±0.088	0.240 ±0.029	0.290 ±0.074	0.205 ±0.089	0.220 ±0.099	0.220 ±0.069	0.245 ±0.078	0.225 ±0.059
	Acc.1	0.265 ±0.091	0.295 ±0.072	0.355 ± 0.054	0.335 ±0.126	0.210 ±0.029	0.275 ±0.097	0.255 ±0.033	0.280 ±0.065	0.365 ± 0.105	0.285 ±0.029	0.290 ±0.082	0.280 ±0.033	0.285 ±0.088	0.235 ±0.029	0.290 ±0.074	0.205 ±0.089	0.220 ±0.099	0.220 ±0.069	0.256 ±0.069	0.230 ±0.054
	Acc.2	0.555 ±0.057	0.590 ± 0.058	0.570 ±0.082	0.550 ±0.077	0.450 ±0.079	0.465 ±0.118	0.550 ±0.025	0.550 ±0.040	0.645 ± 0.116	0.590 ± 0.063	0.530 ±0.057	0.520 ±0.041	0.515 ±0.072	0.510 ±0.102	0.575 ±0.061	0.390 ±0.080	0.505 ±0.135	0.455 ±0.089	0.522 ±0.109	0.450 ±0.040
	κ	0.056 ±0.130	0.089 ±0.108	0.117 ±0.097	0.133 ± 0.099	0.100 ±0.116	0.011 ±0.061	0.089 ±0.093	0.006 ±0.087	0.044 ±0.058	0.028 ±0.028	0.156 ± 0.046	0.089 ±0.041	0.017 ±0.124	0.006 ±0.063	0.106 ±0.087	0.033 ±0.101	0.050 ±0.126	-0.056 ±0.081	0.067 ±0.075	0.089 ±0.087
	AUC	0.561 ±0.059	0.564 ±0.039	0.566 ±0.053	0.566 ± 0.054	0.526 ±0.059	0.491 ±0.046	0.556 ±0.041	0.514 ±0.044	0.568 ±0.066	0.521 ±0.046	0.585 ±0.061	0.589 ± 0.074	0.510 ±0.045	0.517 ±0.052	0.560 ±0.073	0.525 ±0.047	0.547 ±0.078	0.510 ±0.042	0.560 ±0.035	0.574 ±0.058

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	Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(l)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)	STEEGformer-b ^(f)	STEEGformer-b ^(l)	STEEGformer-l ^(f)	STEEGformer-l ^(l)
4389	BAcc	0.292	0.317	0.338	0.350	0.325	0.258	0.317	0.254	0.283	0.271	<div>0.367 ± 0.035</div>	0.317	0.263	0.254	0.329	0.275	0.287	0.208	0.300	0.317	
4390		±0.098	±0.081	±0.073	± 0.074	±0.087	±0.046	±0.070	±0.065	±0.043	±0.021		±0.031	±0.093	±0.048	±0.065	±0.076	±0.095	±0.061	±0.056	±0.065	
4391	Acc.1	0.292	0.317	0.338	0.350	0.325	0.258	0.317	0.254	0.279	0.271	<div>0.367 ± 0.035</div>	0.317	0.263	0.258	0.329	0.275	0.287	0.208	0.297	0.317	
4392		±0.098	±0.081	±0.073	± 0.074	±0.087	±0.046	±0.070	±0.065	±0.048	±0.021		±0.031	±0.093	±0.056	±0.065	±0.076	±0.095	±0.061	±0.055	±0.065	
4393	Acc.2	0.550	0.542	0.558	0.575	0.508	0.504	0.571	0.475	0.592	0.533	<div>0.604 ± 0.061</div>	0.600	0.521	0.533	0.558	0.529	0.567	0.504	0.547	0.562	
4394		±0.093	±0.088	±0.017	±0.076	±0.103	±0.107	±0.064	±0.074	±0.079	±0.046		± 0.074	±0.061	±0.070	±0.114	±0.048	±0.094	±0.054	±0.052	±0.057	
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E.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 43: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.017	0.516	0.262	0.263	0.518
	± 0.013	± 0.009	± 0.010	± 0.010	± 0.010
EEGNet	0.011	0.509	0.258	0.258	0.508
	± 0.013	± 0.010	± 0.009	± 0.009	± 0.012
Conformer	0.019	0.517	0.264	0.265	0.517
	± 0.014	± 0.009	± 0.011	± 0.011	± 0.011
CTNet	0.021	0.517	0.266	0.266	0.517
	± 0.009	± 0.008	± 0.007	± 0.007	± 0.010
BIOT (f)	0.002	0.500	0.251	0.251	0.499
	± 0.011	± 0.005	± 0.008	± 0.008	± 0.005
BIOT (l)	-0.003	0.498	0.248	0.248	0.501
	± 0.013	± 0.008	± 0.010	± 0.010	± 0.009
BENDR (f)	0.011	0.507	0.258	0.259	0.506
	± 0.010	± 0.009	± 0.008	± 0.008	± 0.011
BENDR (l)	0.010	0.507	0.257	0.257	0.506
	± 0.010	± 0.008	± 0.007	± 0.007	± 0.012
CBraMod (f)	0.016	0.514	0.262	0.262	0.515
	± 0.014	± 0.011	± 0.011	± 0.011	± 0.013
CBraMod (l)	0.004	0.508	0.253	0.253	0.505
	± 0.007	± 0.007	± 0.005	± 0.005	± 0.007
EEGPT (f)	0.007	0.505	0.255	0.255	0.507
	± 0.011	± 0.006	± 0.008	± 0.008	± 0.011
EEGPT (l)	0.005	0.504	0.254	0.254	0.496
	± 0.014	± 0.006	± 0.010	± 0.010	± 0.008
LaBraM (f)	0.006	0.504	0.255	0.255	0.501
	± 0.011	± 0.009	± 0.008	± 0.008	± 0.010
LaBraM (l)	0.006	0.509	0.254	0.254	0.513
	± 0.013	± 0.009	± 0.010	± 0.010	± 0.011
STEEGformer-s (f)	0.007	0.505	0.255	0.255	0.503
	± 0.007	± 0.007	± 0.005	± 0.005	± 0.013
STEEGformer-s (l)	0.003	0.501	0.252	0.252	0.500
	± 0.006	± 0.008	± 0.005	± 0.005	± 0.007
STEEGformer-b (f)	0.007	0.505	0.255	0.255	0.501
	± 0.009	± 0.006	± 0.007	± 0.007	± 0.007
STEEGformer-b (l)	0.003	0.504	0.252	0.252	0.504
	± 0.011	± 0.008	± 0.009	± 0.009	± 0.008
STEEGformer-l (f)	-0.001	0.502	0.249	0.249	0.506
	± 0.007	± 0.005	± 0.005	± 0.007	± 0.013
STEEGformer-l (l)	0.004	0.501	0.253	0.252	0.499
	± 0.009	± 0.008	± 0.006	± 0.006	± 0.008

Table 44: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (l)	BIOT (i)	BENDR (l)	BENDR (i)	CBraMod (l)	CBraMod (i)	EEGPT (l)	EEGPT (i)	LaBraM (l)	LaBraM (i)	STEEGformer-s (l)	STEEGformer-s (i)	STEEGformer-b (l)	STEEGformer-b (i)	STEEGformer-h (l)	STEEGformer-h (i)
sub1	κ	0.014 ± 0.032	0.035 ± 0.026	0.026 ± 0.036	0.028 ± 0.023	-0.009 ± 0.020	-0.024 ± 0.048	0.006 ± 0.030	0.006 ± 0.044	-0.002 ± 0.044	-0.005 ± 0.029	0.020 ± 0.044	0.027 ± 0.056	0.005 ± 0.023	0.032 ± 0.037	0.020 ± 0.026	0.005 ± 0.024	-0.000 ± 0.031	0.013 ± 0.020	0.002 ± 0.020	0.014 ± 0.026
	AUC	0.513 ± 0.026	0.522 ± 0.019	0.520 ± 0.018	0.527 ± 0.012	0.503 ± 0.022	0.487 ± 0.033	0.510 ± 0.013	0.513 ± 0.019	0.501 ± 0.044	0.496 ± 0.036	0.510 ± 0.028	0.515 ± 0.034	0.505 ± 0.009	0.526 ± 0.025	0.517 ± 0.014	0.507 ± 0.012	0.501 ± 0.023	0.512 ± 0.013	0.499 ± 0.020	0.512 ± 0.010
	BAcc	0.261 ± 0.024	0.276 ± 0.019	0.269 ± 0.027	0.271 ± 0.018	0.243 ± 0.015	0.232 ± 0.036	0.255 ± 0.023	0.255 ± 0.033	0.248 ± 0.033	0.246 ± 0.022	0.265 ± 0.033	0.270 ± 0.042	0.253 ± 0.017	0.274 ± 0.028	0.265 ± 0.020	0.254 ± 0.018	0.250 ± 0.024	0.260 ± 0.015	0.252 ± 0.015	0.260 ± 0.019
	Acc_1	0.260 ± 0.024	0.276 ± 0.019	0.269 ± 0.027	0.271 ± 0.018	0.243 ± 0.015	0.232 ± 0.036	0.255 ± 0.023	0.254 ± 0.033	0.248 ± 0.033	0.246 ± 0.022	0.265 ± 0.033	0.270 ± 0.042	0.253 ± 0.017	0.275 ± 0.028	0.265 ± 0.020	0.254 ± 0.018	0.250 ± 0.023	0.260 ± 0.015	0.247 ± 0.025	0.260 ± 0.019
	Acc_2	0.506 ± 0.023	0.511 ± 0.033	0.514 ± 0.029	0.528 ± 0.018	0.504 ± 0.021	0.488 ± 0.024	0.511 ± 0.022	0.494 ± 0.037	0.503 ± 0.047	0.497 ± 0.029	0.504 ± 0.021	0.506 ± 0.048	0.503 ± 0.017	0.534 ± 0.028	0.518 ± 0.010	0.510 ± 0.027	0.487 ± 0.017	0.509 ± 0.016	0.498 ± 0.020	0.507 ± 0.024
sub10	κ	-0.002 ± 0.028	-0.013 ± 0.043	0.021 ± 0.031	0.030 ± 0.059	0.016 ± 0.026	-0.002 ± 0.035	0.012 ± 0.030	0.020 ± 0.031	0.004 ± 0.041	-0.000 ± 0.032	0.024 ± 0.030	0.001 ± 0.024	-0.001 ± 0.020	0.001 ± 0.026	0.005 ± 0.031	0.001 ± 0.021	-0.002 ± 0.024	0.002 ± 0.033	-0.011 ± 0.043	-0.014 ± 0.017
	AUC	0.503 ± 0.020	0.494 ± 0.020	0.516 ± 0.023	0.515 ± 0.038	0.501 ± 0.018	0.493 ± 0.025	0.503 ± 0.019	0.511 ± 0.020	0.511 ± 0.030	0.515 ± 0.013	0.512 ± 0.028	0.504 ± 0.021	0.509 ± 0.011	0.502 ± 0.024	0.506 ± 0.018	0.501 ± 0.020	0.504 ± 0.018	0.502 ± 0.023	0.494 ± 0.027	0.494 ± 0.023
	BAcc	0.249 ± 0.021	0.240 ± 0.032	0.266 ± 0.023	0.272 ± 0.044	0.262 ± 0.019	0.248 ± 0.026	0.259 ± 0.022	0.265 ± 0.023	0.253 ± 0.031	0.250 ± 0.024	0.268 ± 0.022	0.251 ± 0.018	0.249 ± 0.015	0.251 ± 0.020	0.253 ± 0.023	0.251 ± 0.016	0.248 ± 0.018	0.251 ± 0.025	0.242 ± 0.032	0.240 ± 0.012
	Acc_1	0.249 ± 0.021	0.240 ± 0.032	0.265 ± 0.024	0.272 ± 0.044	0.262 ± 0.020	0.248 ± 0.026	0.259 ± 0.022	0.265 ± 0.023	0.253 ± 0.031	0.250 ± 0.024	0.268 ± 0.022	0.251 ± 0.018	0.249 ± 0.015	0.250 ± 0.020	0.253 ± 0.023	0.251 ± 0.016	0.248 ± 0.019	0.251 ± 0.025	0.236 ± 0.036	0.240 ± 0.012
	Acc_2	0.506 ± 0.035	0.495 ± 0.036	0.506 ± 0.043	0.506 ± 0.027	0.506 ± 0.027	0.503 ± 0.026	0.501 ± 0.031	0.510 ± 0.027	0.509 ± 0.035	0.496 ± 0.016	0.526 ± 0.031	0.500 ± 0.030	0.502 ± 0.018	0.512 ± 0.020	0.517 ± 0.009	0.495 ± 0.016	0.498 ± 0.026	0.500 ± 0.020	0.507 ± 0.031	0.488 ± 0.023
sub2	κ	0.005 ± 0.045	0.022 ± 0.025	0.033 ± 0.020	0.003 ± 0.028	0.001 ± 0.032	0.017 ± 0.027	0.011 ± 0.034	0.006 ± 0.052	0.015 ± 0.027	-0.003 ± 0.033	-0.007 ± 0.043	0.015 ± 0.029	-0.001 ± 0.049	0.008 ± 0.040	-0.000 ± 0.027	-0.007 ± 0.029	0.017 ± 0.049	-0.016 ± 0.032	0.008 ± 0.033	0.005 ± 0.022
	AUC	0.515 ± 0.037	0.525 ± 0.020	0.525 ± 0.016	0.513 ± 0.014	0.499 ± 0.022	0.511 ± 0.023	0.520 ± 0.028	0.505 ± 0.029	0.510 ± 0.023	0.506 ± 0.022	0.494 ± 0.022	0.498 ± 0.022	0.506 ± 0.025	0.518 ± 0.030	0.498 ± 0.030	0.482 ± 0.023	0.510 ± 0.026	0.488 ± 0.023	0.504 ± 0.020	0.502 ± 0.027
	BAcc	0.253 ± 0.034	0.266 ± 0.019	0.274 ± 0.015	± 0.021	0.252 ± 0.024	0.262 ± 0.021	0.259 ± 0.025	0.254 ± 0.039	0.261 ± 0.020	0.248 ± 0.025	0.245 ± 0.032	0.261 ± 0.022	0.249 ± 0.037	0.256 ± 0.030	0.250 ± 0.021	0.245 ± 0.022	0.263 ± 0.037	0.238 ± 0.024	0.256 ± 0.025	0.253 ± 0.016
	Acc_1	0.253 ± 0.034	0.266 ± 0.019	0.275 ± 0.015	± 0.021	0.252 ± 0.024	0.251 ± 0.021	0.262 ± 0.021	0.258 ± 0.025	0.254 ± 0.039	0.261 ± 0.020	0.248 ± 0.025	0.245 ± 0.032	0.261 ± 0.022	0.249 ± 0.037	0.250 ± 0.021	0.245 ± 0.022	0.263 ± 0.037	0.237 ± 0.024	0.260 ± 0.023	0.253 ± 0.017
	Acc_2	0.528 ± 0.051	0.534 ± 0.025	0.537 ± 0.020	0.519 ± 0.024	0.503 ± 0.024	0.517 ± 0.029	0.513 ± 0.034	0.511 ± 0.033	0.513 ± 0.036	0.517 ± 0.032	0.494 ± 0.021	0.495 ± 0.017	0.496 ± 0.032	0.510 ± 0.024	0.482 ± 0.022	0.488 ± 0.024	0.504 ± 0.032	0.490 ± 0.023	0.516 ± 0.034	0.513 ± 0.018

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-h (f)	STEEGformer-h (l)
sub3	κ	0.007 ± 0.044	0.008 ± 0.031	-0.010 ± 0.039	0.008 ± 0.032	0.008 ± 0.035	-0.002 ± 0.031	-0.005 ± 0.056	-0.002 ± 0.026	0.013 ± 0.030	0.000 ± 0.047	-0.003 ± 0.032	-0.007 ± 0.034	0.016 ± 0.027	0.011 ± 0.037	0.003 ± 0.016	0.010 ± 0.035	0.007 ± 0.018	0.013 ± 0.030	-0.005 ± 0.033	0.008 ± 0.016
	AUC	0.514 ± 0.035	0.506 ± 0.025	0.503 ± 0.026	0.508 ± 0.023	0.504 ± 0.018	0.505 ± 0.018	0.497 ± 0.034	0.498 ± 0.021	0.502 ± 0.031	0.505 ± 0.039	0.496 ± 0.026	0.503 ± 0.013	0.507 ± 0.019	0.504 ± 0.025	0.508 ± 0.022	0.501 ± 0.028	0.496 ± 0.028	0.502 ± 0.030	0.500 ± 0.027	0.503 ± 0.036
	BAcc	0.255 ± 0.033	0.256 ± 0.023	0.243 ± 0.029	0.256 ± 0.024	0.256 ± 0.026	0.248 ± 0.023	0.247 ± 0.042	0.248 ± 0.020	0.260 ± 0.023	0.250 ± 0.035	0.248 ± 0.024	0.245 ± 0.025	0.262 ± 0.020	0.258 ± 0.028	0.252 ± 0.012	0.258 ± 0.026	0.255 ± 0.014	0.260 ± 0.022	0.246 ± 0.025	0.256 ± 0.012
	Acc_1	0.255 ± 0.033	0.256 ± 0.023	0.243 ± 0.029	0.256 ± 0.024	0.256 ± 0.026	0.248 ± 0.023	0.247 ± 0.042	0.248 ± 0.020	0.260 ± 0.023	0.250 ± 0.035	0.248 ± 0.024	0.245 ± 0.026	0.262 ± 0.020	0.258 ± 0.028	0.251 ± 0.013	0.257 ± 0.025	0.255 ± 0.014	0.260 ± 0.023	0.247 ± 0.030	0.256 ± 0.011
	Acc_2	0.523 ± 0.032	0.512 ± 0.035	0.514 ± 0.032	0.511 ± 0.036	0.495 ± 0.016	0.502 ± 0.022	0.497 ± 0.047	0.517 ± 0.030	0.513 ± 0.059	0.512 ± 0.048	0.489 ± 0.039	0.496 ± 0.018	0.511 ± 0.020	0.512 ± 0.025	0.487 ± 0.017	0.499 ± 0.030	0.493 ± 0.018	0.506 ± 0.029	0.514 ± 0.047	0.501 ± 0.032
sub4	κ	0.034 ± 0.042	0.007 ± 0.026	0.010 ± 0.035	0.020 ± 0.034	-0.006 ± 0.027	0.013 ± 0.034	0.018 ± 0.042	-0.008 ± 0.036	0.025 ± 0.029	-0.005 ± 0.037	0.002 ± 0.024	0.017 ± 0.019	0.004 ± 0.010	0.015 ± 0.036	0.013 ± 0.039	-0.002 ± 0.024	0.027 ± 0.030	0.003 ± 0.012	-0.005 ± 0.037	0.000 ± 0.026
	AUC	0.534 ± 0.030	0.510 ± 0.017	0.518 ± 0.024	0.517 ± 0.026	0.496 ± 0.024	0.497 ± 0.019	0.510 ± 0.022	0.487 ± 0.019	0.514 ± 0.024	0.504 ± 0.031	0.505 ± 0.022	0.499 ± 0.018	0.498 ± 0.015	0.515 ± 0.019	0.508 ± 0.026	0.507 ± 0.021	0.515 ± 0.022	0.511 ± 0.013	0.508 ± 0.032	0.511 ± 0.017
	BAcc	0.276 ± 0.031	0.255 ± 0.019	0.257 ± 0.026	0.265 ± 0.025	0.245 ± 0.020	0.260 ± 0.026	0.264 ± 0.031	0.244 ± 0.027	0.269 ± 0.022	0.246 ± 0.028	0.251 ± 0.018	0.263 ± 0.014	0.253 ± 0.007	0.261 ± 0.027	0.259 ± 0.029	0.248 ± 0.018	0.270 ± 0.022	0.252 ± 0.009	0.246 ± 0.028	0.250 ± 0.019
	Acc_1	0.276 ± 0.031	0.255 ± 0.019	0.258 ± 0.026	0.265 ± 0.025	0.245 ± 0.020	0.260 ± 0.025	0.264 ± 0.031	0.244 ± 0.027	0.269 ± 0.022	0.246 ± 0.028	0.251 ± 0.018	0.263 ± 0.015	0.253 ± 0.007	0.262 ± 0.028	0.260 ± 0.029	0.248 ± 0.018	0.270 ± 0.022	0.252 ± 0.010	0.252 ± 0.025	0.250 ± 0.020
	Acc_2	0.530 ± 0.040	0.511 ± 0.022	0.530 ± 0.025	0.522 ± 0.049	0.493 ± 0.032	0.499 ± 0.023	0.503 ± 0.031	0.478 ± 0.021	0.513 ± 0.042	0.501 ± 0.027	0.502 ± 0.037	0.492 ± 0.032	0.491 ± 0.023	0.517 ± 0.022	0.516 ± 0.022	0.508 ± 0.029	0.511 ± 0.031	0.507 ± 0.018	0.524 ± 0.012	0.501 ± 0.021
sub5	κ	0.016 ± 0.038	0.015 ± 0.040	0.022 ± 0.038	0.017 ± 0.043	-0.012 ± 0.027	-0.004 ± 0.033	0.027 ± 0.032	0.019 ± 0.026	0.030 ± 0.047	0.013 ± 0.031	-0.003 ± 0.024	-0.001 ± 0.034	0.013 ± 0.048	0.007 ± 0.027	0.011 ± 0.042	0.010 ± 0.026	-0.005 ± 0.043	-0.009 ± 0.029	-0.008 ± 0.030	0.006 ± 0.023
	AUC	0.516 ± 0.023	0.515 ± 0.029	0.520 ± 0.020	0.514 ± 0.024	0.495 ± 0.019	0.494 ± 0.020	0.507 ± 0.022	0.513 ± 0.018	0.527 ± 0.023	0.523 ± 0.021	0.503 ± 0.021	0.502 ± 0.024	0.500 ± 0.029	0.505 ± 0.019	0.492 ± 0.037	0.505 ± 0.018	0.501 ± 0.033	0.498 ± 0.027	0.509 ± 0.014	0.504 ± 0.015
	BAcc	0.262 ± 0.029	0.261 ± 0.030	0.266 ± 0.029	0.263 ± 0.032	0.241 ± 0.020	0.247 ± 0.025	0.270 ± 0.024	0.265 ± 0.020	0.273 ± 0.035	0.260 ± 0.023	0.248 ± 0.018	0.249 ± 0.026	0.260 ± 0.036	0.255 ± 0.020	0.258 ± 0.032	0.257 ± 0.020	0.246 ± 0.033	0.243 ± 0.022	0.244 ± 0.023	0.255 ± 0.017
	Acc_1	0.262 ± 0.029	0.261 ± 0.030	0.266 ± 0.029	0.263 ± 0.032	0.241 ± 0.020	0.247 ± 0.025	0.270 ± 0.024	0.265 ± 0.020	0.273 ± 0.035	0.260 ± 0.022	0.248 ± 0.018	0.249 ± 0.026	0.259 ± 0.036	0.254 ± 0.020	0.258 ± 0.031	0.258 ± 0.020	0.247 ± 0.032	0.243 ± 0.022	0.242 ± 0.027	0.254 ± 0.016
	Acc_2	0.509 ± 0.025	0.509 ± 0.032	0.523 ± 0.026	0.519 ± 0.032	0.499 ± 0.016	0.496 ± 0.022	0.513 ± 0.033	0.501 ± 0.022	0.523 ± 0.026	0.510 ± 0.026	0.508 ± 0.029	0.493 ± 0.035	0.499 ± 0.021	0.521 ± 0.034	0.492 ± 0.022	0.504 ± 0.025	0.502 ± 0.027	0.506 ± 0.025	0.505 ± 0.024	0.497 ± 0.021
sub6	κ	0.016 ± 0.044	0.002 ± 0.040	0.019 ± 0.050	0.022 ± 0.030	0.006 ± 0.030	-0.014 ± 0.023	-0.004 ± 0.033	0.011 ± 0.026	-0.004 ± 0.038	0.007 ± 0.032	0.020 ± 0.033	-0.020 ± 0.026	-0.009 ± 0.035	-0.016 ± 0.045	0.006 ± 0.010	0.006 ± 0.028	0.008 ± 0.032	0.023 ± 0.020	0.004 ± 0.032	0.000 ± 0.030

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (i)	BIOT (i)	BENDR (i)	BENDR (i)	CBraMod (i)	CBraMod (i)	EEGPT (i)	EEGPT (i)	LaBraM (i)	LaBraM (i)	STEEGformer-s (i)	STEEGformer-s (i)	STEEGformer-b (i)	STEEGformer-b (i)	STEEGformer-b (i)	STEEGformer-b (i)
	AUC	0.503 ±0.030	0.499 ±0.022	0.506 ±0.033	0.511 ± 0.024	0.489 ±0.017	0.497 ±0.022	0.490 ±0.024	0.511 ±0.012	0.505 ±0.026	0.500 ±0.024	0.503 ±0.022	0.495 ±0.025	0.501 ±0.015	0.504 ±0.033	0.504 ±0.025	0.507 ±0.019	0.505 ±0.026	0.513 ± 0.021	0.503 ±0.022	0.503 ±0.017
	BAcc	0.262 ±0.033	0.251 ±0.030	0.264 ±0.038	0.266 ± 0.023	0.254 ±0.023	0.240 ±0.017	0.247 ±0.025	0.259 ±0.019	0.247 ±0.028	0.256 ±0.024	0.265 ±0.025	0.235 ±0.020	0.243 ±0.026	0.238 ±0.034	0.255 ±0.007	0.255 ±0.021	0.256 ±0.024	0.267 ± 0.015	0.253 ±0.024	0.250 ±0.023
	Acc.1	0.262 ±0.033	0.251 ±0.030	0.264 ±0.038	0.266 ± 0.023	0.254 ±0.023	0.240 ±0.017	0.247 ±0.025	0.259 ±0.019	0.247 ±0.028	0.256 ±0.023	0.265 ±0.025	0.235 ±0.020	0.243 ±0.026	0.239 ±0.034	0.255 ±0.007	0.255 ±0.021	0.256 ±0.024	0.267 ± 0.016	0.251 ±0.024	0.251 ±0.023
	Acc.2	0.512 ± 0.032	0.498 ±0.023	0.499 ±0.044	0.508 ±0.037	0.489 ±0.020	0.491 ±0.021	0.480 ±0.033	0.507 ±0.030	0.499 ±0.035	0.496 ±0.028	0.506 ±0.024	0.486 ±0.041	0.500 ±0.037	0.515 ± 0.041	0.493 ±0.027	0.507 ±0.022	0.503 ±0.015	0.502 ±0.023	0.506 ±0.018	0.496 ±0.030
	κ	0.016 ±0.037	0.010 ±0.026	0.016 ±0.039	0.036 ± 0.048	-0.015 ±0.041	-0.013 ±0.038	0.024 ± 0.045	0.013 ±0.031	0.018 ±0.020	0.009 ±0.021	0.010 ±0.040	0.012 ±0.040	-0.008 ±0.023	-0.011 ±0.030	-0.005 ±0.042	-0.007 ±0.019	0.000 ±0.040	-0.006 ±0.028	0.010 ±0.029	-0.008 ±0.011
sub7	AUC	0.518 ±0.019	0.515 ±0.023	0.519 ±0.018	0.524 ± 0.030	0.504 ±0.023	0.494 ±0.025	0.517 ±0.026	0.512 ±0.022	0.519 ± 0.020	0.502 ±0.018	0.507 ±0.030	0.513 ±0.021	0.483 ±0.023	0.492 ±0.020	0.499 ±0.022	0.490 ±0.020	0.508 ±0.030	0.500 ±0.015	0.498 ±0.026	0.481 ±0.013
	BAcc	0.262 ±0.027	0.258 ±0.019	0.262 ±0.029	0.277 ± 0.036	0.239 ±0.031	0.240 ±0.028	0.268 ± 0.034	0.260 ±0.023	0.264 ±0.015	0.257 ±0.016	0.257 ±0.030	0.259 ±0.030	0.244 ±0.017	0.242 ±0.023	0.246 ±0.032	0.245 ±0.014	0.250 ±0.030	0.246 ±0.021	0.257 ±0.022	0.244 ±0.008
	Acc.1	0.262 ±0.027	0.258 ±0.019	0.262 ±0.029	0.277 ± 0.036	0.239 ±0.031	0.241 ±0.028	0.269 ± 0.035	0.260 ±0.023	0.264 ±0.016	0.257 ±0.016	0.258 ±0.030	0.259 ±0.030	0.244 ±0.018	0.241 ±0.023	0.246 ±0.032	0.244 ±0.013	0.250 ±0.031	0.245 ±0.021	0.252 ±0.027	0.243 ±0.010
	Acc.2	0.523 ± 0.016	0.519 ±0.034	0.514 ±0.027	0.521 ±0.033	0.502 ±0.023	0.513 ±0.028	0.519 ±0.045	0.514 ±0.035	0.523 ± 0.034	0.504 ±0.029	0.522 ±0.027	0.513 ±0.034	0.482 ±0.030	0.490 ±0.030	0.505 ±0.027	0.491 ±0.020	0.501 ±0.037	0.497 ±0.026	0.479 ±0.033	0.486 ±0.013
	κ	0.044 ±0.031	0.021 ±0.045	0.046 ± 0.029	0.027 ±0.034	0.013 ±0.034	-0.016 ±0.040	0.006 ±0.032	0.007 ±0.032	0.045 ± 0.034	0.013 ±0.041	-0.003 ±0.021	0.016 ±0.034	0.026 ±0.033	0.007 ±0.040	0.012 ±0.034	0.002 ±0.041	0.009 ±0.018	0.010 ±0.019	0.004 ±0.026	0.008 ±0.023
sub8	AUC	0.530 ±0.027	0.513 ±0.024	0.538 ± 0.025	0.533 ±0.018	0.504 ±0.025	0.490 ±0.024	0.507 ±0.019	0.503 ±0.028	0.538 ± 0.023	0.513 ±0.020	0.512 ±0.016	0.504 ±0.024	0.518 ±0.023	0.510 ±0.021	0.512 ±0.017	0.509 ±0.028	0.511 ±0.017	0.512 ±0.025	0.510 ±0.013	0.497 ±0.019
	BAcc	0.283 ±0.024	0.266 ±0.034	0.285 ± 0.021	0.270 ±0.025	0.259 ±0.026	0.238 ±0.030	0.255 ±0.024	0.255 ±0.024	0.283 ± 0.026	0.260 ±0.031	0.248 ±0.016	0.262 ±0.026	0.269 ±0.025	0.255 ±0.030	0.259 ±0.025	0.252 ±0.030	0.257 ±0.014	0.258 ±0.014	0.253 ±0.020	0.256 ±0.017
	Acc.1	0.283 ±0.024	0.266 ±0.034	0.285 ± 0.021	0.270 ±0.025	0.259 ±0.025	0.238 ±0.030	0.255 ±0.024	0.255 ±0.024	0.284 ± 0.026	0.260 ±0.030	0.248 ±0.016	0.262 ±0.026	0.270 ±0.025	0.255 ±0.028	0.259 ±0.026	0.251 ±0.030	0.257 ±0.014	0.257 ±0.014	0.262 ±0.046	0.256 ±0.018
	Acc.2	0.534 ±0.033	0.506 ±0.037	0.521 ±0.025	0.535 ± 0.023	0.498 ±0.022	0.495 ±0.031	0.514 ±0.012	0.514 ±0.038	0.547 ± 0.020	0.506 ±0.016	0.515 ±0.030	0.487 ±0.033	0.522 ±0.027	0.516 ±0.024	0.498 ±0.027	0.499 ±0.028	0.511 ±0.017	0.520 ±0.030	0.517 ±0.025	0.498 ±0.016
	κ	0.017 ±0.030	0.002 ±0.025	0.011 ±0.033	0.020 ± 0.030	0.016 ±0.032	0.012 ±0.032	0.016 ±0.033	0.024 ± 0.046	0.014 ±0.030	0.012 ±0.036	0.011 ±0.033	-0.008 ±0.030	0.018 ±0.034	0.004 ±0.041	0.003 ±0.030	0.009 ±0.027	0.004 ±0.024	-0.003 ±0.027	-0.010 ±0.025	0.015 ±0.018
sub9	AUC	0.517 ± 0.019	0.497 ±0.020	0.510 ±0.020	0.506 ±0.021	0.504 ±0.017	0.513 ±0.019	0.514 ± 0.018	0.512 ±0.030	0.511 ±0.017	0.503 ±0.019	0.503 ±0.020	0.509 ±0.012	0.509 ±0.028	0.512 ±0.023	0.508 ±0.020	0.501 ±0.022	0.497 ±0.029	0.501 ±0.024	0.496 ±0.029	0.499 ±0.022

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
BAcc	0.263	0.251	0.258	0.265	0.262	0.259	0.262	0.268	± 0.034	0.261	0.259	0.258	0.244	0.264	0.253	0.252	0.257	0.253	0.247	0.243	0.261
	±0.022	±0.019	±0.024	± 0.023	±0.024	±0.024	±0.025			±0.023	±0.027	±0.025	±0.023	±0.026	±0.030	±0.022	±0.020	±0.018	±0.020	±0.018	±0.018
Acc.1	0.263	0.251	0.258	0.265	0.262	0.259	0.262	0.268	± 0.034	0.261	0.258	0.258	0.244	0.263	0.251	0.252	0.258	0.253	0.248	0.246	0.261
	±0.022	±0.019	±0.024	± 0.023	±0.024	±0.024	±0.024			±0.023	±0.026	±0.025	±0.023	±0.026	±0.032	±0.022	±0.020	±0.018	±0.020	±0.020	±0.020
Acc.2	0.514	0.489	0.508	0.502	0.499	0.512	0.512	0.521	± 0.030	0.506	0.514	0.507	0.496	0.508	0.505	0.517	0.495	0.496	0.498	0.490	0.504
	±0.028	±0.023	±0.026	±0.018	±0.036	±0.022	±0.018			±0.015	±0.022	±0.025	±0.020	±0.032	±0.035	± 0.016	±0.024	±0.029	±0.018	±0.031	±0.020

E.3 LEAVE-ONE-OUT RESULTS

E.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 45: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.054 ± 0.037	0.547 ± 0.021	0.290 ± 0.027	0.291 ± 0.028	0.555 ± 0.022
EEGNet	0.042 ± 0.031	0.534 ± 0.022	0.282 ± 0.023	0.282 ± 0.024	0.537 ± 0.032
Conformer	0.066 ± 0.044	0.548 ± 0.023	0.299 ± 0.033	0.299 ± 0.033	0.549 ± 0.034
CTNet	0.047 ± 0.045	0.539 ± 0.021	0.285 ± 0.034	0.285 ± 0.034	0.532 ± 0.026
BIOT (f)	-0.002 ± 0.031	0.502 ± 0.024	0.249 ± 0.023	0.249 ± 0.023	0.495 ± 0.026
BIOT (l)	0.042 ± 0.047	0.504 ± 0.027	0.248 ± 0.036	0.248 ± 0.035	0.506 ± 0.026
BENDR (f)	0.019 ± 0.040	0.523 ± 0.020	0.264 ± 0.030	0.264 ± 0.030	0.526 ± 0.021
BENDR (l)	0.005 ± 0.027	0.499 ± 0.026	0.254 ± 0.020	0.254 ± 0.020	0.493 ± 0.042
CBraMod (f)	0.049 ± 0.040	0.542 ± 0.019	0.286 ± 0.030	0.286 ± 0.030	0.547 ± 0.032
CBraMod (l)	0.037 ± 0.029	0.529 ± 0.015	0.278 ± 0.022	0.278 ± 0.022	0.525 ± 0.016
EEGPT (f)	0.013 ± 0.030	0.506 ± 0.012	0.260 ± 0.022	0.260 ± 0.022	0.503 ± 0.029
EEGPT (l)	0.025 ± 0.036	0.517 ± 0.018	0.268 ± 0.027	0.269 ± 0.027	0.517 ± 0.035
LaBraM (f)	0.026 ± 0.025	0.513 ± 0.017	0.269 ± 0.019	0.269 ± 0.019	0.506 ± 0.024
LaBraM (l)	0.037 ± 0.027	0.526 ± 0.022	0.278 ± 0.020	0.278 ± 0.021	0.530 ± 0.038
STEEGformer-s (f)	0.015 ± 0.037	0.509 ± 0.016	0.261 ± 0.027	0.261 ± 0.028	0.522 ± 0.032
STEEGformer-s (l)	0.016 ± 0.028	0.508 ± 0.017	0.262 ± 0.021	0.262 ± 0.020	0.498 ± 0.028
STEEGformer-b (f)	0.001 ± 0.023	0.516 ± 0.019	0.251 ± 0.017	0.251 ± 0.017	0.503 ± 0.021
STEEGformer-b (l)	0.009 ± 0.026	0.516 ± 0.022	0.256 ± 0.019	0.256 ± 0.019	0.513 ± 0.018
STEEGformer-l (f)	0.010 ± 0.030	0.518 ± 0.020	0.258 ± 0.022	0.254 ± 0.030	0.514 ± 0.049
STEEGformer-l (l)	-0.006 ± 0.018	0.498 ± 0.015	0.246 ± 0.013	0.245 ± 0.013	0.505 ± 0.025

Table 46: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.047 ± 0.130	0.073 ± 0.043	0.073 ± 0.083	0.120 ± 0.045	-0.033 ± 0.058	-0.100 ± 0.067	0.113 ± 0.150	0.033 ± 0.091	0.087 ± 0.112	0.020 ± 0.073	-0.007 ± 0.068	0.060 ± 0.083	0.020 ± 0.087	0.013 ± 0.073	0.000 ± 0.105	0.053 ± 0.065	0.013 ± 0.090	-0.013 ± 0.080	-0.020 ± 0.069	0.020 ± 0.084
	AUC	0.573 ± 0.086	0.581 ± 0.033	0.551 ± 0.058	0.561 ± 0.036	0.525 ± 0.016	0.474 ± 0.044	0.566 ± 0.091	0.541 ± 0.058	0.547 ± 0.066	0.524 ± 0.054	0.499 ± 0.061	0.512 ± 0.017	0.516 ± 0.026	0.531 ± 0.027	0.508 ± 0.069	0.500 ± 0.054	0.526 ± 0.050	0.524 ± 0.051	0.495 ± 0.037	0.488 ± 0.063
	BAcc	0.285 ± 0.098	0.305 ± 0.033	0.305 ± 0.062	0.340 ± 0.034	0.225 ± 0.043	0.175 ± 0.050	0.335 ± 0.113	0.275 ± 0.068	0.315 ± 0.084	0.265 ± 0.055	0.245 ± 0.051	0.295 ± 0.062	0.265 ± 0.065	0.260 ± 0.055	0.250 ± 0.079	0.290 ± 0.049	0.260 ± 0.068	0.240 ± 0.060	0.235 ± 0.052	0.265 ± 0.063
	Acc ₁	0.285 ± 0.098	0.305 ± 0.033	0.305 ± 0.062	0.340 ± 0.034	0.225 ± 0.043	0.175 ± 0.050	0.335 ± 0.113	0.275 ± 0.068	0.315 ± 0.084	0.265 ± 0.055	0.245 ± 0.051	0.295 ± 0.062	0.265 ± 0.065	0.260 ± 0.055	0.250 ± 0.079	0.290 ± 0.049	0.260 ± 0.068	0.240 ± 0.060	0.231 ± 0.082	0.265 ± 0.063
	Acc ₂	0.595 ± 0.082	0.570 ± 0.072	0.585 ± 0.072	0.545 ± 0.069	0.550 ± 0.047	0.485 ± 0.052	0.560 ± 0.108	0.570 ± 0.045	0.570 ± 0.041	0.535 ± 0.060	0.495 ± 0.089	0.505 ± 0.033	0.505 ± 0.089	0.530 ± 0.060	0.535 ± 0.042	0.470 ± 0.076	0.470 ± 0.082	0.500 ± 0.064	0.459 ± 0.114	0.490 ± 0.084
sub10	κ	0.061 ± 0.135	0.011 ± 0.109	0.128 ± 0.061	0.017 ± 0.080	-0.022 ± 0.105	-0.044 ± 0.105	0.033 ± 0.084	0.028 ± 0.081	0.067 ± 0.134	0.083 ± 0.098	-0.056 ± 0.081	-0.011 ± 0.064	-0.006 ± 0.046	0.028 ± 0.071	0.017 ± 0.112	0.011 ± 0.078	0.050 ± 0.060	-0.011 ± 0.042	0.028 ± 0.086	-0.044 ± 0.050
	AUC	0.538 ± 0.087	0.498 ± 0.072	0.548 ± 0.052	0.523 ± 0.046	0.484 ± 0.063	0.488 ± 0.070	0.504 ± 0.052	0.516 ± 0.036	0.559 ± 0.057	0.546 ± 0.053	0.484 ± 0.044	0.528 ± 0.047	0.494 ± 0.040	0.510 ± 0.021	0.514 ± 0.064	0.509 ± 0.033	0.543 ± 0.028	0.502 ± 0.026	0.516 ± 0.032	0.494 ± 0.038
	BAcc	0.296 ± 0.101	0.258 ± 0.081	0.346 ± 0.046	0.262 ± 0.060	0.233 ± 0.079	0.217 ± 0.079	0.275 ± 0.063	0.271 ± 0.061	0.300 ± 0.101	0.312 ± 0.074	0.208 ± 0.061	0.242 ± 0.048	0.246 ± 0.034	0.271 ± 0.053	0.262 ± 0.084	0.258 ± 0.058	0.287 ± 0.045	0.242 ± 0.032	0.271 ± 0.064	0.217 ± 0.038
	Acc ₁	0.296 ± 0.101	0.258 ± 0.081	0.346 ± 0.046	0.263 ± 0.060	0.233 ± 0.079	0.217 ± 0.079	0.275 ± 0.063	0.271 ± 0.061	0.300 ± 0.101	0.312 ± 0.074	0.208 ± 0.061	0.242 ± 0.048	0.246 ± 0.034	0.271 ± 0.053	0.263 ± 0.084	0.254 ± 0.054	0.287 ± 0.045	0.242 ± 0.032	0.278 ± 0.052	0.217 ± 0.038
	Acc ₂	0.525 ± 0.113	0.454 ± 0.060	0.571 ± 0.079	0.517 ± 0.061	0.450 ± 0.024	0.483 ± 0.056	0.500 ± 0.091	0.542 ± 0.061	0.558 ± 0.090	0.558 ± 0.083	0.450 ± 0.058	0.562 ± 0.042	0.471 ± 0.050	0.546 ± 0.027	0.554 ± 0.070	0.483 ± 0.070	0.533 ± 0.062	0.500 ± 0.066	0.562 ± 0.095	0.471 ± 0.038
sub2	κ	0.083 ± 0.052	0.078 ± 0.129	0.039 ± 0.093	0.083 ± 0.039	-0.050 ± 0.066	0.056 ± 0.111	0.006 ± 0.057	-0.006 ± 0.075	-0.039 ± 0.089	0.017 ± 0.058	0.056 ± 0.079	0.044 ± 0.070	0.044 ± 0.054	0.078 ± 0.063	-0.044 ± 0.107	-0.006 ± 0.080	-0.044 ± 0.087	-0.039 ± 0.080	0.011 ± 0.075	0.006 ± 0.091
	AUC	0.568 ± 0.044	0.537 ± 0.054	0.533 ± 0.049	0.547 ± 0.041	0.466 ± 0.045	0.514 ± 0.050	0.533 ± 0.025	0.499 ± 0.047	0.514 ± 0.069	0.513 ± 0.038	0.519 ± 0.054	0.543 ± 0.047	0.531 ± 0.064	0.566 ± 0.060	0.486 ± 0.045	0.475 ± 0.041	0.483 ± 0.060	0.470 ± 0.048	0.516 ± 0.049	0.510 ± 0.053
	BAcc	0.312 ± 0.039	0.308 ± 0.097	0.279 ± 0.070	0.312 ± 0.029	0.212 ± 0.050	0.292 ± 0.083	0.254 ± 0.043	0.246 ± 0.056	0.221 ± 0.067	0.262 ± 0.043	0.292 ± 0.059	0.283 ± 0.052	0.308 ± 0.041	0.217 ± 0.048	0.246 ± 0.080	0.217 ± 0.060	0.217 ± 0.065	0.221 ± 0.060	0.258 ± 0.056	0.254 ± 0.068
	Acc ₁	0.312 ± 0.039	0.308 ± 0.097	0.279 ± 0.070	0.312 ± 0.029	0.212 ± 0.050	0.292 ± 0.083	0.254 ± 0.043	0.246 ± 0.056	0.221 ± 0.067	0.263 ± 0.043	0.292 ± 0.059	0.283 ± 0.052	0.283 ± 0.041	0.308 ± 0.048	0.217 ± 0.080	0.250 ± 0.057	0.217 ± 0.065	0.221 ± 0.060	0.263 ± 0.065	0.254 ± 0.068
	Acc ₂	0.579 ± 0.084	0.533 ± 0.087	0.542 ± 0.082	0.554 ± 0.079	0.475 ± 0.034	0.500 ± 0.078	0.521 ± 0.061	0.475 ± 0.058	0.517 ± 0.080	0.525 ± 0.056	0.529 ± 0.064	0.567 ± 0.071	0.533 ± 0.067	0.583 ± 0.061	0.479 ± 0.075	0.446 ± 0.068	0.500 ± 0.042	0.483 ± 0.048	0.553 ± 0.069	0.542 ± 0.081

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEGformer-s (f)	STEGformer-s (f)	STEGformer-b (f)	STEGformer-b (f)	STEGformer-l (f)	STEGformer-l (f)
sub3	κ	-0.044 ± 0.124	-0.022 ± 0.062	0.007 ± 0.176	-0.037 ± 0.087	-0.015 ± 0.067	0.059 ± 0.085	0.015 ± 0.093	-0.022 ± 0.042	0.037 ± 0.069	0.030 ± 0.076	0.015 ± 0.150	0.059 ± 0.110	-0.007 ± 0.048	0.037 ± 0.111	-0.037 ± 0.037	0.000 ± 0.037	-0.007 ± 0.096	0.015 ± 0.067	-0.030 ± 0.061	0.000 ± 0.052
	AUC	0.500 ± 0.070	0.510 ± 0.084	0.523 ± 0.126	0.535 ± 0.075	0.469 ± 0.037	0.569 ± 0.038	0.536 ± 0.065	0.468 ± 0.033	0.543 ± 0.029	0.503 ± 0.054	0.498 ± 0.054	0.515 ± 0.069	0.474 ± 0.052	0.530 ± 0.077	0.487 ± 0.035	0.503 ± 0.047	0.499 ± 0.065	0.514 ± 0.049	0.493 ± 0.049	0.490 ± 0.035
	BAcc	0.217 ± 0.093	0.233 ± 0.046	0.256 ± 0.132	0.222 ± 0.065	0.239 ± 0.050	0.294 ± 0.064	0.261 ± 0.070	0.233 ± 0.032	0.278 ± 0.052	0.272 ± 0.057	0.261 ± 0.112	0.294 ± 0.082	0.244 ± 0.036	0.278 ± 0.083	0.222 ± 0.028	0.250 ± 0.028	0.244 ± 0.072	0.261 ± 0.050	0.228 ± 0.046	0.250 ± 0.039
	Acc_1	0.217 ± 0.093	0.233 ± 0.046	0.256 ± 0.132	0.222 ± 0.065	0.239 ± 0.050	0.294 ± 0.064	0.261 ± 0.070	0.233 ± 0.032	0.278 ± 0.052	0.272 ± 0.057	0.261 ± 0.112	0.294 ± 0.082	0.244 ± 0.036	0.278 ± 0.083	0.222 ± 0.028	0.250 ± 0.028	0.244 ± 0.072	0.261 ± 0.050	0.216 ± 0.064	0.250 ± 0.039
	Acc_2	0.533 ± 0.084	0.528 ± 0.039	0.478 ± 0.093	0.517 ± 0.042	0.500 ± 0.044	0.544 ± 0.042	0.561 ± 0.036	0.456 ± 0.042	0.522 ± 0.087	0.494 ± 0.093	0.467 ± 0.084	0.472 ± 0.092	0.456 ± 0.050	0.550 ± 0.060	0.461 ± 0.080	0.528 ± 0.020	0.511 ± 0.054	0.522 ± 0.046	0.459 ± 0.064	0.506 ± 0.077
	sub4	κ	0.100 ± 0.064	0.061 ± 0.084	0.039 ± 0.064	0.056 ± 0.092	0.011 ± 0.058	-0.044 ± 0.064	-0.006 ± 0.091	0.044 ± 0.093	0.044 ± 0.109	0.039 ± 0.082	0.017 ± 0.085	0.061 ± 0.053	0.044 ± 0.122	0.067 ± 0.080	0.056 ± 0.135	-0.006 ± 0.036	-0.006 ± 0.072	0.022 ± 0.095	0.078 ± 0.101
AUC		0.568 ± 0.056	0.541 ± 0.038	0.563 ± 0.031	0.555 ± 0.061	0.483 ± 0.052	0.508 ± 0.032	0.530 ± 0.045	0.530 ± 0.061	0.544 ± 0.067	0.546 ± 0.037	0.524 ± 0.039	0.540 ± 0.037	0.505 ± 0.081	0.560 ± 0.076	0.530 ± 0.057	0.518 ± 0.053	0.520 ± 0.065	0.520 ± 0.043	0.558 ± 0.062	0.503 ± 0.071
BAcc		0.325 ± 0.048	0.296 ± 0.063	0.279 ± 0.048	0.292 ± 0.069	0.258 ± 0.043	0.217 ± 0.048	0.246 ± 0.068	0.283 ± 0.070	0.283 ± 0.081	0.279 ± 0.062	0.263 ± 0.064	0.296 ± 0.040	0.283 ± 0.092	0.300 ± 0.060	0.292 ± 0.101	0.246 ± 0.027	0.246 ± 0.054	0.267 ± 0.071	0.308 ± 0.076	0.258 ± 0.083
Acc_1		0.325 ± 0.048	0.296 ± 0.063	0.279 ± 0.048	0.292 ± 0.069	0.258 ± 0.043	0.217 ± 0.048	0.246 ± 0.068	0.283 ± 0.070	0.283 ± 0.081	0.279 ± 0.062	0.263 ± 0.064	0.296 ± 0.040	0.283 ± 0.092	0.304 ± 0.068	0.292 ± 0.101	0.250 ± 0.029	0.246 ± 0.054	0.267 ± 0.071	0.316 ± 0.072	0.258 ± 0.083
Acc_2		0.546 ± 0.048	0.562 ± 0.033	0.567 ± 0.060	0.542 ± 0.075	0.483 ± 0.048	0.508 ± 0.073	0.533 ± 0.056	0.529 ± 0.070	0.558 ± 0.070	0.512 ± 0.032	0.542 ± 0.074	0.542 ± 0.051	0.504 ± 0.104	0.588 ± 0.076	0.567 ± 0.083	0.525 ± 0.037	0.479 ± 0.049	0.529 ± 0.038	0.566 ± 0.046	0.512 ± 0.032
sub5		κ	0.067 ± 0.103	0.039 ± 0.082	0.022 ± 0.095	0.106 ± 0.063	-0.028 ± 0.028	-0.022 ± 0.053	0.017 ± 0.032	-0.011 ± 0.067	0.111 ± 0.044	0.067 ± 0.067	0.044 ± 0.089	0.044 ± 0.109	0.056 ± 0.076	-0.000 ± 0.083	0.028 ± 0.111	0.033 ± 0.072	-0.006 ± 0.072	0.022 ± 0.030	0.011 ± 0.128
	AUC	0.551 ± 0.065	0.530 ± 0.067	0.544 ± 0.067	0.577 ± 0.063	0.502 ± 0.037	0.469 ± 0.037	0.508 ± 0.048	0.487 ± 0.037	0.571 ± 0.031	0.525 ± 0.034	0.521 ± 0.046	0.518 ± 0.082	0.528 ± 0.038	0.514 ± 0.068	0.524 ± 0.045	0.521 ± 0.036	0.487 ± 0.030	0.513 ± 0.038	0.541 ± 0.051	0.498 ± 0.054
	BAcc	0.300 ± 0.077	0.279 ± 0.062	0.267 ± 0.071	0.329 ± 0.048	0.229 ± 0.021	0.233 ± 0.040	0.263 ± 0.024	0.242 ± 0.050	0.333 ± 0.033	0.300 ± 0.050	0.283 ± 0.067	0.283 ± 0.081	0.292 ± 0.057	0.250 ± 0.063	0.271 ± 0.083	0.275 ± 0.054	0.246 ± 0.054	0.267 ± 0.023	0.258 ± 0.096	0.237 ± 0.041
	Acc_1	0.300 ± 0.077	0.279 ± 0.062	0.267 ± 0.071	0.329 ± 0.048	0.229 ± 0.021	0.233 ± 0.040	0.263 ± 0.024	0.242 ± 0.050	0.333 ± 0.033	0.300 ± 0.050	0.283 ± 0.067	0.283 ± 0.081	0.292 ± 0.057	0.250 ± 0.062	0.271 ± 0.083	0.275 ± 0.054	0.246 ± 0.054	0.267 ± 0.023	0.256 ± 0.092	0.237 ± 0.041
	Acc_2	0.567 ± 0.081	0.571 ± 0.081	0.525 ± 0.054	0.579 ± 0.092	0.471 ± 0.070	0.517 ± 0.050	0.504 ± 0.086	0.487 ± 0.076	0.588 ± 0.068	0.517 ± 0.040	0.521 ± 0.061	0.492 ± 0.068	0.525 ± 0.061	0.483 ± 0.056	0.517 ± 0.071	0.517 ± 0.017	0.475 ± 0.060	0.508 ± 0.048	0.516 ± 0.063	0.517 ± 0.065
	sub6	κ	0.066 ± 0.058	0.083 ± 0.151	0.055 ± 0.068	0.043 ± 0.053	0.037 ± 0.006	0.025 ± 0.076	0.061 ± 0.102	0.005 ± 0.111	0.055 ± 0.055	-0.023 ± 0.038	0.019 ± 0.131	0.006 ± 0.051	0.062 ± 0.057	0.020 ± 0.076	0.085 ± 0.081	-0.000 ± 0.038	0.007 ± 0.091	-0.014 ± 0.061	0.007 ± 0.120
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	AUC	0.531 ±0.031	0.516 ±0.051	0.517 ±0.040	0.524 ±0.063	0.534 ±0.057	0.486 ±0.082	0.532 ±0.079	0.487 ±0.042	0.518 ±0.046	0.513 ±0.052	0.496 ±0.049	0.496 ±0.055	0.535 ± 0.062	0.502 ±0.042	0.528 ±0.032	0.519 ±0.051	0.517 ±0.054	0.552 ± 0.033	0.515 ±0.058	0.508 ±0.063
	BAcc	0.298 ±0.043	0.310 ± 0.114	0.291 ±0.049	0.282 ±0.040	0.280 ±0.007	0.269 ±0.058	0.296 ±0.075	0.255 ±0.083	0.292 ±0.043	0.233 ±0.028	0.264 ±0.099	0.255 ±0.038	0.297 ±0.042	0.266 ±0.058	0.314 ± 0.061	0.250 ±0.028	0.254 ±0.068	0.240 ±0.046	0.255 ±0.090	0.251 ±0.026
	Acc.1	0.301 ±0.044	0.314 ± 0.112	0.292 ±0.051	0.283 ±0.040	0.278 ±0.003	0.268 ±0.059	0.296 ±0.076	0.255 ±0.082	0.292 ±0.041	0.232 ±0.029	0.265 ±0.098	0.255 ±0.038	0.296 ±0.045	0.264 ±0.057	0.315 ± 0.062	0.245 ±0.035	0.255 ±0.069	0.241 ±0.047	0.267 ±0.107	0.250 ±0.019
	Acc.2	0.532 ±0.037	0.532 ±0.067	0.514 ±0.054	0.523 ±0.127	0.514 ±0.087	0.472 ±0.088	0.518 ±0.050	0.472 ±0.059	0.551 ± 0.055	0.532 ±0.043	0.514 ±0.031	0.486 ±0.095	0.500 ±0.089	0.518 ±0.046	0.547 ±0.081	0.486 ±0.065	0.528 ±0.034	0.551 ± 0.081	0.508 ±0.098	0.477 ±0.049
	κ	0.039 ±0.064	0.028 ±0.102	0.050 ± 0.093	0.028 ±0.104	0.022 ±0.075	0.017 ±0.061	-0.017 ±0.046	0.033 ±0.103	0.044 ±0.032	0.067 ± 0.082	0.017 ±0.064	0.011 ±0.089	0.033 ±0.091	0.006 ±0.063	0.011 ±0.089	-0.011 ±0.085	-0.017 ±0.061	0.017 ±0.042	-0.022 ±0.093	-0.017 ±0.025
sub7	AUC	0.546 ± 0.044	0.544 ±0.030	0.532 ±0.051	0.518 ±0.060	0.507 ±0.060	0.498 ±0.059	0.519 ±0.034	0.521 ±0.052	0.547 ± 0.048	0.543 ±0.065	0.508 ±0.069	0.511 ±0.057	0.512 ±0.045	0.493 ±0.074	0.493 ±0.043	0.484 ±0.067	0.517 ±0.037	0.496 ±0.054	0.496 ±0.078	0.471 ±0.045
	BAcc	0.279 ±0.048	0.271 ±0.077	0.287 ± 0.070	0.271 ±0.078	0.267 ±0.056	0.263 ±0.046	0.237 ±0.035	0.275 ±0.077	0.283 ±0.024	0.300 ± 0.062	0.262 ±0.048	0.258 ±0.067	0.275 ±0.068	0.254 ±0.048	0.258 ±0.067	0.242 ±0.064	0.237 ±0.046	0.262 ±0.032	0.233 ±0.070	0.237 ±0.019
	Acc.1	0.279 ±0.048	0.271 ±0.077	0.287 ± 0.070	0.271 ±0.078	0.267 ±0.056	0.263 ±0.046	0.237 ±0.035	0.275 ±0.077	0.283 ±0.024	0.300 ± 0.062	0.263 ±0.048	0.258 ±0.067	0.275 ±0.068	0.254 ±0.048	0.258 ±0.067	0.242 ±0.064	0.237 ±0.046	0.258 ±0.032	0.212 ±0.064	0.237 ±0.019
	Acc.2	0.542 ±0.061	0.525 ±0.027	0.542 ±0.103	0.496 ±0.065	0.500 ±0.033	0.475 ±0.074	0.521 ±0.053	0.508 ±0.035	0.571 ± 0.054	0.525 ±0.052	0.475 ±0.081	0.550 ± 0.050	0.521 ±0.101	0.467 ±0.052	0.504 ±0.054	0.479 ±0.042	0.521 ±0.068	0.504 ±0.045	0.506 ±0.060	0.517 ±0.061
	κ	0.053 ±0.161	0.033 ±0.115	0.087 ± 0.077	0.047 ±0.077	0.047 ±0.122	0.007 ±0.028	-0.020 ±0.093	-0.020 ±0.126	0.073 ± 0.095	0.033 ±0.062	0.033 ±0.075	0.027 ±0.104	0.020 ±0.061	0.053 ±0.069	0.007 ±0.060	0.007 ±0.072	0.007 ±0.104	0.053 ±0.102	0.013 ±0.107	-0.020 ±0.051
sub8	AUC	0.561 ± 0.063	0.548 ±0.059	0.591 ± 0.055	0.550 ±0.057	0.535 ±0.111	0.519 ±0.090	0.510 ±0.063	0.483 ±0.059	0.560 ±0.025	0.539 ±0.058	0.511 ±0.044	0.529 ±0.084	0.517 ±0.033	0.519 ±0.039	0.499 ±0.033	0.525 ±0.082	0.537 ±0.049	0.541 ±0.066	0.527 ±0.055	0.489 ±0.067
	BAcc	0.290 ±0.121	0.275 ±0.087	0.315 ± 0.058	0.285 ±0.058	0.285 ±0.091	0.255 ±0.021	0.235 ±0.070	0.235 ±0.095	0.305 ± 0.072	0.275 ±0.047	0.275 ±0.056	0.270 ±0.078	0.265 ±0.045	0.290 ±0.052	0.255 ±0.045	0.255 ±0.054	0.255 ±0.078	0.290 ±0.076	0.260 ±0.080	0.235 ±0.038
	Acc.1	0.290 ±0.121	0.275 ±0.087	0.315 ± 0.058	0.285 ±0.058	0.285 ±0.091	0.255 ±0.021	0.235 ±0.070	0.235 ±0.095	0.305 ± 0.072	0.275 ±0.047	0.275 ±0.056	0.270 ±0.078	0.265 ±0.045	0.290 ±0.052	0.255 ±0.045	0.255 ±0.054	0.255 ±0.078	0.290 ±0.076	0.237 ±0.068	0.235 ±0.038
	Acc.2	0.575 ± 0.075	0.555 ±0.076	0.585 ± 0.091	0.555 ±0.054	0.495 ±0.129	0.540 ±0.105	0.535 ±0.052	0.465 ±0.080	0.565 ±0.029	0.530 ±0.102	0.505 ±0.062	0.525 ±0.120	0.520 ±0.084	0.495 ±0.054	0.510 ±0.029	0.520 ±0.091	0.505 ±0.072	0.510 ±0.078	0.431 ±0.067	0.475 ±0.077
	κ	0.067 ±0.101	0.039 ±0.107	0.156 ± 0.082	0.006 ±0.128	0.011 ±0.042	0.022 ±0.093	-0.017 ±0.152	-0.039 ±0.058	0.006 ±0.110	0.039 ±0.042	-0.011 ±0.101	-0.056 ±0.065	-0.011 ±0.061	0.072 ±0.085	0.028 ±0.123	0.078 ± 0.053	0.017 ±0.109	0.033 ±0.036	0.028 ±0.065	0.000 ±0.044
sub9	AUC	0.534 ±0.060	0.532 ±0.061	0.583 ± 0.045	0.503 ±0.062	0.516 ±0.021	0.511 ±0.046	0.490 ±0.092	0.457 ±0.062	0.517 ±0.057	0.534 ±0.046	0.497 ±0.065	0.481 ±0.067	0.513 ±0.031	0.534 ± 0.062	0.519 ±0.078	0.525 ±0.062	0.530 ±0.047	0.527 ±0.050	0.527 ±0.038	0.531 ±0.071

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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
4761		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.308	0.263	0.275	0.271	0.250
4762	BAcc	±0.076	±0.080	±0.062	±0.096	±0.032	±0.070	±0.114	±0.043	±0.083	±0.032	±0.076	±0.049	±0.046	±0.064	±0.092	±0.040	±0.081	±0.027	±0.049	±0.033
4763		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4764	Acc_1	±0.076	±0.080	±0.062	±0.096	±0.032	±0.070	±0.114	±0.043	±0.083	±0.032	±0.076	±0.049	±0.046	±0.064	±0.092	±0.041	±0.081	±0.027	±0.044	±0.033
4765		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4766	Acc_2	±0.092	±0.071	±0.059	±0.103	±0.028	±0.064	±0.096	±0.037	±0.054	±0.054	±0.060	±0.032	±0.039	±0.065	±0.063	±0.046	±0.089	±0.086	±0.102	±0.053
4767		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4768		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4769		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4770		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4771		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4772		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4773		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4774		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4775		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4776		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4777		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4778		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4779		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4780		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4781		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4782		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4783		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4784		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4785		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4786		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4787		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4788		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4789		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4790		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4791		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250
4792		0.558	0.542	0.583	0.492	0.508	0.533	0.504	0.421	0.475	0.517	0.529	0.467	0.521	0.537	0.546	0.529	0.508	0.525	0.581	0.542
4793		0.300	0.279	0.367	0.254	0.258	0.267	0.237	0.221	0.254	0.279	0.242	0.208	0.242	0.304	0.271	0.304	0.263	0.275	0.266	0.250

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E.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 47: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.059	0.558	0.294	0.294	0.560
DeepConvnet	± 0.046	± 0.038	± 0.035	± 0.035	± 0.042
	0.068	0.558	0.301	0.301	0.558
EEGNet	± 0.043	± 0.040	± 0.033	± 0.032	± 0.049
	0.058	0.550	0.294	0.294	0.543
Conformer	± 0.043	± 0.025	± 0.033	± 0.032	± 0.036
	0.085	0.574	0.314	0.313	0.570
CTNet	± 0.071	± 0.061	± 0.053	± 0.053	± 0.064
	0.011	0.509	0.259	0.259	0.515
BIOT (f)	± 0.052	± 0.030	± 0.039	± 0.039	± 0.031
	0.015	0.513	0.262	0.262	0.506
BIOT (l)	± 0.044	± 0.022	± 0.033	± 0.033	± 0.030
	0.047	0.536	0.285	0.285	0.539
BENDR (f)	± 0.042	± 0.021	± 0.031	± 0.031	± 0.045
	0.011	0.497	0.258	0.258	0.491
BENDR (l)	± 0.032	± 0.025	± 0.024	± 0.024	± 0.030
	0.093	0.570	0.320	0.320	0.577
CBraMod (f)	± 0.073	± 0.047	± 0.055	± 0.055	± 0.053
	0.021	0.527	0.266	0.265	0.526
CBraMod (l)	± 0.035	± 0.042	± 0.026	± 0.027	± 0.027
	0.007	0.512	0.255	0.255	0.526
EEGPT (f)	± 0.042	± 0.025	± 0.031	± 0.031	± 0.027
	0.032	0.533	0.274	0.274	0.544
EEGPT (l)	± 0.039	± 0.028	± 0.029	± 0.029	± 0.028
	0.005	0.502	0.254	0.254	0.495
LaBraM (f)	± 0.038	± 0.018	± 0.028	± 0.028	± 0.034
	-0.007	0.498	0.244	0.244	0.497
LaBraM (l)	± 0.038	± 0.023	± 0.028	± 0.028	± 0.031
	0.003	0.505	0.252	0.252	0.493
STEEGformer-s (f)	± 0.044	± 0.029	± 0.033	± 0.033	± 0.045
	-0.023	0.475	0.233	0.233	0.486
STEEGformer-s (l)	± 0.034	± 0.025	± 0.026	± 0.026	± 0.034
	0.002	0.504	0.252	0.252	0.497
STEEGformer-b (f)	± 0.041	± 0.029	± 0.030	± 0.031	± 0.032
	-0.010	0.491	0.243	0.242	0.491
STEEGformer-b (l)	± 0.030	± 0.019	± 0.023	± 0.023	± 0.037
	0.029	0.521	0.272	0.271	0.516
STEEGformer-l (f)	± 0.041	± 0.032	± 0.030	± 0.028	± 0.057
	-0.008	0.483	0.244	0.244	0.487
STEEGformer-l (l)	± 0.039	± 0.044	± 0.030	± 0.029	± 0.032

Table 48: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.100 ± 0.041	0.060 ± 0.101	-0.013 ± 0.051	0.040 ± 0.119	0.120 ± 0.065	0.000 ± 0.105	0.080 ± 0.145	0.067 ± 0.082	0.033 ± 0.085	0.027 ± 0.095	0.000 ± 0.103	0.020 ± 0.102	0.053 ± 0.112	-0.000 ± 0.024	-0.047 ± 0.102	0.000 ± 0.085	0.033 ± 0.133	-0.020 ± 0.090	0.013 ± 0.090	0.013 ± 0.080
	AUC	0.584 ± 0.028	0.569 ± 0.078	0.528 ± 0.054	0.513 ± 0.075	0.578 ± 0.024	0.514 ± 0.077	0.551 ± 0.064	0.542 ± 0.053	0.511 ± 0.042	0.513 ± 0.075	0.481 ± 0.044	0.527 ± 0.058	0.509 ± 0.052	0.504 ± 0.048	0.482 ± 0.053	0.468 ± 0.091	0.491 ± 0.072	0.490 ± 0.063	0.483 ± 0.057	0.481 ± 0.062
	BAcc	0.325 ± 0.031	0.295 ± 0.076	0.240 ± 0.038	0.280 ± 0.089	0.340 ± 0.049	0.250 ± 0.079	0.310 ± 0.108	0.300 ± 0.061	0.275 ± 0.064	0.270 ± 0.072	0.250 ± 0.077	0.265 ± 0.076	0.290 ± 0.084	0.250 ± 0.018	0.215 ± 0.076	0.250 ± 0.064	0.275 ± 0.100	0.235 ± 0.068	0.260 ± 0.068	0.260 ± 0.060
	Acc.1	0.325 ± 0.031	0.295 ± 0.076	0.240 ± 0.038	0.280 ± 0.089	0.340 ± 0.049	0.250 ± 0.079	0.310 ± 0.108	0.300 ± 0.061	0.275 ± 0.064	0.270 ± 0.072	0.250 ± 0.077	0.265 ± 0.076	0.290 ± 0.084	0.250 ± 0.018	0.215 ± 0.076	0.250 ± 0.064	0.275 ± 0.100	0.235 ± 0.068	0.256 ± 0.106	0.260 ± 0.060
	Acc.2	0.545 ± 0.089	0.600 ± 0.092	0.540 ± 0.034	0.495 ± 0.084	0.575 ± 0.064	0.520 ± 0.074	0.570 ± 0.112	0.545 ± 0.089	0.530 ± 0.060	0.550 ± 0.064	0.495 ± 0.091	0.530 ± 0.087	0.535 ± 0.088	0.490 ± 0.052	0.500 ± 0.068	0.485 ± 0.108	0.485 ± 0.068	0.450 ± 0.071	0.447 ± 0.114	0.480 ± 0.033
sub10	κ	0.000 ± 0.150	0.033 ± 0.108	0.039 ± 0.058	0.111 ± 0.102	-0.028 ± 0.039	0.033 ± 0.087	0.039 ± 0.131	-0.022 ± 0.060	0.128 ± 0.058	0.017 ± 0.050	-0.017 ± 0.025	0.006 ± 0.082	0.006 ± 0.063	-0.067 ± 0.050	0.050 ± 0.046	-0.039 ± 0.054	0.033 ± 0.095	-0.072 ± 0.101	0.072 ± 0.085	-0.028 ± 0.039
	AUC	0.540 ± 0.051	0.534 ± 0.056	0.556 ± 0.068	0.563 ± 0.069	0.476 ± 0.059	0.520 ± 0.050	0.499 ± 0.068	0.493 ± 0.014	0.591 ± 0.049	0.550 ± 0.031	0.505 ± 0.047	0.523 ± 0.051	0.499 ± 0.031	0.469 ± 0.044	0.538 ± 0.059	0.433 ± 0.031	0.512 ± 0.048	0.451 ± 0.028	0.557 ± 0.070	0.456 ± 0.054
	BAcc	0.250 ± 0.112	0.275 ± 0.081	0.279 ± 0.043	0.333 ± 0.077	0.229 ± 0.029	0.275 ± 0.065	0.279 ± 0.098	0.233 ± 0.045	0.346 ± 0.043	0.263 ± 0.038	0.237 ± 0.019	0.254 ± 0.061	0.254 ± 0.048	0.200 ± 0.038	0.287 ± 0.034	0.221 ± 0.041	0.275 ± 0.071	0.196 ± 0.076	0.304 ± 0.064	0.229 ± 0.029
	Acc.1	0.250 ± 0.112	0.275 ± 0.081	0.279 ± 0.043	0.333 ± 0.077	0.229 ± 0.029	0.275 ± 0.065	0.279 ± 0.098	0.233 ± 0.045	0.346 ± 0.043	0.258 ± 0.043	0.237 ± 0.019	0.254 ± 0.061	0.254 ± 0.048	0.200 ± 0.038	0.287 ± 0.034	0.221 ± 0.041	0.275 ± 0.071	0.196 ± 0.076	0.316 ± 0.068	0.233 ± 0.034
	Acc.2	0.546 ± 0.043	0.529 ± 0.067	0.517 ± 0.099	0.554 ± 0.098	0.479 ± 0.057	0.492 ± 0.070	0.463 ± 0.070	0.483 ± 0.034	0.604 ± 0.090	0.550 ± 0.080	0.533 ± 0.087	0.504 ± 0.097	0.454 ± 0.068	0.442 ± 0.086	0.496 ± 0.065	0.458 ± 0.053	0.512 ± 0.060	0.408 ± 0.062	0.600 ± 0.062	0.475 ± 0.097
sub2	κ	0.078 ± 0.077	0.122 ± 0.124	0.078 ± 0.082	0.039 ± 0.050	-0.039 ± 0.042	0.039 ± 0.064	0.094 ± 0.075	-0.011 ± 0.061	0.089 ± 0.036	-0.022 ± 0.132	0.000 ± 0.076	-0.006 ± 0.050	-0.006 ± 0.134	-0.006 ± 0.099	0.033 ± 0.103	-0.028 ± 0.083	-0.017 ± 0.058	0.017 ± 0.058	0.017 ± 0.087	-0.011 ± 0.064
	AUC	0.579 ± 0.028	0.592 ± 0.064	0.565 ± 0.058	0.539 ± 0.044	0.510 ± 0.025	0.523 ± 0.033	0.542 ± 0.041	0.473 ± 0.040	0.555 ± 0.038	0.498 ± 0.057	0.502 ± 0.036	0.516 ± 0.031	0.511 ± 0.049	0.496 ± 0.085	0.529 ± 0.040	0.483 ± 0.053	0.478 ± 0.029	0.485 ± 0.048	0.523 ± 0.032	0.499 ± 0.082
	BAcc	0.308 ± 0.058	0.342 ± 0.093	0.308 ± 0.061	0.279 ± 0.038	0.221 ± 0.032	0.279 ± 0.048	0.321 ± 0.056	0.242 ± 0.046	0.317 ± 0.027	0.233 ± 0.099	0.250 ± 0.057	0.246 ± 0.037	0.246 ± 0.100	0.246 ± 0.074	0.275 ± 0.077	0.229 ± 0.063	0.237 ± 0.043	0.262 ± 0.043	0.263 ± 0.065	0.242 ± 0.048
	Acc.1	0.308 ± 0.058	0.342 ± 0.093	0.308 ± 0.061	0.279 ± 0.038	0.221 ± 0.032	0.279 ± 0.048	0.321 ± 0.056	0.242 ± 0.046	0.317 ± 0.027	0.229 ± 0.094	0.250 ± 0.057	0.246 ± 0.037	0.246 ± 0.100	0.246 ± 0.074	0.275 ± 0.077	0.229 ± 0.063	0.237 ± 0.043	0.263 ± 0.043	0.275 ± 0.093	0.242 ± 0.048
	Acc.2	0.621 ± 0.071	0.588 ± 0.070	0.525 ± 0.073	0.542 ± 0.051	0.525 ± 0.034	0.546 ± 0.063	0.537 ± 0.063	0.450 ± 0.081	0.558 ± 0.040	0.517 ± 0.112	0.500 ± 0.026	0.558 ± 0.058	0.500 ± 0.086	0.508 ± 0.060	0.542 ± 0.036	0.487 ± 0.096	0.471 ± 0.043	0.500 ± 0.093	0.559 ± 0.043	0.475 ± 0.060

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(f)	BIOT ^(f)	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)	STEEGformer-b ^(f)	STEEGformer-b ^(f)	STEEGformer-h ^(f)	STEEGformer-h ^(f)
sub3	κ	0.030 ± 0.066	0.052 ± 0.081	0.067 ± 0.144	-0.044 ± 0.048	-0.052 ± 0.050	0.067 ± 0.071	0.015 ± 0.042	0.022 ± 0.042	0.089 ± 0.122	0.059 ± 0.077	-0.074 ± 0.094	-0.037 ± 0.094	0.015 ± 0.067	-0.000 ± 0.105	-0.089 ± 0.067	-0.052 ± 0.056	0.044 ± 0.127	-0.037 ± 0.083	-0.059 ± 0.050	0.000 ± 0.074
	AUC	0.516 ± 0.039	0.521 ± 0.031	0.527 ± 0.092	0.504 ± 0.034	0.479 ± 0.064	0.528 ± 0.040	0.530 ± 0.043	0.476 ± 0.068	0.557 ± 0.052	0.541 ± 0.098	0.492 ± 0.047	0.464 ± 0.041	0.520 ± 0.057	0.503 ± 0.021	0.445 ± 0.053	0.497 ± 0.048	0.505 ± 0.074	0.490 ± 0.074	0.458 ± 0.043	0.478 ± 0.045
	BAcc	0.272 ± 0.050	0.289 ± 0.061	0.300 ± 0.108	0.217 ± 0.036	0.211 ± 0.037	0.300 ± 0.053	0.261 ± 0.032	0.267 ± 0.032	0.317 ± 0.091	0.294 ± 0.058	0.194 ± 0.071	0.222 ± 0.071	0.261 ± 0.050	0.250 ± 0.079	0.183 ± 0.050	0.211 ± 0.042	0.283 ± 0.095	0.222 ± 0.062	0.206 ± 0.037	0.250 ± 0.056
	Acc_1	0.272 ± 0.050	0.289 ± 0.061	0.300 ± 0.108	0.217 ± 0.036	0.211 ± 0.037	0.300 ± 0.053	0.261 ± 0.032	0.267 ± 0.032	0.317 ± 0.091	0.294 ± 0.058	0.194 ± 0.071	0.222 ± 0.071	0.261 ± 0.050	0.250 ± 0.079	0.183 ± 0.050	0.211 ± 0.042	0.283 ± 0.095	0.217 ± 0.066	0.225 ± 0.129	0.244 ± 0.060
	Acc_2	0.561 ± 0.046	0.500 ± 0.081	0.472 ± 0.076	0.478 ± 0.066	0.522 ± 0.080	0.506 ± 0.030	0.522 ± 0.023	0.478 ± 0.120	0.589 ± 0.066	0.522 ± 0.129	0.517 ± 0.058	0.494 ± 0.046	0.500 ± 0.065	0.511 ± 0.058	0.394 ± 0.080	0.517 ± 0.080	0.494 ± 0.072	0.517 ± 0.058	0.397 ± 0.185	0.500 ± 0.076
sub4	κ	0.072 ± 0.064	0.094 ± 0.070	0.106 ± 0.080	0.172 ± 0.077	0.011 ± 0.110	-0.072 ± 0.138	0.028 ± 0.076	0.044 ± 0.109	0.222 ± 0.062	0.011 ± 0.042	0.061 ± 0.138	0.106 ± 0.087	0.039 ± 0.080	0.056 ± 0.088	0.022 ± 0.103	-0.011 ± 0.110	0.033 ± 0.075	0.006 ± 0.072	0.044 ± 0.089	-0.006 ± 0.077
	AUC	0.567 ± 0.030	0.561 ± 0.051	0.584 ± 0.064	0.653 ± 0.052	0.509 ± 0.052	0.458 ± 0.078	0.520 ± 0.043	0.535 ± 0.070	0.639 ± 0.006	0.538 ± 0.031	0.552 ± 0.085	0.571 ± 0.059	0.510 ± 0.048	0.515 ± 0.046	0.491 ± 0.071	0.474 ± 0.046	0.527 ± 0.048	0.508 ± 0.025	0.516 ± 0.076	0.480 ± 0.080
	BAcc	0.304 ± 0.048	0.321 ± 0.052	0.329 ± 0.060	0.379 ± 0.058	0.258 ± 0.083	0.196 ± 0.104	0.271 ± 0.057	0.283 ± 0.081	0.417 ± 0.047	0.258 ± 0.032	0.296 ± 0.104	0.329 ± 0.065	0.279 ± 0.060	0.292 ± 0.066	0.267 ± 0.077	0.242 ± 0.083	0.275 ± 0.056	0.242 ± 0.054	0.283 ± 0.067	0.246 ± 0.058
	Acc_1	0.304 ± 0.048	0.321 ± 0.052	0.329 ± 0.060	0.379 ± 0.058	0.258 ± 0.083	0.196 ± 0.104	0.271 ± 0.057	0.283 ± 0.081	0.417 ± 0.047	0.258 ± 0.032	0.296 ± 0.104	0.329 ± 0.065	0.279 ± 0.060	0.292 ± 0.066	0.267 ± 0.077	0.242 ± 0.083	0.275 ± 0.056	0.242 ± 0.054	0.272 ± 0.079	0.250 ± 0.062
	Acc_2	0.579 ± 0.031	0.613 ± 0.076	0.592 ± 0.079	0.629 ± 0.070	0.500 ± 0.044	0.433 ± 0.088	0.479 ± 0.021	0.492 ± 0.072	0.621 ± 0.050	0.517 ± 0.052	0.575 ± 0.076	0.575 ± 0.075	0.512 ± 0.056	0.525 ± 0.086	0.475 ± 0.094	0.496 ± 0.050	0.525 ± 0.054	0.500 ± 0.077	0.534 ± 0.107	0.496 ± 0.068
sub5	κ	0.050 ± 0.041	0.028 ± 0.065	0.072 ± 0.105	0.089 ± 0.077	0.000 ± 0.059	-0.033 ± 0.063	0.006 ± 0.066	0.050 ± 0.108	-0.017 ± 0.058	-0.056 ± 0.081	0.033 ± 0.053	0.044 ± 0.064	-0.017 ± 0.061	0.028 ± 0.028	0.044 ± 0.050	0.011 ± 0.061	-0.078 ± 0.046	-0.017 ± 0.091	0.067 ± 0.064	-0.028 ± 0.028
	AUC	0.518 ± 0.051	0.531 ± 0.051	0.551 ± 0.040	0.595 ± 0.052	0.498 ± 0.057	0.498 ± 0.038	0.527 ± 0.079	0.519 ± 0.046	0.501 ± 0.037	0.462 ± 0.035	0.520 ± 0.062	0.544 ± 0.029	0.485 ± 0.035	0.510 ± 0.030	0.531 ± 0.048	0.485 ± 0.037	0.459 ± 0.032	0.492 ± 0.026	0.561 ± 0.029	0.469 ± 0.038
	BAcc	0.287 ± 0.031	0.271 ± 0.049	0.304 ± 0.079	0.317 ± 0.058	0.250 ± 0.044	0.225 ± 0.048	0.254 ± 0.050	0.287 ± 0.081	0.237 ± 0.043	0.208 ± 0.061	0.275 ± 0.040	0.283 ± 0.048	0.237 ± 0.046	0.271 ± 0.021	0.283 ± 0.038	0.258 ± 0.046	0.192 ± 0.034	0.237 ± 0.068	0.300 ± 0.048	0.229 ± 0.021
	Acc_1	0.287 ± 0.031	0.271 ± 0.049	0.304 ± 0.079	0.317 ± 0.058	0.250 ± 0.044	0.225 ± 0.048	0.254 ± 0.050	0.287 ± 0.081	0.237 ± 0.043	0.208 ± 0.061	0.275 ± 0.040	0.283 ± 0.048	0.237 ± 0.046	0.271 ± 0.021	0.283 ± 0.038	0.258 ± 0.046	0.192 ± 0.034	0.237 ± 0.068	0.287 ± 0.050	0.229 ± 0.021
	Acc_2	0.517 ± 0.077	0.521 ± 0.066	0.554 ± 0.065	0.575 ± 0.073	0.492 ± 0.019	0.512 ± 0.072	0.546 ± 0.099	0.537 ± 0.017	0.500 ± 0.053	0.467 ± 0.052	0.546 ± 0.085	0.542 ± 0.049	0.442 ± 0.054	0.483 ± 0.070	0.512 ± 0.060	0.492 ± 0.050	0.454 ± 0.040	0.529 ± 0.062	0.553 ± 0.050	0.492 ± 0.067
κ		-0.024 ± 0.085	0.012 ± 0.113	-0.007 ± 0.119	0.026 ± 0.048	0.049 ± 0.075	0.006 ± 0.077	-0.012 ± 0.105	0.012 ± 0.068	0.054 ± 0.068	0.028 ± 0.066	-0.020 ± 0.046	0.025 ± 0.061	0.024 ± 0.029	-0.029 ± 0.042	0.031 ± 0.049	-0.029 ± 0.109	-0.023 ± 0.076	0.010 ± 0.038	0.037 ± 0.112	-0.032 ± 0.097
sub6		Continued on next page																			

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (i)	BIOT (i)	BENDR (i)	BENDR (i)	CBraMod (i)	CBraMod (i)	EEGPT (i)	EEGPT (i)	LaBraM (i)	LaBraM (i)	STEEGformer-s (i)	STEEGformer-s (i)	STEEGformer-b (i)	STEEGformer-b (i)	STEEGformer-h (i)	STEEGformer-h (i)
	AUC	0.495 ±0.050	0.506 ±0.051	0.515 ±0.067	0.506 ±0.024	0.504 ±0.025	0.499 ±0.033	0.518 ±0.093	0.487 ±0.020	0.553 ±0.071	0.497 ±0.077	0.502 ±0.045	0.536 ± 0.054	0.519 ±0.041	0.461 ±0.013	0.519 ±0.017	0.500 ±0.051	0.514 ±0.052	0.517 ±0.027	0.529 ±0.078	0.496 ±0.050
	BAcc	0.232 ±0.066	0.258 ±0.087	0.245 ±0.093	0.271 ±0.037	0.287 ± 0.055	0.255 ±0.056	0.240 ±0.078	0.258 ±0.052	0.290 ±0.050	0.270 ±0.051	0.235 ±0.033	0.269 ±0.045	0.268 ±0.021	0.228 ±0.032	0.273 ±0.036	0.229 ±0.082	0.234 ±0.058	0.257 ±0.029	0.279 ±0.085	0.226 ±0.073
	Acc.1	0.231 ±0.064	0.259 ±0.085	0.245 ±0.089	0.269 ±0.037	0.287 ±0.059	0.254 ±0.057	0.241 ±0.079	0.259 ±0.051	0.292 ± 0.051	0.273 ±0.050	0.236 ±0.035	0.268 ±0.046	0.268 ±0.020	0.227 ±0.032	0.273 ±0.037	0.227 ±0.080	0.232 ±0.056	0.259 ±0.029	0.293 ±0.077	0.227 ±0.070
	Acc.2	0.477 ±0.063	0.490 ±0.065	0.537 ± 0.087	0.528 ±0.026	0.500 ±0.050	0.523 ±0.082	0.514 ±0.080	0.496 ±0.030	0.509 ±0.096	0.505 ±0.046	0.504 ±0.058	0.556 ±0.044	0.495 ±0.034	0.468 ±0.057	0.523 ±0.028	0.528 ±0.050	0.491 ±0.089	0.518 ±0.041	0.498 ±0.090	0.481 ±0.074
	κ	0.106 ±0.110	0.067 ±0.064	0.039 ±0.080	0.089 ± 0.105	-0.044 ±0.058	0.022 ±0.084	0.039 ±0.099	-0.006 ±0.053	0.033 ±0.063	0.050 ±0.041	-0.028 ±0.119	0.044 ±0.067	-0.089 ±0.023	-0.017 ±0.093	-0.039 ±0.101	-0.039 ±0.032	-0.033 ±0.123	-0.028 ±0.052	-0.022 ±0.097	-0.006 ±0.082
sub7	AUC	0.606 ±0.054	0.556 ±0.029	0.526 ±0.052	0.581 ± 0.040	0.475 ±0.059	0.520 ±0.048	0.539 ±0.063	0.499 ±0.035	0.562 ±0.038	0.495 ±0.063	0.478 ±0.061	0.539 ±0.052	0.458 ±0.023	0.471 ±0.063	0.472 ±0.071	0.457 ±0.038	0.499 ±0.068	0.467 ±0.038	0.496 ±0.052	0.415 ±0.059
	BAcc	0.329 ±0.083	0.300 ±0.048	0.279 ±0.060	0.317 ± 0.079	0.217 ±0.043	0.267 ±0.063	0.279 ±0.075	0.246 ±0.040	0.275 ±0.048	0.287 ±0.031	0.229 ±0.090	0.283 ±0.050	0.183 ±0.017	0.237 ±0.070	0.221 ±0.076	0.221 ±0.024	0.225 ±0.092	0.229 ±0.039	0.233 ±0.073	0.246 ±0.061
	Acc.1	0.329 ±0.083	0.300 ±0.048	0.279 ±0.060	0.317 ± 0.079	0.217 ±0.043	0.267 ±0.063	0.279 ±0.075	0.246 ±0.040	0.275 ±0.048	0.287 ±0.031	0.229 ±0.090	0.283 ±0.050	0.183 ±0.017	0.237 ±0.070	0.221 ±0.076	0.221 ±0.024	0.225 ±0.092	0.229 ±0.039	0.222 ±0.056	0.246 ±0.061
	Acc.2	0.588 ± 0.045	0.562 ±0.044	0.525 ±0.061	0.600 ±0.048	0.479 ±0.069	0.487 ±0.035	0.567 ±0.107	0.496 ±0.045	0.571 ±0.043	0.525 ±0.083	0.492 ±0.032	0.546 ±0.054	0.454 ±0.040	0.467 ±0.088	0.454 ±0.074	0.463 ±0.081	0.463 ±0.045	0.462 ±0.077	0.509 ±0.051	0.446 ±0.070
	κ	0.133 ±0.103	0.160 ± 0.072	0.133 ±0.137	0.213 ±0.102	0.047 ±0.096	0.087 ±0.128	0.133 ±0.108	-0.027 ±0.106	0.213 ±0.102	0.067 ±0.062	0.053 ±0.107	0.040 ±0.037	0.033 ±0.122	-0.067 ±0.078	0.020 ±0.112	-0.087 ±0.099	0.053 ±0.069	0.040 ±0.072	0.053 ±0.110	-0.073 ±0.055
sub8	AUC	0.616 ±0.079	0.656 ±0.028	0.595 ±0.086	0.697 ±0.048	0.531 ±0.076	0.534 ±0.084	0.575 ±0.039	0.468 ±0.057	0.657 ± 0.085	0.619 ±0.056	0.540 ±0.052	0.541 ±0.022	0.510 ±0.082	0.512 ±0.031	0.510 ±0.079	0.443 ±0.072	0.571 ±0.046	0.493 ±0.068	0.534 ±0.071	0.462 ±0.046
	BAcc	0.350 ±0.077	0.370 ± 0.054	0.350 ±0.103	0.410 ±0.076	0.285 ±0.072	0.315 ±0.096	0.350 ±0.081	0.230 ±0.080	0.410 ±0.076	0.300 ±0.047	0.290 ±0.080	0.280 ±0.027	0.275 ±0.092	0.200 ±0.059	0.265 ±0.084	0.185 ±0.074	0.290 ±0.052	0.280 ±0.054	0.290 ±0.082	0.195 ±0.041
	Acc.1	0.350 ±0.077	0.370 ± 0.054	0.350 ±0.103	0.410 ±0.076	0.285 ±0.072	0.315 ±0.096	0.350 ±0.081	0.230 ±0.080	0.410 ±0.076	0.300 ±0.047	0.290 ±0.080	0.280 ±0.027	0.275 ±0.092	0.200 ±0.059	0.265 ±0.084	0.185 ±0.074	0.290 ±0.052	0.280 ±0.054	0.294 ±0.103	0.195 ±0.041
	Acc.2	0.620 ±0.157	0.645 ±0.021	0.595 ±0.096	0.710 ±0.084	0.520 ±0.086	0.500 ±0.088	0.575 ±0.050	0.445 ±0.045	0.685 ± 0.101	0.565 ±0.129	0.535 ±0.070	0.545 ±0.021	0.550 ±0.130	0.540 ±0.068	0.475 ±0.090	0.410 ±0.089	0.570 ±0.060	0.510 ±0.096	0.500 ±0.158	0.455 ±0.048
	κ	0.044 ±0.058	0.050 ±0.144	0.072 ±0.058	0.111 ±0.094	0.050 ±0.023	0.006 ±0.050	0.050 ±0.087	-0.022 ±0.077	0.083 ±0.094	0.033 ±0.087	0.056 ±0.073	0.078 ±0.114	-0.006 ±0.030	0.028 ±0.081	0.006 ±0.126	0.044 ±0.072	-0.022 ±0.095	0.006 ±0.093	0.067 ±0.085	0.089 ± 0.023
sub9	AUC	0.556 ±0.046	0.552 ±0.066	0.556 ±0.047	0.587 ± 0.068	0.534 ±0.039	0.532 ±0.044	0.559 ±0.062	0.482 ±0.046	0.576 ±0.063	0.562 ±0.054	0.549 ±0.037	0.567 ±0.069	0.503 ±0.010	0.536 ±0.064	0.528 ±0.094	0.516 ±0.071	0.487 ±0.065	0.513 ±0.067	0.553 ±0.058	0.597 ±0.074

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SubjectMetric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-l (f)	STEEGformer-l (f)		
	BAcc	0.283 ±0.043	0.287 ±0.108	0.304 ±0.043	0.333 ± 0.071	0.287 ±0.017	0.254 ±0.037	0.287 ±0.065	0.233 ±0.058	0.312 ±0.071	0.275 ±0.065	0.292 ±0.055	0.308 ±0.085	0.246 ±0.023	0.271 ±0.061	0.254 ±0.095	0.283 ±0.054	0.233 ±0.071	0.254 ±0.070	0.300 ±0.064	0.317 ± 0.017	
	Acc_1	0.283 ±0.043	0.287 ±0.108	0.304 ±0.043	0.333 ± 0.071	0.287 ±0.017	0.254 ±0.037	0.287 ±0.065	0.233 ±0.058	0.312 ±0.071	0.275 ±0.065	0.292 ±0.055	0.308 ±0.085	0.246 ±0.023	0.271 ±0.061	0.254 ±0.095	0.283 ±0.054	0.233 ±0.071	0.254 ±0.070	0.272 ±0.041	0.317 ± 0.017	
	Acc_2	0.550 ±0.041	0.533 ±0.104	0.575 ±0.084	0.592 ±0.070	0.562 ±0.051	0.542 ±0.093	0.621 ± 0.097	0.487 ±0.073	0.600 ± 0.110	0.546 ±0.045	0.558 ±0.068	0.592 ±0.067	0.508 ±0.032	0.533 ±0.077	0.562 ±0.087	0.529 ±0.083	0.508 ±0.058	0.517 ±0.061	0.566 ±0.092	0.571 ±0.070	

E.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 49: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.021	0.020	0.016	0.016	0.021
DeepConvnet	± 0.018	± 0.013	± 0.014	± 0.014	± 0.016
	0.007	0.010	0.006	0.005	0.018
EEGNet	± 0.015	± 0.011	± 0.012	± 0.011	± 0.011
	0.003	0.008	0.002	0.002	0.012
Conformer	± 0.010	± 0.010	± 0.008	± 0.008	± 0.010
	0.026	0.026	0.020	0.020	0.023
CTNet	± 0.022	± 0.013	± 0.017	± 0.017	± 0.016
	0.001	0.003	0.001	0.001	0.005
BIOT (f)	± 0.017	± 0.007	± 0.013	± 0.013	± 0.008
	-0.009	-0.003	-0.007	-0.007	-0.011
BIOT (l)	± 0.016	± 0.010	± 0.012	± 0.012	± 0.019
	0.008	0.007	0.006	0.005	0.007
BENDR (f)	± 0.014	± 0.009	± 0.010	± 0.011	± 0.018
	-0.004	-0.000	-0.003	-0.003	-0.003
BENDR (l)	± 0.016	± 0.005	± 0.012	± 0.012	± 0.008
	0.015	0.014	0.011	0.011	0.010
CBraMod (f)	± 0.016	± 0.010	± 0.012	± 0.012	± 0.012
	0.022	0.017	0.016	0.016	0.016
CBraMod (l)	± 0.013	± 0.010	± 0.010	± 0.010	± 0.008
	0.008	0.003	0.006	0.006	0.000
EEGPT (f)	± 0.013	± 0.008	± 0.010	± 0.009	± 0.013
	0.023	0.019	0.017	0.017	0.017
EEGPT (l)	± 0.012	± 0.007	± 0.009	± 0.009	± 0.014
	-0.002	0.003	-0.002	-0.002	0.002
LaBraM (f)	± 0.009	± 0.006	± 0.007	± 0.007	± 0.013
	0.001	0.002	0.001	0.001	0.001
LaBraM (l)	± 0.018	± 0.010	± 0.014	± 0.014	± 0.015
	0.003	0.001	0.002	0.002	0.005
STEEGformer-s (f)	± 0.012	± 0.007	± 0.009	± 0.009	± 0.013
	-0.005	-0.004	-0.003	-0.003	-0.009
STEEGformer-s (l)	± 0.013	± 0.009	± 0.010	± 0.010	± 0.012
	-0.006	0.000	-0.004	-0.004	0.003
STEEGformer-b (f)	± 0.013	± 0.008	± 0.009	± 0.009	± 0.010
	0.000	-0.002	0.000	-0.000	-0.002
STEEGformer-b (l)	± 0.016	± 0.006	± 0.012	± 0.012	± 0.013
	-0.001	-0.002	-0.001	-0.002	-0.001
STEEGformer-l (f)	± 0.009	± 0.005	± 0.007	± 0.011	± 0.012
	-0.007	-0.004	-0.005	-0.006	-0.009
STEEGformer-l (l)	± 0.013	± 0.010	± 0.009	± 0.010	± 0.012

Table 50: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub1	κ	0.022 ± 0.048	-0.007 ± 0.052	-0.023 ± 0.056	0.037 ± 0.045	0.019 ± 0.044	0.006 ± 0.058	0.015 ± 0.044	0.002 ± 0.018	0.034 ± 0.038	0.028 ± 0.035	0.020 ± 0.069	0.036 ± 0.050	0.008 ± 0.043	-0.024 ± 0.041	0.011 ± 0.019	-0.024 ± 0.021	-0.010 ± 0.042	-0.007 ± 0.033	-0.002 ± 0.027	-0.022 ± 0.032
	AUC	0.008 ± 0.031	-0.000 ± 0.022	-0.015 ± 0.032	0.023 ± 0.024	0.015 ± 0.020	-0.005 ± 0.039	0.015 ± 0.023	0.003 ± 0.013	0.025 ± 0.031	0.027 ± 0.033	0.007 ± 0.024	0.018 ± 0.024	0.013 ± 0.027	-0.014 ± 0.025	0.006 ± 0.012	-0.015 ± 0.013	0.002 ± 0.020	-0.006 ± 0.014	0.001 ± 0.018	-0.010 ± 0.017
	BAcc	0.016 ± 0.036	-0.005 ± 0.039	-0.017 ± 0.042	0.027 ± 0.033	0.014 ± 0.033	0.005 ± 0.043	0.012 ± 0.033	0.002 ± 0.014	0.025 ± 0.029	0.021 ± 0.026	0.015 ± 0.052	0.027 ± 0.037	0.006 ± 0.032	-0.018 ± 0.031	0.008 ± 0.014	-0.018 ± 0.016	-0.008 ± 0.031	-0.005 ± 0.025	-0.002 ± 0.020	-0.016 ± 0.024
	Acc.1	0.017 ± 0.035	-0.005 ± 0.039	-0.017 ± 0.042	0.028 ± 0.033	0.015 ± 0.033	0.005 ± 0.043	0.011 ± 0.033	0.001 ± 0.014	0.025 ± 0.029	0.021 ± 0.027	0.015 ± 0.051	0.027 ± 0.037	0.006 ± 0.032	-0.018 ± 0.030	0.008 ± 0.014	-0.018 ± 0.017	-0.008 ± 0.031	-0.006 ± 0.023	-0.011 ± 0.029	-0.018 ± 0.026
	Acc.2	-0.003 ± 0.038	0.011 ± 0.018	-0.007 ± 0.034	0.023 ± 0.038	0.010 ± 0.037	-0.010 ± 0.041	0.004 ± 0.025	0.007 ± 0.029	0.034 ± 0.036	0.015 ± 0.029	-0.003 ± 0.042	0.005 ± 0.030	0.006 ± 0.044	-0.011 ± 0.025	0.017 ± 0.032	-0.029 ± 0.037	0.008 ± 0.030	-0.004 ± 0.028	0.020 ± 0.054	-0.011 ± 0.038
sub10	κ	0.026 ± 0.035	0.047 ± 0.059	0.003 ± 0.053	0.024 ± 0.032	0.011 ± 0.048	-0.023 ± 0.042	-0.005 ± 0.031	-0.019 ± 0.028	0.007 ± 0.050	0.013 ± 0.041	-0.004 ± 0.035	0.003 ± 0.036	0.007 ± 0.043	-0.016 ± 0.035	0.004 ± 0.051	0.012 ± 0.060	-0.001 ± 0.035	0.010 ± 0.030	0.001 ± 0.038	-0.015 ± 0.035
	AUC	0.028 ± 0.020	0.033 ± 0.032	0.012 ± 0.030	0.032 ± 0.023	0.009 ± 0.020	-0.004 ± 0.027	0.001 ± 0.021	-0.008 ± 0.015	0.002 ± 0.017	0.008 ± 0.021	-0.003 ± 0.020	0.017 ± 0.024	0.009 ± 0.026	0.004 ± 0.025	0.011 ± 0.026	-0.001 ± 0.021	-0.006 ± 0.017	0.002 ± 0.022	-0.003 ± 0.014	0.007 ± 0.021
	BAcc	0.019 ± 0.027	0.035 ± 0.044	0.003 ± 0.040	0.018 ± 0.024	0.008 ± 0.036	-0.018 ± 0.032	-0.004 ± 0.024	-0.014 ± 0.021	0.005 ± 0.037	0.009 ± 0.030	-0.003 ± 0.026	0.002 ± 0.027	0.005 ± 0.032	-0.012 ± 0.026	0.003 ± 0.038	0.009 ± 0.045	-0.001 ± 0.026	0.007 ± 0.022	0.000 ± 0.028	-0.011 ± 0.026
	Acc.1	0.019 ± 0.027	0.035 ± 0.044	0.003 ± 0.040	0.018 ± 0.024	0.008 ± 0.036	-0.018 ± 0.032	-0.004 ± 0.024	-0.014 ± 0.021	0.005 ± 0.037	0.010 ± 0.031	-0.003 ± 0.026	0.002 ± 0.027	0.005 ± 0.033	-0.013 ± 0.025	0.003 ± 0.038	0.009 ± 0.045	-0.000 ± 0.025	0.008 ± 0.022	-0.003 ± 0.031	-0.011 ± 0.027
	Acc.2	0.013 ± 0.030	0.025 ± 0.052	0.015 ± 0.038	0.029 ± 0.042	0.003 ± 0.032	-0.040 ± 0.031	-0.012 ± 0.034	-0.012 ± 0.036	-0.006 ± 0.025	0.023 ± 0.028	0.005 ± 0.038	0.016 ± 0.032	-0.006 ± 0.025	0.001 ± 0.024	0.012 ± 0.047	-0.007 ± 0.039	0.006 ± 0.038	0.020 ± 0.026	0.002 ± 0.029	-0.012 ± 0.026
sub2	κ	0.016 ± 0.046	0.006 ± 0.053	0.005 ± 0.037	0.048 ± 0.067	-0.012 ± 0.055	-0.012 ± 0.050	0.001 ± 0.048	-0.009 ± 0.052	0.013 ± 0.030	0.037 ± 0.022	0.017 ± 0.035	0.031 ± 0.043	-0.013 ± 0.030	-0.016 ± 0.032	-0.012 ± 0.041	-0.004 ± 0.034	0.007 ± 0.040	0.025 ± 0.032	0.007 ± 0.028	-0.025 ± 0.044
	AUC	0.019 ± 0.026	0.005 ± 0.018	0.020 ± 0.028	0.040 ± 0.039	0.004 ± 0.036	-0.011 ± 0.023	0.002 ± 0.027	-0.008 ± 0.030	0.023 ± 0.015	0.016 ± 0.020	0.003 ± 0.016	0.027 ± 0.030	-0.007 ± 0.019	-0.014 ± 0.019	-0.010 ± 0.019	0.012 ± 0.028	0.018 ± 0.016	0.008 ± 0.016	-0.004 ± 0.015	-0.007 ± 0.026
	BAcc	0.012 ± 0.035	0.004 ± 0.040	0.004 ± 0.027	0.036 ± 0.050	-0.009 ± 0.041	-0.009 ± 0.038	0.001 ± 0.036	-0.007 ± 0.039	0.010 ± 0.022	0.028 ± 0.016	0.013 ± 0.026	0.024 ± 0.032	-0.010 ± 0.022	-0.012 ± 0.024	-0.009 ± 0.031	-0.003 ± 0.026	0.005 ± 0.030	0.019 ± 0.024	0.005 ± 0.021	-0.019 ± 0.033
	Acc.1	0.012 ± 0.035	0.005 ± 0.040	0.004 ± 0.027	0.036 ± 0.050	-0.009 ± 0.041	-0.009 ± 0.038	0.000 ± 0.036	-0.007 ± 0.040	0.010 ± 0.022	0.028 ± 0.016	0.013 ± 0.026	0.024 ± 0.032	-0.011 ± 0.023	-0.011 ± 0.023	-0.009 ± 0.031	-0.003 ± 0.025	0.005 ± 0.030	0.017 ± 0.024	0.001 ± 0.028	-0.019 ± 0.034
	Acc.2	0.027 ± 0.026	0.024 ± 0.038	0.007 ± 0.031	0.024 ± 0.058	0.011 ± 0.038	-0.016 ± 0.041	0.003 ± 0.035	-0.008 ± 0.026	0.021 ± 0.031	0.016 ± 0.024	0.008 ± 0.027	0.038 ± 0.039	-0.025 ± 0.032	-0.016 ± 0.033	-0.012 ± 0.035	0.010 ± 0.045	0.023 ± 0.032	0.017 ± 0.029	-0.019 ± 0.045	-0.020 ± 0.029

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
sub3	κ	0.053 ± 0.052	-0.001 ± 0.029	0.013 ± 0.047	0.037 ± 0.055	0.016 ± 0.040	-0.012 ± 0.042	0.009 ± 0.049	-0.001 ± 0.042	0.049 ± 0.041	0.012 ± 0.028	0.029 ± 0.041	0.020 ± 0.051	-0.001 ± 0.056	0.010 ± 0.058	0.020 ± 0.036	0.020 ± 0.040	0.002 ± 0.043	-0.004 ± 0.028	-0.001 ± 0.031	0.010 ± 0.052
	AUC	0.042 ± 0.034	0.012 ± 0.030	0.012 ± 0.019	0.036 ± 0.028	0.012 ± 0.024	0.004 ± 0.025	-0.005 ± 0.031	0.002 ± 0.022	0.033 ± 0.022	0.024 ± 0.033	0.016 ± 0.025	0.023 ± 0.030	-0.001 ± 0.028	0.009 ± 0.029	-0.001 ± 0.021	0.002 ± 0.029	-0.004 ± 0.020	0.003 ± 0.017	-0.005 ± 0.021	-0.003 ± 0.025
	BAcc	0.040 ± 0.039	-0.001 ± 0.022	0.010 ± 0.035	0.028 ± 0.041	0.012 ± 0.030	-0.009 ± 0.031	0.006 ± 0.037	-0.001 ± 0.031	0.037 ± 0.031	0.009 ± 0.021	0.022 ± 0.031	0.015 ± 0.038	-0.001 ± 0.042	0.008 ± 0.044	0.015 ± 0.027	0.014 ± 0.030	0.001 ± 0.032	-0.003 ± 0.021	-0.001 ± 0.023	0.007 ± 0.039
	Acc_1	0.040 ± 0.039	-0.001 ± 0.022	0.010 ± 0.035	0.028 ± 0.041	0.012 ± 0.030	-0.009 ± 0.032	0.006 ± 0.037	-0.001 ± 0.031	0.037 ± 0.030	0.009 ± 0.021	0.022 ± 0.031	0.015 ± 0.038	-0.001 ± 0.042	0.008 ± 0.045	0.015 ± 0.027	0.016 ± 0.032	0.001 ± 0.032	-0.004 ± 0.020	0.001 ± 0.025	0.007 ± 0.039
	Acc_2	0.039 ± 0.062	0.036 ± 0.037	0.023 ± 0.043	0.022 ± 0.040	0.000 ± 0.043	-0.001 ± 0.042	-0.015 ± 0.040	0.004 ± 0.033	0.013 ± 0.048	0.031 ± 0.030	-0.010 ± 0.029	-0.006 ± 0.045	0.005 ± 0.019	0.004 ± 0.044	0.018 ± 0.029	-0.012 ± 0.040	-0.008 ± 0.037	-0.009 ± 0.016	0.009 ± 0.028	0.002 ± 0.040
sub4	κ	0.015 ± 0.027	-0.003 ± 0.031	-0.009 ± 0.041	0.003 ± 0.049	-0.024 ± 0.044	0.022 ± 0.035	0.027 ± 0.062	-0.007 ± 0.035	-0.008 ± 0.049	0.005 ± 0.040	-0.015 ± 0.042	0.027 ± 0.059	0.008 ± 0.039	0.015 ± 0.049	0.001 ± 0.048	-0.003 ± 0.040	-0.013 ± 0.028	-0.024 ± 0.030	-0.013 ± 0.021	-0.019 ± 0.034
	AUC	0.014 ± 0.028	0.016 ± 0.020	-0.000 ± 0.015	0.021 ± 0.036	-0.004 ± 0.032	0.016 ± 0.035	0.021 ± 0.030	0.001 ± 0.018	0.014 ± 0.033	0.013 ± 0.035	-0.014 ± 0.029	0.014 ± 0.029	0.005 ± 0.024	-0.004 ± 0.017	0.003 ± 0.027	-0.011 ± 0.015	-0.002 ± 0.016	-0.008 ± 0.009	-0.011 ± 0.018	-0.018 ± 0.022
	BAcc	0.011 ± 0.020	-0.002 ± 0.023	-0.006 ± 0.030	0.002 ± 0.037	-0.018 ± 0.033	0.017 ± 0.026	0.021 ± 0.046	-0.005 ± 0.027	-0.006 ± 0.036	0.004 ± 0.030	-0.011 ± 0.032	0.020 ± 0.044	0.006 ± 0.029	0.012 ± 0.037	0.001 ± 0.036	-0.002 ± 0.030	-0.010 ± 0.021	-0.002 ± 0.022	-0.010 ± 0.015	-0.014 ± 0.026
	Acc_1	0.011 ± 0.020	-0.002 ± 0.023	-0.006 ± 0.030	0.002 ± 0.037	-0.018 ± 0.033	0.016 ± 0.026	0.020 ± 0.046	-0.005 ± 0.027	-0.005 ± 0.035	0.004 ± 0.030	-0.011 ± 0.032	0.020 ± 0.044	0.006 ± 0.029	0.011 ± 0.037	0.001 ± 0.036	-0.002 ± 0.030	-0.010 ± 0.021	-0.019 ± 0.021	-0.007 ± 0.022	-0.014 ± 0.025
	Acc_2	0.008 ± 0.040	0.037 ± 0.032	0.011 ± 0.024	0.025 ± 0.032	0.003 ± 0.033	0.018 ± 0.036	0.026 ± 0.044	0.007 ± 0.036	0.017 ± 0.056	0.001 ± 0.041	0.001 ± 0.030	0.032 ± 0.050	0.016 ± 0.052	0.005 ± 0.031	0.008 ± 0.047	-0.010 ± 0.041	-0.005 ± 0.029	-0.007 ± 0.022	-0.006 ± 0.026	-0.018 ± 0.019
sub5	κ	0.025 ± 0.068	0.016 ± 0.028	-0.000 ± 0.035	-0.018 ± 0.058	0.000 ± 0.044	0.004 ± 0.042	-0.007 ± 0.034	0.004 ± 0.023	0.020 ± 0.048	0.018 ± 0.031	-0.000 ± 0.037	0.031 ± 0.055	0.003 ± 0.040	-0.027 ± 0.030	0.026 ± 0.022	-0.023 ± 0.041	-0.011 ± 0.029	-0.001 ± 0.035	0.002 ± 0.045	0.002 ± 0.029
	AUC	0.026 ± 0.037	0.007 ± 0.018	0.010 ± 0.015	0.009 ± 0.031	0.001 ± 0.026	0.005 ± 0.041	-0.003 ± 0.015	0.000 ± 0.021	0.008 ± 0.017	0.005 ± 0.016	0.001 ± 0.013	0.018 ± 0.032	0.004 ± 0.020	0.005 ± 0.019	0.009 ± 0.025	-0.011 ± 0.016	-0.003 ± 0.017	-0.001 ± 0.016	0.002 ± 0.013	-0.005 ± 0.014
	BAcc	0.019 ± 0.051	0.012 ± 0.021	-0.000 ± 0.026	-0.013 ± 0.044	0.001 ± 0.033	0.003 ± 0.032	-0.005 ± 0.025	0.003 ± 0.018	0.015 ± 0.036	0.014 ± 0.023	-0.000 ± 0.028	0.023 ± 0.041	0.002 ± 0.030	-0.020 ± 0.023	0.019 ± 0.017	-0.017 ± 0.031	-0.008 ± 0.022	-0.001 ± 0.026	0.002 ± 0.034	0.002 ± 0.022
	Acc_1	0.019 ± 0.051	0.012 ± 0.021	-0.000 ± 0.026	-0.013 ± 0.044	0.001 ± 0.033	0.003 ± 0.032	-0.006 ± 0.025	0.003 ± 0.018	0.015 ± 0.036	0.013 ± 0.022	-0.000 ± 0.028	0.023 ± 0.041	0.002 ± 0.030	-0.019 ± 0.022	0.019 ± 0.017	-0.018 ± 0.032	-0.008 ± 0.022	-0.000 ± 0.027	0.005 ± 0.035	0.002 ± 0.023
	Acc_2	0.048 ± 0.047	0.009 ± 0.034	0.012 ± 0.039	0.012 ± 0.044	0.018 ± 0.033	-0.012 ± 0.036	-0.013 ± 0.026	-0.004 ± 0.043	0.007 ± 0.016	0.012 ± 0.022	0.002 ± 0.039	0.012 ± 0.032	0.006 ± 0.042	-0.003 ± 0.033	0.028 ± 0.033	-0.026 ± 0.020	0.005 ± 0.018	-0.018 ± 0.030	-0.012 ± 0.038	-0.019 ± 0.018
sub6	κ	0.039 ± 0.043	0.004 ± 0.039	0.013 ± 0.037	0.051 ± 0.037	0.007 ± 0.046	-0.032 ± 0.038	0.017 ± 0.049	-0.005 ± 0.065	-0.002 ± 0.045	0.050 ± 0.046	0.010 ± 0.048	0.009 ± 0.035	-0.016 ± 0.050	0.017 ± 0.059	-0.000 ± 0.020	-0.005 ± 0.027	-0.017 ± 0.028	-0.016 ± 0.033	0.015 ± 0.028	-0.013 ± 0.034

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	AUC	0.032 ±0.041	0.009 ±0.019	0.024 ±0.016	0.039 ±0.031	0.002 ±0.033	-0.006 ±0.026	0.020 ±0.024	0.002 ±0.023	0.004 ±0.024	0.034 ±0.042	0.006 ±0.025	0.022 ±0.017	0.008 ±0.030	0.005 ±0.030	0.000 ±0.016	-0.007 ±0.013	-0.007 ±0.019	-0.011 ±0.014	0.009 ±0.015	-0.008 ±0.009
	BAcc	0.029 ±0.032	0.003 ±0.029	0.010 ±0.028	0.038 ±0.028	0.005 ±0.035	-0.024 ±0.028	0.012 ±0.037	-0.004 ±0.049	-0.002 ±0.034	0.038 ±0.034	0.007 ±0.036	0.006 ±0.027	-0.012 ±0.037	0.013 ±0.044	-0.000 ±0.015	-0.004 ±0.020	-0.004 ±0.021	-0.012 ±0.024	0.011 ±0.021	-0.009 ±0.025
	Acc.1	0.029 ±0.032	0.003 ±0.029	0.010 ±0.028	0.038 ±0.028	0.005 ±0.035	-0.024 ±0.028	0.012 ±0.037	-0.004 ±0.049	-0.002 ±0.034	0.038 ±0.034	0.007 ±0.036	0.006 ±0.027	-0.012 ±0.037	0.013 ±0.043	-0.000 ±0.015	-0.005 ±0.021	-0.013 ±0.021	-0.013 ±0.025	0.018 ±0.021	-0.010 ±0.025
	Acc.2	0.032 ±0.053	0.004 ±0.027	0.032 ±0.017	0.041 ±0.031	0.013 ±0.030	-0.036 ±0.030	0.040 ±0.049	-0.010 ±0.024	0.008 ±0.046	0.027 ±0.030	0.003 ±0.029	0.027 ±0.039	0.018 ±0.030	-0.007 ±0.052	-0.005 ±0.037	-0.005 ±0.025	-0.005 ±0.020	-0.003 ±0.037	-0.006 ±0.035	0.005 ±0.023
sub7	κ	-0.004 ±0.020	-0.008 ±0.057	0.005 ±0.042	0.024 ±0.040	-0.028 ±0.028	-0.001 ±0.034	0.024 ±0.051	-0.038 ±0.035	0.011 ±0.043	0.018 ±0.045	-0.001 ±0.039	0.036 ±0.061	-0.008 ±0.044	0.023 ±0.036	-0.010 ±0.033	-0.002 ±0.028	0.022 ±0.025	0.028 ±0.034	-0.018 ±0.019	0.010 ±0.028
	AUC	-0.004 ±0.018	-0.007 ±0.031	0.006 ±0.020	0.011 ±0.017	-0.005 ±0.021	-0.004 ±0.018	0.009 ±0.035	-0.005 ±0.024	0.011 ±0.014	0.022 ±0.025	-0.005 ±0.026	0.025 ±0.034	0.006 ±0.021	0.023 ±0.025	-0.008 ±0.019	0.009 ±0.017	0.010 ±0.016	0.006 ±0.010	-0.006 ±0.016	0.015 ±0.015
	BAcc	-0.004 ±0.015	-0.006 ±0.043	0.004 ±0.031	0.018 ±0.030	-0.021 ±0.021	-0.001 ±0.025	0.018 ±0.038	-0.028 ±0.026	0.008 ±0.032	0.013 ±0.034	-0.001 ±0.029	0.027 ±0.046	-0.006 ±0.033	0.017 ±0.027	-0.007 ±0.025	-0.001 ±0.021	0.017 ±0.018	0.021 ±0.026	-0.013 ±0.014	0.008 ±0.021
	Acc.1	-0.003 ±0.015	-0.006 ±0.043	0.004 ±0.031	0.018 ±0.030	-0.021 ±0.021	-0.001 ±0.025	0.018 ±0.038	-0.028 ±0.026	0.008 ±0.032	0.014 ±0.034	-0.001 ±0.029	0.027 ±0.046	-0.007 ±0.033	0.017 ±0.026	-0.007 ±0.024	-0.002 ±0.022	0.017 ±0.019	0.022 ±0.025	-0.012 ±0.024	0.008 ±0.021
	Acc.2	0.004 ±0.035	0.010 ±0.041	0.006 ±0.048	0.012 ±0.038	-0.007 ±0.019	0.006 ±0.027	0.026 ±0.038	-0.016 ±0.030	-0.008 ±0.018	0.010 ±0.020	-0.027 ±0.033	0.014 ±0.049	0.009 ±0.041	0.041 ±0.021	-0.013 ±0.028	0.006 ±0.039	0.016 ±0.039	0.011 ±0.039	0.007 ±0.015	-0.008 ±0.036
sub8	κ	-0.012 ±0.043	0.004 ±0.029	0.011 ±0.043	0.006 ±0.082	-0.005 ±0.045	-0.012 ±0.043	-0.018 ±0.044	0.013 ±0.038	0.011 ±0.033	0.013 ±0.025	0.017 ±0.042	0.006 ±0.037	0.002 ±0.041	0.019 ±0.032	-0.010 ±0.031	-0.004 ±0.043	-0.013 ±0.028	-0.015 ±0.034	0.006 ±0.026	0.005 ±0.038
	AUC	0.007 ±0.024	0.000 ±0.018	0.006 ±0.012	0.009 ±0.043	-0.010 ±0.015	0.000 ±0.036	-0.005 ±0.028	0.008 ±0.023	0.001 ±0.027	0.002 ±0.022	0.001 ±0.023	0.003 ±0.016	0.002 ±0.029	0.003 ±0.024	-0.010 ±0.025	-0.008 ±0.034	-0.007 ±0.019	-0.005 ±0.015	0.003 ±0.022	0.007 ±0.014
	BAcc	-0.009 ±0.032	0.003 ±0.022	0.008 ±0.032	0.004 ±0.062	-0.004 ±0.033	-0.009 ±0.032	-0.013 ±0.033	0.010 ±0.028	0.008 ±0.025	0.010 ±0.019	0.013 ±0.031	0.004 ±0.028	0.002 ±0.031	0.015 ±0.024	-0.008 ±0.023	-0.003 ±0.032	-0.010 ±0.021	-0.011 ±0.025	0.005 ±0.020	0.004 ±0.029
	Acc.1	-0.009 ±0.032	0.003 ±0.022	0.008 ±0.032	0.004 ±0.062	-0.003 ±0.034	-0.009 ±0.032	-0.014 ±0.032	0.010 ±0.029	0.007 ±0.025	0.010 ±0.019	0.013 ±0.032	0.004 ±0.028	0.002 ±0.031	0.015 ±0.023	-0.008 ±0.023	-0.002 ±0.032	-0.010 ±0.021	-0.011 ±0.026	0.008 ±0.026	0.003 ±0.029
	Acc.2	0.014 ±0.032	0.007 ±0.026	0.008 ±0.033	-0.010 ±0.056	-0.009 ±0.053	0.012 ±0.034	0.011 ±0.040	0.001 ±0.047	0.008 ±0.040	0.010 ±0.026	-0.009 ±0.034	-0.000 ±0.024	0.007 ±0.046	-0.002 ±0.046	-0.007 ±0.038	-0.004 ±0.034	-0.011 ±0.057	-0.012 ±0.046	0.008 ±0.028	0.013 ±0.039
sub9	κ	0.034 ±0.059	0.015 ±0.048	0.006 ±0.033	0.052 ±0.063	0.024 ±0.034	-0.026 ±0.043	0.013 ±0.045	0.023 ±0.046	0.017 ±0.036	0.021 ±0.019	0.007 ±0.050	0.029 ±0.039	-0.013 ±0.034	0.007 ±0.047	0.000 ±0.027	-0.013 ±0.032	-0.022 ±0.039	0.005 ±0.057	-0.008 ±0.037	-0.003 ±0.037
	AUC	0.028 ±0.036	0.021 ±0.029	0.006 ±0.021	0.043 ±0.045	0.005 ±0.029	-0.022 ±0.020	0.012 ±0.020	0.002 ±0.019	0.017 ±0.021	0.014 ±0.022	0.014 ±0.026	0.028 ±0.041	-0.005 ±0.026	-0.000 ±0.027	0.006 ±0.011	-0.009 ±0.017	0.003 ±0.019	-0.009 ±0.015	-0.002 ±0.021	-0.014 ±0.013

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SubjectMetric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (j)	STEGformer-s (l)	STEGformer-b (f)	STEGformer-b (l)	STEGformer-l (j)	STEGformer-l (l)
BAcc	0.026	0.011	0.005	0.039	0.018	-0.020	0.010	0.018	0.013	0.016	0.005	0.022	-0.009	0.005	0.000	-0.010	-0.016	0.004	-0.006	-0.002
	±0.044	±0.036	±0.025	±0.048	±0.026	±0.032	±0.034	±0.035	±0.027	±0.015	±0.037	±0.029	±0.026	±0.035	±0.020	±0.024	±0.029	±0.043	±0.028	±0.028
Acc_1	0.026	0.011	0.005	0.039	0.018	-0.020	0.010	0.018	0.014	0.015	0.005	0.022	-0.010	0.007	0.000	-0.010	-0.017	0.003	-0.003	-0.003
	±0.044	±0.036	±0.025	±0.048	±0.026	±0.032	±0.034	±0.034	±0.027	±0.015	±0.037	±0.029	±0.026	±0.035	±0.020	±0.024	±0.029	±0.041	±0.039	±0.028
Acc_2	0.031	0.018	0.009	0.051	0.004	-0.031	0.004	0.004	0.010	0.014	0.029	0.030	-0.015	-0.003	0.003	-0.013	-0.000	-0.013	-0.015	-0.025
	±0.033	±0.046	±0.040	±0.046	±0.035	±0.028	±0.025	±0.030	±0.036	±0.027	±0.041	±0.060	±0.030	±0.030	±0.031	±0.045	±0.029	±0.035	±0.055	±0.023

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F BINOCULAR SSVEP: 40-CLASS BINOCULAR SSVEP TARGET CLASSIFICATION

F.1 POPULATION-LEVEL RESULTS

F.1.1 SYNCHRONOUS DECODING RESULTS

Table 51: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
DeepConvnet	0.235 ± 0.162 0.176	0.828 ± 0.115 0.794	0.254 ± 0.158 0.197	0.254 ± 0.158 0.197	0.386 ± 0.208 0.319
EEGNet	± 0.129 0.183	± 0.117 0.800	± 0.126 0.203	± 0.126 0.203	± 0.177 0.313
Conformer	± 0.130 0.264	± 0.105 0.841	± 0.126 0.283	± 0.126 0.283	± 0.166 0.433
CTNet	± 0.167 0.116	± 0.125 0.711	± 0.163 0.138	± 0.163 0.138	± 0.219 0.226
SSVEPDNN	± 0.096 0.259	± 0.096 0.764	± 0.094 0.278	± 0.094 0.293	± 0.129 0.414
BIOT (f)	± 0.180 0.183	± 0.118 0.800	± 0.175 0.204	± 0.184 0.209	± 0.220 0.347
BIOT (l)	± 0.140 0.264	± 0.125 0.803	± 0.136 0.282	± 0.139 0.283	± 0.205 0.403
BENDR (f)	± 0.184 0.015	± 0.132 0.582	± 0.179 0.040	± 0.182 0.041	± 0.233 0.077
BENDR (l)	± 0.019 0.062	± 0.066 0.656	± 0.019 0.085	± 0.021 0.092	± 0.034 0.168
CBraMod (f)	± 0.032 0.037	± 0.048 0.686	± 0.031 0.061	± 0.042 0.081	± 0.062 0.149
CBraMod (l)	± 0.024 0.102	± 0.059 0.690	± 0.024 0.125	± 0.035 0.139	± 0.050 0.215
EEGPT (f)	± 0.095 0.159	± 0.090 0.791	± 0.093 0.180	± 0.106 0.196	± 0.132 0.307
EEGPT (l)	± 0.109 0.337	± 0.098 0.823	± 0.107 0.354	± 0.118 0.385	± 0.160 0.518
LaBraM (f)	± 0.182 0.007	± 0.102 0.537	± 0.177 0.032	± 0.185 0.030	± 0.211 0.060
LaBraM (l)	± 0.015 0.312	± 0.027 0.776	± 0.015 0.329	± 0.016 0.344	± 0.028 0.466
STEEGformer-s (f)	± 0.185 0.015	± 0.116 0.613	± 0.180 0.039	± 0.180 0.033	± 0.218 0.066
STEEGformer-s (l)	± 0.017	± 0.049	± 0.016	± 0.019	± 0.030
STEEGformer-b (f)	0.441 ± 0.197	0.885 ± 0.102	0.455 ± 0.192	0.464 ± 0.200	0.597 ± 0.222
STEEGformer-b (l)	0.018 ± 0.016	0.610 ± 0.053	0.042 ± 0.016	0.045 ± 0.025	0.082 ± 0.035
STEEGformer-l (f)	0.438 ± 0.208	0.864 ± 0.100	0.452 ± 0.203	0.472 ± 0.207	0.610 ± 0.225
STEEGformer-l (l)	0.029 ± 0.023	0.668 ± 0.062	0.053 ± 0.022	0.045 ± 0.023	0.094 ± 0.043

Table 52: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-h (f)	STEEGformer-h (l)	STEEGformer-l (f)	STEEGformer-l (l)
Subject10_sync	κ	0.031	0.036	0.031	0.092	0.041	0.062	0.021	0.021	0.021	0.031	0.046	0.021	0.072	0.159	0.005	0.108	0.026	0.308	0.026	0.190	0.009
		± 0.028	± 0.047	± 0.021	± 0.056	± 0.039	± 0.047	± 0.028	± 0.011	± 0.042	± 0.021	± 0.046	± 0.056	± 0.069	± 0.053	± 0.021	± 0.042	± 0.018	± 0.031	± 0.026	± 0.029	± 0.023
	AUC	0.647	0.632	0.634	0.675	0.585	0.591	0.617	0.613	0.596	0.633	0.688	0.604	0.679	0.739	0.560	0.644	0.619	0.846	0.630	0.749	0.611
		± 0.054	± 0.049	± 0.021	± 0.030	± 0.061	± 0.020	± 0.055	± 0.027	± 0.016	± 0.041	± 0.025	± 0.048	± 0.042	± 0.024	± 0.030	± 0.037	± 0.040	± 0.024	± 0.038	± 0.028	± 0.027
	BAcc	0.055	0.060	0.055	0.115	0.065	0.085	0.045	0.045	0.045	0.055	0.070	0.045	0.095	0.180	0.030	0.130	0.050	0.325	0.050	0.210	0.005
		± 0.027	± 0.045	± 0.021	± 0.055	± 0.038	± 0.045	± 0.027	± 0.011	± 0.041	± 0.021	± 0.045	± 0.054	± 0.067	± 0.051	± 0.021	± 0.041	± 0.018	± 0.031	± 0.025	± 0.029	± 0.022
Subject11_sync	Acc_1	0.055	0.060	0.055	0.115	0.065	0.091	0.047	0.028	0.037	0.081	0.081	0.028	0.087	0.197	0.019	0.175	0.031	0.297	0.041	0.225	0.002
		± 0.027	± 0.045	± 0.021	± 0.055	± 0.038	± 0.046	± 0.033	± 0.007	± 0.044	± 0.045	± 0.064	± 0.034	± 0.055	± 0.084	± 0.013	± 0.076	± 0.011	± 0.047	± 0.032	± 0.110	± 0.014
	Acc_2	0.120	0.115	0.115	0.175	0.090	0.141	0.087	0.075	0.078	0.122	0.166	0.113	0.131	0.269	0.050	0.259	0.062	0.428	0.053	0.341	0.003
		± 0.065	± 0.055	± 0.055	± 0.059	± 0.045	± 0.057	± 0.067	± 0.020	± 0.046	± 0.052	± 0.089	± 0.084	± 0.066	± 0.047	± 0.036	± 0.075	± 0.019	± 0.053	± 0.032	± 0.145	± 0.009
Subject11_sync	κ	0.138	0.067	0.062	0.108	0.046	0.056	0.087	0.072	0.010	0.036	0.041	0.010	0.051	0.097	0.005	0.087	0.015	0.200	-0.005	0.231	0.005
		± 0.039	± 0.029	± 0.064	± 0.058	± 0.066	± 0.061	± 0.014	± 0.033	± 0.014	± 0.059	± 0.029	± 0.029	± 0.000	± 0.049	± 0.028	± 0.053	± 0.039	± 0.066	± 0.011	± 0.018	± 0.023
	AUC	0.748	0.725	0.692	0.758	0.650	0.587	0.709	0.683	0.562	0.591	0.623	0.563	0.670	0.658	0.538	0.606	0.531	0.776	0.519	0.747	0.584
		± 0.035	± 0.052	± 0.035	± 0.023	± 0.086	± 0.047	± 0.031	± 0.052	± 0.062	± 0.064	± 0.046	± 0.075	± 0.044	± 0.032	± 0.035	± 0.011	± 0.053	± 0.043	± 0.064	± 0.033	± 0.044
	BAcc	0.160	0.090	0.085	0.130	0.070	0.080	0.110	0.095	0.035	0.060	0.065	0.035	0.075	0.120	0.030	0.110	0.040	0.220	0.020	0.250	0.055
		± 0.038	± 0.029	± 0.063	± 0.057	± 0.065	± 0.060	± 0.014	± 0.033	± 0.014	± 0.058	± 0.029	± 0.029	± 0.000	± 0.048	± 0.027	± 0.052	± 0.038	± 0.065	± 0.011	± 0.018	± 0.033
Subject12_sync	Acc_1	0.160	0.090	0.085	0.130	0.070	0.087	0.134	0.087	0.031	0.037	0.097	0.041	0.056	0.113	0.019	0.097	0.025	0.231	0.013	0.231	0.053
		± 0.038	± 0.029	± 0.063	± 0.057	± 0.065	± 0.086	± 0.028	± 0.041	± 0.027	± 0.036	± 0.068	± 0.057	± 0.021	± 0.052	± 0.017	± 0.036	± 0.024	± 0.104	± 0.007	± 0.020	± 0.036
	Acc_2	0.250	0.180	0.145	0.225	0.105	0.194	0.231	0.166	0.053	0.072	0.141	0.091	0.134	0.175	0.037	0.163	0.034	0.353	0.034	0.366	0.078
		± 0.050	± 0.065	± 0.060	± 0.068	± 0.051	± 0.105	± 0.053	± 0.057	± 0.032	± 0.045	± 0.075	± 0.098	± 0.057	± 0.030	± 0.009	± 0.036	± 0.026	± 0.146	± 0.034	± 0.070	± 0.044
Subject12_sync	κ	0.015	0.005	0.041	0.005	0.000	0.021	0.010	0.026	-0.010	0.021	0.015	0.000	0.015	0.036	0.010	0.051	0.005	0.021	0.010	0.103	0.000
		± 0.029	± 0.011	± 0.039	± 0.028	± 0.018	± 0.021	± 0.023	± 0.060	± 0.014	± 0.021	± 0.029	± 0.031	± 0.029	± 0.014	± 0.023	± 0.018	± 0.033	± 0.042	± 0.034	± 0.018	± 0.000
	AUC	0.564	0.548	0.611	0.591	0.502	0.571	0.554	0.547	0.486	0.610	0.666	0.577	0.610	0.604	0.500	0.573	0.500	0.563	0.498	0.646	0.532
		± 0.033	± 0.045	± 0.069	± 0.063	± 0.052	± 0.030	± 0.031	± 0.042	± 0.033	± 0.041	± 0.031	± 0.046	± 0.034	± 0.037	± 0.038	± 0.020	± 0.035	± 0.040	± 0.041	± 0.037	± 0.019
Subject12_sync	BAcc	0.040	0.030	0.065	0.030	0.025	0.045	0.035	0.050	0.015	0.045	0.040	0.025	0.040	0.060	0.035	0.075	0.030	0.045	0.035	0.125	0.025
		± 0.029	± 0.011	± 0.038	± 0.027	± 0.018	± 0.021	± 0.022	± 0.059	± 0.014	± 0.021	± 0.029	± 0.031	± 0.029	± 0.014	± 0.022	± 0.018	± 0.033	± 0.041	± 0.034	± 0.018	± 0.000
Subject12_sync	Acc_1	0.040	0.030	0.065	0.030	0.025	0.056	0.022	0.050	0.019	0.056	0.072	0.016	0.044	0.056	0.022	0.066	0.019	0.056	0.022	0.106	0.016
		± 0.029	± 0.011	± 0.038	± 0.027	± 0.018	± 0.050	± 0.014	± 0.059	± 0.026	± 0.032	± 0.063	± 0.019	± 0.036	± 0.028	± 0.014	± 0.028	± 0.020	± 0.067	± 0.021	± 0.043	± 0.000

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Under review as a conference paper at ICLR 2025

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
Subject13_sync	Acc.2	0.065 ±0.042	0.060 ±0.022	0.090 ±0.038	0.070 ±0.037	0.050 ±0.018	0.097 ±0.037	0.044 ±0.034	0.084 ±0.075	0.041 ±0.021	0.078 ±0.031	0.109 ±0.069	0.062 ±0.063	0.069 ±0.024	0.119 ± 0.036	0.031 ±0.016	0.078 ±0.029	0.034 ±0.013	0.078 ±0.062	0.034 ±0.026	0.128 ± 0.053	0.051 ±0.030
	κ	0.323 ±0.047	0.215 ±0.067	0.267 ±0.047	0.359 ±0.096	0.113 ±0.078	0.287 ±0.080	0.159 ±0.021	0.364 ±0.011	0.015 ±0.047	0.051 ±0.048	-0.000 ±0.018	0.221 ±0.148	0.231 ±0.041	0.456 ±0.071	-0.010 ±0.023	0.410 ±0.094	0.015 ±0.023	0.595 ± 0.098	0.010 ±0.014	0.585 ± 0.091	0.051 ±0.037
	AUC	0.890 ±0.039	0.853 ±0.032	0.829 ±0.045	0.904 ±0.035	0.722 ±0.129	0.812 ±0.063	0.836 ±0.015	0.920 ±0.026	0.598 ±0.048	0.690 ±0.030	0.536 ±0.030	0.806 ±0.031	0.898 ±0.018	0.896 ±0.038	0.495 ±0.046	0.855 ±0.054	0.636 ±0.036	0.958 ± 0.029	0.656 ±0.031	0.939 ± 0.032	0.779 ±0.034
	BAcc	0.340 ±0.045	0.235 ±0.065	0.285 ±0.045	0.375 ±0.094	0.135 ±0.076	0.305 ±0.078	0.180 ±0.021	0.380 ±0.011	0.040 ±0.045	0.075 ±0.047	0.025 ±0.018	0.240 ±0.144	0.250 ±0.040	0.470 ±0.069	0.015 ±0.022	0.425 ±0.092	0.040 ±0.022	0.605 ± 0.096	0.035 ±0.014	0.595 ± 0.089	0.051 ±0.036
	Acc.1	0.340 ±0.045	0.235 ±0.065	0.285 ±0.045	0.375 ±0.094	0.135 ±0.076	0.350 ±0.089	0.206 ±0.040	0.359 ±0.029	0.053 ±0.051	0.094 ±0.055	0.044 ±0.034	0.253 ±0.193	0.287 ±0.060	0.537 ±0.132	0.019 ±0.034	0.425 ±0.145	0.034 ±0.034	0.575 ± 0.135	0.059 ±0.046	0.606 ± 0.070	0.055 ±0.038
	Acc.2	0.455 ±0.076	0.390 ±0.072	0.395 ±0.054	0.520 ±0.067	0.240 ±0.123	0.534 ±0.128	0.359 ±0.083	0.534 ±0.050	0.094 ±0.068	0.159 ±0.079	0.081 ±0.053	0.422 ±0.178	0.500 ±0.080	0.672 ±0.155	0.094 ±0.065	0.594 ±0.120	0.097 ±0.059	0.794 ± 0.097	0.087 ±0.030	0.753 ± 0.100	0.151 ±0.039
	Subject14_sync	κ	0.333 ±0.070	0.179 ±0.065	0.241 ±0.076	0.349 ±0.064	0.062 ±0.039	0.415 ±0.061	0.303 ±0.046	0.369 ±0.092	0.010 ±0.023	0.067 ±0.056	0.046 ±0.046	0.118 ±0.062	0.174 ±0.061	0.590 ±0.065	0.015 ±0.014	0.554 ±0.090	0.005 ±0.021	0.713 ± 0.112	0.021 ±0.042	0.718 ± 0.060
AUC		0.904 ±0.014	0.853 ±0.036	0.872 ±0.015	0.925 ±0.025	0.726 ±0.127	0.883 ±0.018	0.906 ±0.018	0.921 ±0.022	0.514 ±0.056	0.695 ±0.071	0.741 ±0.044	0.773 ±0.031	0.849 ±0.023	0.955 ±0.017	0.577 ±0.024	0.917 ±0.029	0.665 ±0.050	0.978 ± 0.013	0.668 ±0.036	0.968 ± 0.006	0.778 ±0.035
BAcc		0.350 ±0.068	0.200 ±0.064	0.260 ±0.074	0.365 ±0.063	0.085 ±0.038	0.430 ±0.060	0.320 ±0.045	0.385 ±0.089	0.035 ±0.022	0.090 ±0.055	0.070 ±0.045	0.140 ±0.060	0.195 ±0.060	0.600 ±0.064	0.040 ±0.014	0.565 ±0.088	0.030 ±0.021	0.720 ± 0.110	0.045 ±0.041	0.725 ± 0.059	0.090 ±0.045
Acc.1		0.350 ±0.068	0.200 ±0.064	0.260 ±0.074	0.365 ±0.063	0.085 ±0.038	0.391 ±0.074	0.275 ±0.014	0.334 ±0.119	0.059 ±0.051	0.075 ±0.053	0.094 ±0.068	0.144 ±0.062	0.178 ±0.058	0.609 ±0.072	0.025 ±0.009	0.569 ±0.127	0.019 ±0.013	0.759 ± 0.118	0.037 ±0.039	0.772 ± 0.083	0.056 ±0.028
Acc.2		0.530 ±0.057	0.360 ±0.065	0.440 ±0.108	0.585 ±0.045	0.175 ±0.081	0.525 ±0.059	0.431 ±0.045	0.547 ±0.092	0.066 ±0.046	0.134 ±0.045	0.169 ±0.089	0.259 ±0.080	0.325 ±0.060	0.766 ±0.099	0.044 ±0.020	0.747 ±0.089	0.044 ±0.020	0.878 ± 0.051	0.066 ±0.045	0.903 ± 0.051	0.156 ±0.048
Subject15_sync		κ	0.210 ±0.076	0.159 ±0.028	0.138 ±0.043	0.246 ±0.047	0.138 ±0.114	0.282 ±0.091	0.190 ±0.086	0.236 ±0.078	0.005 ±0.028	0.026 ±0.051	-0.000 ±0.000	0.077 ±0.031	0.144 ±0.076	0.226 ±0.100	-0.005 ±0.021	0.221 ±0.074	0.005 ±0.011	0.364 ± 0.117	0.015 ±0.023	0.374 ± 0.136
	AUC	0.820 ±0.069	0.799 ±0.059	0.760 ±0.059	0.848 ±0.057	0.719 ±0.146	0.777 ±0.021	0.841 ±0.058	0.814 ±0.064	0.545 ±0.055	0.568 ±0.052	0.623 ±0.040	0.687 ±0.044	0.775 ±0.049	0.795 ±0.058	0.529 ±0.091	0.742 ±0.075	0.565 ±0.038	0.890 ± 0.050	0.584 ±0.013	0.874 ± 0.059	0.645 ±0.042
	BAcc	0.230 ±0.074	0.180 ±0.027	0.160 ±0.042	0.265 ±0.045	0.160 ±0.111	0.300 ±0.088	0.210 ±0.084	0.255 ±0.076	0.030 ±0.027	0.050 ±0.050	0.025 ±0.000	0.100 ±0.031	0.165 ±0.074	0.245 ±0.097	0.020 ±0.021	0.240 ±0.072	0.030 ±0.011	0.380 ± 0.114	0.040 ±0.022	0.390 ± 0.133	0.035 ±0.042
	Acc.1	0.230 ±0.074	0.180 ±0.027	0.160 ±0.042	0.265 ±0.045	0.160 ±0.111	0.309 ±0.120	0.225 ±0.078	0.291 ±0.125	0.037 ±0.028	0.041 ±0.046	0.053 ±0.021	0.100 ±0.028	0.178 ±0.097	0.331 ±0.179	0.013 ±0.013	0.319 ±0.075	0.037 ±0.030	0.434 ± 0.091	0.034 ±0.028	0.422 ± 0.093	0.034 ±0.045

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-l (f)	Under Review
Subject16_sync	Acc.2	0.375 ±0.151	0.305 ±0.067	0.310 ±0.108	0.445 ±0.150	0.245 ±0.176	0.419 ±0.131	0.362 ±0.069	0.447 ±0.184	0.109 ±0.072	0.097 ±0.049	0.109 ±0.072	0.172 ±0.082	0.259 ±0.093	0.541 ±0.150	0.031 ±0.025	0.419 ±0.120	0.066 ±0.030	0.625 ± 0.096	0.059 ±0.030	0.591 ± 0.074	0.033 ±0.046
	κ	0.221 ±0.050	0.159 ±0.071	0.128 ±0.081	0.262 ±0.046	0.118 ±0.100	0.246 ±0.047	0.179 ±0.085	0.277 ±0.139	0.015 ±0.014	0.026 ±0.044	0.062 ±0.023	0.072 ±0.056	0.133 ±0.064	0.369 ±0.053	0.005 ±0.011	0.349 ±0.125	-0.015 ±0.023	0.477 ± 0.135	-0.010 ±0.023	0.482 ± 0.066	0.003 ±0.034
	AUC	0.848 ±0.046	0.803 ±0.070	0.767 ±0.021	0.878 ±0.031	0.722 ±0.137	0.795 ±0.038	0.840 ±0.042	0.854 ±0.053	0.547 ±0.051	0.643 ±0.016	0.697 ±0.038	0.672 ±0.053	0.772 ±0.053	0.868 ±0.021	0.537 ±0.043	0.821 ±0.038	0.587 ±0.063	0.951 ± 0.025	0.567 ±0.072	0.926 ± 0.016	0.656 ±0.030
	BAcc	0.240 ±0.049	0.180 ±0.069	0.150 ±0.079	0.280 ±0.045	0.140 ±0.098	0.265 ±0.045	0.200 ±0.083	0.295 ±0.135	0.040 ±0.014	0.050 ±0.043	0.085 ±0.022	0.095 ±0.054	0.155 ±0.062	0.385 ±0.052	0.030 ±0.011	0.365 ±0.122	0.010 ±0.022	0.490 ± 0.132	0.015 ±0.022	0.495 ± 0.065	0.003 ±0.034
	Acc.1	0.240 ±0.049	0.180 ±0.069	0.150 ±0.079	0.280 ±0.045	0.140 ±0.098	0.231 ±0.042	0.209 ±0.089	0.297 ±0.179	0.053 ±0.028	0.041 ±0.048	0.100 ±0.036	0.097 ±0.079	0.144 ±0.079	0.391 ±0.071	0.019 ±0.007	0.359 ±0.145	0.006 ±0.014	0.494 ± 0.112	0.009 ±0.014	0.459 ± 0.054	0.004 ±0.037
	Acc.2	0.380 ±0.057	0.305 ±0.091	0.225 ±0.059	0.420 ±0.076	0.230 ±0.134	0.400 ±0.090	0.316 ±0.095	0.428 ±0.201	0.100 ±0.070	0.159 ±0.060	0.219 ±0.089	0.141 ±0.077	0.219 ±0.082	0.569 ±0.086	0.037 ±0.009	0.525 ±0.111	0.047 ±0.046	0.691 ± 0.091	0.034 ±0.023	0.734 ± 0.067	0.013 ±0.037
	Subject17_sync	κ	0.390 ±0.066	0.344 ±0.084	0.246 ±0.092	0.400 ±0.076	0.205 ±0.132	0.421 ±0.082	0.313 ±0.049	0.410 ±0.110	0.031 ±0.021	0.046 ±0.046	0.010 ±0.023	0.082 ±0.038	0.144 ±0.072	0.415 ±0.069	0.015 ±0.014	0.400 ±0.088	0.031 ±0.021	0.615 ± 0.124	0.036 ±0.029	0.626 ± 0.131
AUC		0.939 ±0.028	0.910 ±0.030	0.879 ±0.050	0.933 ±0.028	0.818 ±0.179	0.888 ±0.047	0.917 ±0.017	0.904 ±0.025	0.629 ±0.044	0.584 ±0.059	0.687 ±0.019	0.725 ±0.042	0.860 ±0.023	0.901 ±0.036	0.507 ±0.032	0.850 ±0.041	0.587 ±0.030	0.960 ± 0.033	0.624 ±0.012	0.954 ± 0.021	0.657 ±0.051
BAcc		0.405 ±0.065	0.360 ±0.082	0.265 ±0.089	0.415 ±0.074	0.225 ±0.129	0.435 ±0.080	0.330 ±0.048	0.425 ±0.108	0.055 ±0.021	0.070 ±0.045	0.035 ±0.022	0.105 ±0.037	0.165 ±0.070	0.430 ±0.067	0.040 ±0.014	0.415 ±0.086	0.055 ±0.021	0.625 ± 0.121	0.060 ±0.029	0.635 ± 0.128	0.060 ±0.038
Acc.1		0.405 ±0.065	0.360 ±0.082	0.265 ±0.089	0.415 ±0.074	0.225 ±0.129	0.487 ±0.073	0.375 ±0.101	0.434 ±0.134	0.062 ±0.049	0.081 ±0.072	0.044 ±0.036	0.103 ±0.054	0.178 ±0.090	0.428 ±0.072	0.044 ±0.046	0.466 ±0.151	0.062 ±0.037	0.662 ± 0.125	0.047 ±0.031	0.678 ± 0.144	0.066 ±0.061
Acc.2		0.585 ±0.029	0.490 ±0.121	0.440 ±0.113	0.610 ±0.049	0.345 ±0.185	0.622 ±0.087	0.509 ±0.103	0.625 ±0.085	0.087 ±0.060	0.113 ±0.062	0.094 ±0.046	0.188 ±0.108	0.366 ±0.102	0.650 ±0.085	0.094 ±0.107	0.637 ±0.107	0.091 ±0.057	0.803 ± 0.089	0.091 ±0.064	0.791 ± 0.103	0.147 ±0.083
Subject18_sync		κ	0.287 ±0.066	0.236 ±0.066	0.236 ±0.093	0.400 ±0.047	0.123 ±0.108	0.451 ±0.080	0.349 ±0.104	0.390 ±0.117	-0.010 ±0.023	0.041 ±0.047	0.067 ±0.029	0.062 ±0.029	0.138 ±0.086	0.595 ±0.130	0.010 ±0.029	0.533 ±0.073	0.015 ±0.029	0.610 ± 0.069	0.015 ±0.014	0.662 ± 0.084
	AUC	0.897 ±0.023	0.846 ±0.054	0.871 ±0.019	0.954 ± 0.004	0.766 ±0.152	0.922 ±0.018	0.941 ±0.019	0.897 ±0.033	0.552 ±0.048	0.687 ±0.062	0.708 ±0.044	0.667 ±0.048	0.800 ±0.030	0.939 ±0.022	0.564 ±0.037	0.914 ±0.050	0.634 ±0.045	0.950 ±0.011	0.639 ±0.051	0.957 ± 0.025	0.710 ±0.037
	BAcc	0.305 ±0.065	0.255 ±0.065	0.255 ±0.091	0.415 ±0.045	0.145 ±0.105	0.465 ±0.078	0.365 ±0.101	0.405 ±0.114	0.015 ±0.022	0.065 ±0.045	0.090 ±0.029	0.085 ±0.029	0.160 ±0.084	0.605 ±0.127	0.035 ±0.029	0.545 ±0.072	0.040 ±0.029	0.620 ± 0.067	0.040 ±0.014	0.670 ± 0.082	0.060 ±0.022
	Acc.1	0.305 ±0.065	0.255 ±0.065	0.255 ±0.091	0.415 ±0.045	0.145 ±0.105	0.506 ±0.089	0.312 ±0.101	0.431 ±0.130	0.009 ±0.014	0.050 ±0.046	0.122 ±0.068	0.119 ±0.026	0.166 ±0.104	0.631 ± 0.129	0.022 ±0.018	0.556 ±0.101	0.025 ±0.018	0.631 ± 0.061	0.025 ±0.009	0.709 ± 0.082	0.037 ±0.014

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEGformer-s (f)	STEGformer-s (l)	STEGformer-h (f)	STEGformer-h (l)	STEGformer-l (f)	Under Review
Subject19_sync	Acc_2	0.475 ±0.068	0.395 ±0.110	0.395 ±0.037	0.630 ±0.074	0.270 ±0.158	0.716 ±0.100	0.575 ±0.081	0.572 ±0.158	0.044 ±0.020	0.153 ±0.047	0.178 ±0.067	0.172 ±0.071	0.228 ±0.098	0.784 ± 0.052	0.031 ±0.019	0.716 ±0.082	0.044 ±0.023	0.747 ±0.092	0.053 ±0.050	0.828 ± 0.072	0.055 ±0.033
	κ	0.144 ±0.047	0.138 ±0.062	0.103 ±0.026	0.246 ±0.113	0.067 ±0.043	0.185 ±0.069	0.138 ±0.047	0.174 ±0.069	0.010 ±0.043	0.092 ±0.059	0.021 ±0.021	0.082 ±0.033	0.133 ±0.058	0.236 ±0.056	-0.015 ±0.014	0.236 ±0.056	0.010 ±0.023	0.467 ± 0.053	0.015 ±0.023	0.421 ± 0.047	0.055 ±0.041
	AUC	0.864 ±0.031	0.809 ±0.020	0.811 ±0.057	0.884 ± 0.033	0.712 ±0.123	0.732 ±0.027	0.752 ±0.026	0.777 ±0.034	0.662 ±0.066	0.738 ±0.041	0.785 ±0.008	0.701 ±0.046	0.833 ±0.014	0.817 ±0.036	0.520 ±0.056	0.764 ±0.034	0.667 ±0.036	0.927 ± 0.008	0.643 ±0.077	0.869 ±0.028	0.622 ±0.037
	BAcc	0.165 ±0.045	0.160 ±0.060	0.125 ±0.025	0.265 ±0.110	0.090 ±0.042	0.205 ±0.067	0.160 ±0.045	0.195 ±0.067	0.035 ±0.042	0.115 ±0.058	0.045 ±0.021	0.105 ±0.033	0.155 ±0.057	0.255 ±0.054	0.010 ±0.014	0.255 ±0.054	0.035 ±0.022	0.480 ± 0.051	0.040 ±0.022	0.435 ± 0.045	0.050 ±0.040
	Acc_1	0.165 ±0.045	0.160 ±0.060	0.125 ±0.025	0.265 ±0.110	0.090 ±0.042	0.212 ±0.067	0.166 ±0.048	0.225 ±0.098	0.050 ±0.087	0.109 ±0.070	0.066 ±0.049	0.131 ±0.089	0.200 ±0.093	0.234 ±0.067	0.006 ±0.009	0.253 ±0.058	0.022 ±0.014	0.544 ± 0.083	0.025 ±0.014	0.478 ± 0.067	0.051 ±0.038
	Acc_2	0.300 ±0.043	0.280 ±0.048	0.245 ±0.072	0.410 ±0.091	0.165 ±0.088	0.300 ±0.062	0.284 ±0.061	0.287 ±0.078	0.100 ±0.086	0.234 ±0.101	0.169 ±0.042	0.203 ±0.077	0.294 ±0.078	0.425 ±0.066	0.031 ±0.040	0.394 ±0.026	0.044 ±0.013	0.650 ± 0.082	0.078 ±0.051	0.575 ± 0.081	0.053 ±0.046
	κ	0.108 ±0.046	0.092 ±0.050	0.108 ±0.056	0.221 ±0.069	0.087 ±0.062	0.118 ±0.072	0.103 ±0.075	0.154 ±0.091	-0.005 ±0.021	0.036 ±0.029	0.010 ±0.014	0.036 ±0.034	0.077 ±0.063	0.308 ±0.054	0.005 ±0.011	0.292 ±0.067	0.000 ±0.026	0.426 ± 0.072	0.005 ±0.011	0.390 ± 0.061	0.051 ±0.021
	AUC	0.809 ±0.046	0.736 ±0.034	0.764 ±0.042	0.849 ±0.038	0.666 ±0.096	0.675 ±0.066	0.754 ±0.028	0.739 ±0.067	0.530 ±0.039	0.570 ±0.037	0.627 ±0.059	0.568 ±0.037	0.677 ±0.035	0.811 ±0.024	0.524 ±0.044	0.740 ±0.025	0.563 ±0.027	0.904 ± 0.019	0.550 ±0.037	0.854 ± 0.038	0.622 ±0.057
	BAcc	0.130 ±0.045	0.115 ±0.049	0.130 ±0.054	0.240 ±0.068	0.110 ±0.060	0.140 ±0.070	0.125 ±0.073	0.175 ±0.088	0.020 ±0.021	0.060 ±0.029	0.035 ±0.014	0.060 ±0.034	0.100 ±0.061	0.325 ±0.053	0.030 ±0.011	0.310 ±0.065	0.025 ±0.025	0.440 ± 0.070	0.030 ±0.011	0.405 ± 0.060	0.045 ±0.021
	Acc_1	0.130 ±0.045	0.115 ±0.049	0.130 ±0.054	0.240 ±0.068	0.110 ±0.060	0.144 ±0.078	0.116 ±0.099	0.147 ±0.091	0.013 ±0.013	0.047 ±0.037	0.022 ±0.009	0.056 ±0.044	0.119 ±0.098	0.353 ±0.082	0.028 ±0.020	0.259 ±0.087	0.025 ±0.026	0.388 ± 0.093	0.028 ±0.028	0.394 ± 0.118	0.028 ±0.013
	Acc_2	0.290 ±0.095	0.190 ±0.058	0.220 ±0.067	0.400 ±0.064	0.165 ±0.074	0.231 ±0.097	0.231 ±0.088	0.216 ±0.107	0.031 ±0.037	0.081 ±0.032	0.072 ±0.036	0.094 ±0.031	0.166 ±0.096	0.453 ±0.155	0.050 ±0.028	0.331 ±0.052	0.044 ±0.026	0.569 ± 0.101	0.062 ±0.038	0.547 ± 0.116	0.059 ±0.034
Subject20_sync	κ	0.221 ±0.053	0.195 ±0.080	0.190 ±0.043	0.359 ±0.070	0.138 ±0.086	0.333 ±0.089	0.328 ±0.078	0.297 ±0.092	0.036 ±0.050	0.087 ±0.029	0.067 ±0.029	0.113 ±0.034	0.251 ±0.082	0.503 ±0.108	-0.010 ±0.014	0.467 ±0.095	0.046 ±0.033	0.579 ± 0.097	0.026 ±0.026	0.605 ± 0.090	0.067 ±0.056
	AUC	0.837 ±0.028	0.834 ±0.043	0.841 ±0.024	0.913 ±0.020	0.751 ±0.144	0.833 ±0.058	0.887 ±0.033	0.862 ±0.034	0.638 ±0.053	0.689 ±0.043	0.758 ±0.047	0.766 ±0.020	0.879 ±0.026	0.909 ±0.042	0.541 ±0.057	0.874 ±0.040	0.662 ±0.043	0.961 ± 0.021	0.693 ±0.032	0.945 ± 0.017	0.733 ±0.048
	BAcc	0.240 ±0.052	0.215 ±0.078	0.210 ±0.042	0.375 ±0.068	0.160 ±0.084	0.350 ±0.087	0.345 ±0.076	0.315 ±0.089	0.060 ±0.049	0.110 ±0.029	0.090 ±0.029	0.135 ±0.034	0.270 ±0.080	0.515 ±0.105	0.015 ±0.014	0.480 ±0.093	0.070 ±0.033	0.590 ± 0.095	0.050 ±0.025	0.615 ± 0.088	0.090 ±0.055
	Acc_1	0.240 ±0.052	0.215 ±0.078	0.210 ±0.042	0.375 ±0.068	0.160 ±0.084	0.378 ±0.136	0.375 ±0.109	0.319 ±0.085	0.047 ±0.044	0.144 ±0.059	0.094 ±0.037	0.113 ±0.053	0.281 ±0.079	0.594 ±0.087	0.009 ±0.009	0.478 ±0.107	0.053 ±0.030	0.613 ± 0.129	0.041 ±0.026	0.647 ± 0.109	0.069 ±0.048
	Acc_2	0.240 ±0.052	0.215 ±0.078	0.210 ±0.042	0.375 ±0.068	0.160 ±0.084	0.378 ±0.136	0.375 ±0.109	0.319 ±0.085	0.047 ±0.044	0.144 ±0.059	0.094 ±0.037	0.113 ±0.053	0.281 ±0.079	0.594 ±0.087	0.009 ±0.009	0.478 ±0.107	0.053 ±0.030	0.613 ± 0.129	0.041 ±0.026	0.647 ± 0.109	0.069 ±0.048

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
Subject21_sync	Acc.2	0.340 ±0.038	0.355 ±0.076	0.345 ±0.076	0.510 ±0.076	0.270 ±0.125	0.516 ±0.135	0.541 ±0.075	0.412 ±0.139	0.113 ±0.095	0.244 ±0.051	0.172 ±0.059	0.219 ±0.055	0.428 ±0.066	0.747 ±0.060	0.044 ±0.040	0.653 ±0.071	0.062 ±0.040	0.762 ±0.082	0.075 ±0.039	0.759 ±0.075	0.156 ±0.038
	κ	0.385 ±0.094	0.333 ±0.101	0.272 ±0.053	0.421 ±0.095	0.174 ±0.124	0.318 ±0.069	0.256 ±0.051	0.400 ±0.107	0.021 ±0.046	0.077 ±0.026	0.026 ±0.000	0.103 ±0.075	0.267 ±0.064	0.415 ±0.033	0.005 ±0.021	0.492 ±0.053	0.056 ±0.038	0.636 ±0.056	0.036 ±0.034	0.626 ±0.104	0.000 ±0.023
	AUC	0.938 ±0.025	0.907 ±0.037	0.878 ±0.032	0.955 ±0.018	0.809 ±0.174	0.819 ±0.052	0.896 ±0.013	0.909 ±0.038	0.651 ±0.052	0.685 ±0.053	0.612 ±0.062	0.746 ±0.024	0.900 ±0.020	0.898 ±0.022	0.562 ±0.030	0.896 ±0.045	0.703 ±0.046	0.953 ±0.027	0.702 ±0.046	0.942 ±0.017	0.779 ±0.043
	BAcc	0.400 ±0.092	0.350 ±0.098	0.290 ±0.052	0.435 ±0.093	0.195 ±0.120	0.335 ±0.068	0.275 ±0.050	0.415 ±0.104	0.045 ±0.045	0.100 ±0.025	0.050 ±0.000	0.125 ±0.073	0.285 ±0.063	0.430 ±0.033	0.030 ±0.021	0.505 ±0.051	0.080 ±0.037	0.645 ±0.054	0.060 ±0.034	0.635 ±0.101	0.000 ±0.022
	Acc.1	0.400 ±0.092	0.350 ±0.098	0.290 ±0.052	0.435 ±0.093	0.195 ±0.120	0.322 ±0.092	0.237 ±0.030	0.391 ±0.112	0.028 ±0.028	0.091 ±0.036	0.087 ±0.039	0.125 ±0.089	0.244 ±0.090	0.428 ±0.045	0.028 ±0.023	0.456 ±0.053	0.087 ±0.032	0.656 ±0.072	0.056 ±0.028	0.622 ±0.095	0.006 ±0.034
	Acc.2	0.590 ±0.114	0.495 ±0.102	0.410 ±0.101	0.655 ±0.147	0.330 ±0.173	0.441 ±0.111	0.400 ±0.085	0.506 ±0.128	0.062 ±0.044	0.163 ±0.067	0.131 ±0.055	0.194 ±0.090	0.409 ±0.028	0.609 ±0.049	0.062 ±0.037	0.662 ±0.028	0.141 ±0.031	0.775 ±0.069	0.084 ±0.036	0.809 ±0.060	0.100 ±0.022
	Subject22_sync	κ	0.533 ±0.071	0.467 ±0.084	0.451 ±0.139	0.549 ±0.080	0.246 ±0.158	0.533 ±0.064	0.421 ±0.097	0.554 ±0.050	0.056 ±0.046	0.103 ±0.044	0.062 ±0.034	0.215 ±0.047	0.395 ±0.078	0.559 ±0.078	0.021 ±0.033	0.538 ±0.085	-0.005 ±0.011	0.656 ±0.076	0.026 ±0.000	0.713 ±0.088
AUC		0.972 ±0.009	0.949 ±0.020	0.948 ±0.020	0.969 ±0.008	0.831 ±0.186	0.929 ±0.022	0.962 ±0.013	0.955 ±0.023	0.697 ±0.050	0.706 ±0.048	0.779 ±0.039	0.826 ±0.034	0.927 ±0.021	0.953 ±0.017	0.596 ±0.046	0.897 ±0.030	0.639 ±0.051	0.979 ±0.010	0.660 ±0.061	0.961 ±0.029	0.731 ±0.073
BAcc		0.545 ±0.069	0.480 ±0.082	0.465 ±0.135	0.560 ±0.078	0.265 ±0.154	0.545 ±0.062	0.435 ±0.095	0.565 ±0.049	0.080 ±0.045	0.125 ±0.043	0.085 ±0.034	0.235 ±0.045	0.410 ±0.076	0.570 ±0.076	0.045 ±0.033	0.550 ±0.083	0.020 ±0.011	0.665 ±0.074	0.050 ±0.000	0.720 ±0.086	0.060 ±0.014
Acc.1		0.545 ±0.069	0.480 ±0.082	0.465 ±0.135	0.560 ±0.078	0.265 ±0.154	0.594 ±0.086	0.431 ±0.102	0.578 ±0.070	0.069 ±0.045	0.125 ±0.038	0.128 ±0.074	0.297 ±0.047	0.453 ±0.092	0.647 ±0.065	0.047 ±0.040	0.597 ±0.096	0.031 ±0.029	0.697 ±0.079	0.059 ±0.026	0.741 ±0.114	0.047 ±0.027
Acc.2		0.780 ±0.065	0.650 ±0.098	0.580 ±0.096	0.760 ±0.038	0.395 ±0.203	0.791 ±0.061	0.709 ±0.080	0.784 ±0.013	0.100 ±0.050	0.206 ±0.055	0.203 ±0.079	0.419 ±0.084	0.622 ±0.075	0.769 ±0.037	0.103 ±0.024	0.738 ±0.115	0.075 ±0.036	0.831 ±0.039	0.106 ±0.030	0.894 ±0.064	0.119 ±0.009
Subject23_sync		κ	0.005 ±0.028	0.010 ±0.014	0.036 ±0.029	0.000 ±0.026	0.010 ±0.029	0.036 ±0.039	0.015 ±0.039	0.026 ±0.026	-0.005 ±0.021	0.031 ±0.042	0.046 ±0.064	0.026 ±0.018	0.062 ±0.023	0.072 ±0.021	-0.005 ±0.021	0.072 ±0.076	0.000 ±0.018	0.051 ±0.054	-0.005 ±0.021	0.108 ±0.064
	AUC	0.586 ±0.036	0.572 ±0.043	0.584 ±0.023	0.578 ±0.017	0.517 ±0.042	0.597 ±0.063	0.535 ±0.040	0.529 ±0.010	0.557 ±0.059	0.621 ±0.066	0.744 ±0.036	0.602 ±0.059	0.676 ±0.028	0.639 ±0.036	0.517 ±0.038	0.602 ±0.075	0.569 ±0.031	0.634 ±0.062	0.544 ±0.033	0.649 ±0.028	0.560 ±0.028
	BAcc	0.030 ±0.027	0.035 ±0.014	0.060 ±0.029	0.025 ±0.025	0.035 ±0.029	0.060 ±0.038	0.040 ±0.038	0.050 ±0.025	0.020 ±0.021	0.055 ±0.041	0.070 ±0.062	0.050 ±0.018	0.085 ±0.022	0.095 ±0.021	0.020 ±0.021	0.095 ±0.074	0.025 ±0.018	0.075 ±0.053	0.020 ±0.021	0.130 ±0.062	0.015 ±0.014
	Acc.1	0.030 ±0.027	0.035 ±0.014	0.060 ±0.029	0.025 ±0.025	0.035 ±0.029	0.075 ±0.058	0.044 ±0.047	0.041 ±0.026	0.031 ±0.031	0.053 ±0.034	0.091 ±0.079	0.069 ±0.049	0.109 ±0.052	0.078 ±0.037	0.031 ±0.031	0.097 ±0.053	0.025 ±0.030	0.056 ±0.048	0.022 ±0.032	0.128 ±0.061	0.019 ±0.026
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEGformer-s (f)	STEGformer-s (f)	STEGformer-h (f)	STEGformer-h (f)	STEGformer-l (f)	Under review
	Acc.2	0.075 ±0.035	0.100 ±0.035	0.090 ±0.014	0.075 ±0.018	0.060 ±0.042	0.156 ±0.063	0.053 ±0.045	0.053 ±0.026	0.072 ±0.051	0.113 ±0.071	0.181 ±0.073	0.100 ±0.083	0.159 ±0.081	0.194 ± 0.046	0.078 ±0.031	0.184 ±0.081	0.053 ±0.042	0.116 ±0.075	0.041 ±0.042	0.222 ± 0.117	0.056 ±0.051
Subject24_sync	κ	0.041 ±0.050	0.046 ±0.033	0.056 ±0.046	0.041 ±0.014	0.015 ±0.014	0.087 ±0.069	0.041 ±0.029	0.041 ±0.029	0.021 ±0.028	0.046 ±0.028	0.036 ±0.014	0.036 ±0.043	0.077 ±0.031	0.256 ±0.031	0.010 ±0.014	0.226 ±0.038	0.026 ±0.036	0.395 ± 0.111	-0.005 ±0.021	0.318 ± 0.062	0.050 ±0.034
	AUC	0.646 ±0.031	0.610 ±0.043	0.699 ±0.042	0.700 ±0.044	0.593 ±0.061	0.647 ±0.071	0.676 ±0.050	0.591 ±0.043	0.528 ±0.044	0.660 ±0.067	0.688 ±0.027	0.628 ±0.048	0.723 ±0.019	0.795 ±0.034	0.552 ±0.023	0.756 ±0.040	0.639 ±0.016	0.904 ± 0.030	0.612 ±0.021	0.843 ± 0.016	0.603 ±0.025
	BAcc	0.065 ±0.049	0.070 ±0.033	0.080 ±0.045	0.065 ±0.014	0.040 ±0.014	0.110 ±0.068	0.065 ±0.029	0.065 ±0.029	0.045 ±0.027	0.070 ±0.027	0.060 ±0.014	0.060 ±0.042	0.100 ±0.031	0.275 ±0.031	0.035 ±0.014	0.245 ±0.037	0.050 ±0.035	0.410 ± 0.108	0.020 ±0.021	0.335 ± 0.060	0.050 ±0.034
	Acc.1	0.065 ±0.049	0.070 ±0.033	0.080 ±0.045	0.065 ±0.014	0.040 ±0.014	0.144 ±0.093	0.069 ±0.054	0.069 ±0.057	0.047 ±0.033	0.091 ±0.063	0.075 ±0.042	0.075 ±0.030	0.128 ±0.060	0.331 ±0.053	0.022 ±0.009	0.275 ±0.074	0.031 ±0.022	0.472 ± 0.105	0.013 ±0.013	0.388 ± 0.056	0.052 ±0.021
	Acc.2	0.100 ±0.056	0.090 ±0.038	0.170 ±0.041	0.110 ±0.045	0.100 ±0.035	0.231 ±0.092	0.122 ±0.064	0.116 ±0.075	0.066 ±0.034	0.159 ±0.066	0.122 ±0.045	0.150 ±0.054	0.178 ±0.053	0.453 ±0.071	0.050 ±0.023	0.384 ±0.068	0.047 ±0.025	0.584 ± 0.067	0.034 ±0.007	0.594 ± 0.074	0.057 ±0.017
	κ	0.082 ±0.058	0.010 ±0.029	0.026 ±0.026	0.015 ±0.034	0.051 ±0.048	0.205 ±0.112	0.041 ±0.029	0.338 ±0.118	-0.010 ±0.014	0.159 ±0.011	0.051 ±0.041	0.067 ±0.029	0.021 ±0.021	0.385 ±0.081	0.005 ±0.033	0.462 ±0.104	0.036 ±0.039	0.733 ± 0.047	0.021 ±0.021	0.697 ± 0.076	0.028 ±0.028
Subject25_sync	AUC	0.786 ±0.049	0.642 ±0.076	0.820 ±0.039	0.554 ±0.039	0.767 ±0.151	0.770 ±0.058	0.671 ±0.051	0.860 ±0.022	0.429 ±0.047	0.726 ±0.040	0.695 ±0.036	0.672 ±0.036	0.606 ±0.031	0.849 ±0.049	0.561 ±0.057	0.884 ±0.034	0.703 ±0.024	0.971 ± 0.024	0.664 ±0.039	0.969 ± 0.017	0.733 ±0.039
	BAcc	0.105 ±0.057	0.035 ±0.029	0.050 ±0.025	0.040 ±0.034	0.075 ±0.047	0.225 ±0.109	0.065 ±0.029	0.355 ±0.115	0.015 ±0.014	0.180 ±0.011	0.075 ±0.040	0.090 ±0.029	0.045 ±0.021	0.400 ±0.079	0.030 ±0.033	0.475 ±0.102	0.060 ±0.038	0.740 ± 0.045	0.045 ±0.021	0.705 ± 0.074	0.075 ±0.018
	Acc.1	0.105 ±0.057	0.035 ±0.029	0.050 ±0.025	0.040 ±0.034	0.075 ±0.047	0.244 ±0.139	0.087 ±0.018	0.359 ±0.108	0.009 ±0.009	0.216 ±0.039	0.056 ±0.042	0.131 ±0.038	0.037 ±0.032	0.456 ±0.062	0.028 ±0.028	0.503 ±0.111	0.066 ±0.086	0.781 ± 0.038	0.084 ±0.050	0.769 ± 0.063	0.084 ±0.045
	Acc.2	0.230 ±0.114	0.095 ±0.057	0.150 ±0.031	0.085 ±0.042	0.185 ±0.099	0.384 ±0.141	0.203 ±0.136	0.484 ±0.063	0.034 ±0.037	0.316 ±0.078	0.109 ±0.051	0.169 ±0.042	0.103 ±0.056	0.553 ±0.045	0.084 ±0.026	0.625 ±0.086	0.097 ±0.095	0.859 ± 0.062	0.138 ±0.049	0.884 ± 0.032	0.147 ±0.065
	κ	0.144 ±0.053	0.097 ±0.033	0.133 ±0.084	0.251 ±0.038	0.062 ±0.059	0.441 ±0.080	0.179 ±0.092	0.282 ±0.079	0.015 ±0.029	0.067 ±0.043	0.026 ±0.026	0.046 ±0.056	0.092 ±0.047	0.318 ±0.053	-0.010 ±0.023	0.241 ±0.050	0.000 ±0.018	0.497 ± 0.097	0.021 ±0.021	0.538 ± 0.079	0.031 ±0.033
	AUC	0.761 ±0.023	0.772 ±0.043	0.789 ±0.012	0.883 ±0.037	0.684 ±0.109	0.911 ±0.027	0.852 ±0.018	0.856 ±0.039	0.563 ±0.031	0.655 ±0.051	0.728 ±0.016	0.670 ±0.045	0.751 ±0.033	0.829 ±0.034	0.521 ±0.034	0.762 ±0.032	0.572 ±0.022	0.928 ± 0.025	0.625 ±0.041	0.928 ± 0.028	0.668 ±0.047
Subject26_sync	BAcc	0.165 ±0.052	0.120 ±0.033	0.155 ±0.082	0.270 ±0.037	0.085 ±0.058	0.455 ±0.078	0.200 ±0.090	0.300 ±0.077	0.040 ±0.029	0.090 ±0.042	0.050 ±0.025	0.070 ±0.054	0.115 ±0.045	0.335 ±0.052	0.015 ±0.022	0.260 ±0.049	0.025 ±0.018	0.510 ± 0.095	0.045 ±0.021	0.550 ± 0.077	0.055 ±0.033
	Acc.1	0.165 ±0.052	0.120 ±0.033	0.155 ±0.082	0.270 ±0.037	0.085 ±0.058	0.463 ±0.122	0.219 ±0.128	0.300 ±0.074	0.034 ±0.036	0.072 ±0.026	0.041 ±0.032	0.119 ±0.100	0.156 ±0.086	0.341 ±0.087	0.028 ±0.039	0.247 ±0.069	0.025 ±0.024	0.478 ± 0.078	0.059 ±0.028	0.550 ± 0.100	0.034 ±0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-h (f)	STEEGformer-h (l)	STEEGformer-l (f)	Under review
Subject27_sync	Acc_2	0.245 ±0.069	0.215 ±0.022	0.220 ±0.087	0.435 ±0.068	0.160 ±0.098	0.634 ±0.080	0.397 ±0.118	0.431 ±0.115	0.084 ±0.065	0.166 ±0.076	0.094 ±0.065	0.188 ±0.061	0.241 ±0.120	0.450 ±0.049	0.041 ±0.038	0.372 ±0.068	0.062 ±0.054	0.697 ±0.079	0.103 ±0.069	0.681 ± 0.089	0.009 ±0.028
	κ	0.077 ±0.000	0.046 ±0.038	0.056 ±0.046	0.103 ±0.018	0.015 ±0.029	0.082 ±0.033	0.077 ±0.018	0.031 ±0.042	0.000 ±0.031	0.046 ±0.056	0.031 ±0.033	0.015 ±0.023	0.062 ±0.053	0.190 ±0.062	0.010 ±0.029	0.133 ±0.056	-0.015 ±0.014	0.221 ±0.062	-0.021 ±0.011	0.210 ± 0.098	0.000 ±0.033
	AUC	0.690 ±0.028	0.665 ±0.037	0.646 ±0.057	0.711 ±0.058	0.555 ±0.047	0.612 ±0.021	0.681 ±0.051	0.674 ±0.053	0.504 ±0.053	0.600 ±0.062	0.653 ±0.061	0.601 ±0.042	0.659 ±0.041	0.718 ±0.029	0.522 ±0.030	0.635 ±0.045	0.550 ±0.023	0.783 ±0.016	0.507 ±0.025	0.765 ± 0.015	0.503 ±0.038
	BAcc	0.100 ±0.000	0.070 ±0.037	0.080 ±0.045	0.125 ±0.018	0.040 ±0.029	0.105 ±0.033	0.100 ±0.018	0.055 ±0.041	0.025 ±0.031	0.070 ±0.054	0.055 ±0.033	0.040 ±0.022	0.085 ±0.052	0.210 ±0.060	0.035 ±0.029	0.155 ±0.054	0.010 ±0.014	0.240 ±0.060	0.005 ±0.011	0.230 ± 0.096	0.000 ±0.033
	Acc_1	0.100 ±0.000	0.070 ±0.037	0.080 ±0.045	0.125 ±0.018	0.040 ±0.029	0.084 ±0.014	0.091 ±0.034	0.053 ±0.051	0.025 ±0.039	0.100 ±0.080	0.053 ±0.059	0.044 ±0.039	0.100 ±0.054	0.206 ±0.062	0.050 ±0.040	0.172 ±0.070	0.006 ±0.009	0.216 ± 0.078	0.013 ±0.028	0.237 ±0.143	0.009 ±0.020
	Acc_2	0.170 ±0.054	0.150 ±0.025	0.150 ±0.066	0.190 ±0.052	0.085 ±0.074	0.116 ±0.021	0.138 ±0.043	0.106 ±0.030	0.041 ±0.065	0.131 ±0.089	0.141 ±0.091	0.103 ±0.065	0.172 ±0.046	0.281 ±0.107	0.109 ±0.083	0.228 ±0.085	0.016 ±0.016	0.287 ± 0.083	0.056 ±0.046	0.306 ±0.145	0.003 ±0.022
	κ	0.159 ±0.061	0.103 ±0.018	0.097 ±0.028	0.159 ±0.058	0.041 ±0.047	0.077 ±0.063	0.056 ±0.061	0.108 ±0.021	0.036 ±0.029	0.077 ±0.041	0.041 ±0.029	0.067 ±0.014	0.087 ±0.069	0.154 ± 0.031	0.026 ±0.018	0.092 ±0.064	0.026 ±0.026	0.113 ±0.034	0.031 ±0.021	0.133 ±0.118	0.000 ±0.023
Subject28_sync	AUC	0.812 ± 0.053	0.771 ±0.036	0.787 ±0.045	0.814 ±0.041	0.671 ±0.099	0.645 ±0.045	0.706 ±0.023	0.691 ±0.024	0.620 ±0.032	0.703 ±0.036	0.640 ±0.057	0.616 ±0.039	0.768 ±0.053	0.717 ±0.046	0.561 ±0.056	0.646 ±0.056	0.650 ±0.039	0.747 ±0.034	0.618 ±0.027	0.734 ±0.045	0.671 ±0.030
	BAcc	0.180 ±0.060	0.125 ±0.018	0.120 ±0.027	0.180 ±0.057	0.065 ±0.045	0.100 ±0.061	0.080 ±0.060	0.130 ±0.021	0.060 ±0.029	0.100 ±0.040	0.065 ±0.029	0.090 ±0.014	0.110 ±0.068	0.175 ± 0.031	0.050 ±0.018	0.115 ±0.063	0.050 ±0.025	0.135 ±0.034	0.055 ±0.021	0.155 ±0.115	0.055 ±0.033
	Acc_1	0.180 ±0.060	0.125 ±0.018	0.120 ±0.027	0.180 ±0.057	0.065 ±0.045	0.147 ±0.098	0.078 ±0.072	0.156 ±0.076	0.047 ±0.037	0.094 ±0.046	0.087 ±0.046	0.103 ±0.061	0.125 ±0.095	0.175 ± 0.068	0.041 ±0.030	0.119 ±0.086	0.031 ±0.016	0.150 ±0.082	0.072 ±0.050	0.172 ±0.141	0.034 ±0.020
	Acc_2	0.320 ± 0.132	0.240 ±0.022	0.210 ±0.045	0.280 ±0.041	0.130 ±0.082	0.222 ±0.084	0.163 ±0.051	0.234 ±0.096	0.091 ±0.042	0.216 ±0.068	0.122 ±0.034	0.131 ±0.059	0.253 ±0.129	0.334 ±0.112	0.069 ±0.042	0.178 ±0.095	0.059 ±0.046	0.259 ±0.123	0.106 ±0.040	0.294 ±0.122	0.081 ±0.049
	κ	0.031 ±0.056	0.015 ±0.023	0.036 ±0.050	0.021 ±0.028	-0.005 ±0.021	0.015 ±0.039	0.021 ±0.038	0.046 ±0.049	0.000 ±0.036	0.051 ±0.031	0.051 ±0.036	0.015 ±0.023	0.036 ±0.034	0.087 ±0.067	0.021 ±0.033	0.046 ±0.038	0.021 ±0.028	0.144 ±0.034	0.026 ±0.044	0.108 ± 0.056	-0.010 ±0.023
	AUC	0.654 ±0.021	0.626 ±0.028	0.624 ±0.030	0.581 ±0.028	0.583 ±0.057	0.555 ±0.022	0.545 ±0.060	0.571 ±0.014	0.521 ±0.068	0.624 ±0.063	0.689 ± 0.040	0.560 ±0.045	0.663 ±0.050	0.622 ±0.055	0.514 ±0.064	0.586 ±0.045	0.581 ±0.029	0.717 ±0.034	0.553 ±0.021	0.656 ±0.022	0.585 ±0.016
Subject29_sync	BAcc	0.055 ±0.054	0.040 ±0.022	0.060 ±0.049	0.045 ±0.027	0.020 ±0.021	0.040 ±0.038	0.045 ±0.037	0.070 ±0.048	0.025 ±0.035	0.075 ±0.031	0.075 ±0.035	0.040 ±0.022	0.060 ±0.034	0.110 ±0.065	0.045 ±0.033	0.070 ±0.037	0.045 ±0.027	0.165 ±0.034	0.050 ±0.043	0.130 ± 0.054	0.015 ±0.022
	Acc_1	0.055 ±0.054	0.040 ±0.022	0.060 ±0.049	0.045 ±0.027	0.020 ±0.021	0.053 ±0.045	0.037 ±0.042	0.072 ±0.069	0.034 ±0.061	0.075 ±0.037	0.072 ±0.051	0.034 ±0.034	0.094 ±0.079	0.153 ±0.094	0.047 ±0.048	0.072 ±0.042	0.037 ±0.021	0.141 ±0.033	0.059 ±0.068	0.147 ± 0.056	0.019 ±0.034

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Subject2_sync	Acc.2	0.105 ±0.072	0.115 ±0.055	0.110 ±0.052	0.085 ±0.022	0.065 ±0.055	0.072 ±0.036	0.072 ±0.061	0.109 ±0.103	0.053 ±0.067	0.122 ±0.036	0.119 ±0.054	0.069 ±0.058	0.144 ±0.115	0.228 ± 0.112	0.056 ±0.042	0.150 ±0.050	0.059 ±0.032	0.206 ± 0.026	0.122 ±0.082	0.228 ± 0.063	0.056 ±0.049	
	κ	0.056 ±0.028	0.056 ±0.042	0.067 ±0.039	0.113 ±0.072	0.041 ±0.029	0.133 ±0.109	0.077 ±0.041	0.031 ±0.011	-0.010 ±0.014	0.041 ±0.014	0.000 ±0.026	0.036 ±0.039	0.041 ±0.053	0.200 ± 0.097	0.000 ±0.018	0.092 ±0.069	0.000 ±0.018	0.313 ± 0.042	0.015 ±0.023	0.185 ±0.046	0.000 ±0.021	
	AUC	0.720 ±0.023	0.660 ±0.046	0.734 ±0.034	0.783 ± 0.040	0.601 ±0.065	0.716 ±0.050	0.733 ±0.052	0.605 ±0.031	0.528 ±0.034	0.654 ±0.038	0.657 ±0.033	0.564 ±0.059	0.669 ±0.040	0.731 ±0.045	0.512 ±0.049	0.638 ±0.054	0.586 ±0.046	0.825 ± 0.037	0.597 ±0.055	0.761 ±0.027	0.666 ±0.048	
	BAcc	0.080 ±0.027	0.080 ±0.041	0.090 ±0.038	0.135 ±0.070	0.065 ±0.029	0.155 ±0.107	0.100 ±0.040	0.055 ±0.011	0.015 ±0.014	0.065 ±0.014	0.025 ±0.025	0.060 ±0.038	0.065 ±0.052	0.220 ± 0.094	0.025 ±0.018	0.115 ±0.068	0.025 ±0.018	0.330 ± 0.041	0.040 ±0.022	0.205 ±0.045	0.000 ±0.021	
	Acc.1	0.080 ±0.027	0.080 ±0.041	0.090 ±0.038	0.135 ±0.070	0.065 ±0.029	0.172 ±0.094	0.091 ±0.056	0.044 ±0.020	0.009 ±0.009	0.050 ±0.017	0.025 ±0.032	0.066 ±0.047	0.069 ±0.071	0.278 ± 0.112	0.025 ±0.024	0.138 ±0.082	0.016 ±0.011	0.347 ± 0.081	0.062 ±0.022	0.278 ± 0.072	0.009 ±0.043	
	Acc.2	0.160 ±0.038	0.135 ±0.029	0.160 ±0.022	0.270 ±0.089	0.095 ±0.037	0.312 ±0.146	0.172 ±0.072	0.069 ±0.036	0.019 ±0.007	0.147 ±0.063	0.116 ±0.024	0.103 ±0.060	0.147 ±0.116	0.328 ±0.106	0.050 ±0.026	0.294 ±0.050	0.041 ±0.024	0.475 ± 0.074	0.113 ±0.020	0.466 ± 0.100	0.058 ±0.046	
	Subject30_sync	κ	0.144 ±0.053	0.087 ±0.034	0.103 ±0.068	0.179 ±0.031	0.072 ±0.058	0.195 ±0.029	0.133 ±0.033	0.123 ±0.056	0.026 ±0.060	0.036 ±0.039	0.046 ±0.021	0.108 ±0.090	0.113 ±0.043	0.195 ±0.014	-0.015 ±0.014	0.118 ±0.029	0.026 ±0.018	0.287 ± 0.011	0.046 ±0.033	0.221 ± 0.062	0.000 ±0.023
		AUC	0.779 ±0.032	0.745 ±0.036	0.724 ±0.050	0.814 ± 0.044	0.663 ±0.092	0.752 ±0.023	0.783 ±0.032	0.741 ±0.046	0.557 ±0.041	0.611 ±0.043	0.704 ±0.055	0.727 ±0.072	0.764 ±0.015	0.740 ±0.031	0.514 ±0.042	0.632 ±0.019	0.583 ±0.038	0.788 ± 0.048	0.572 ±0.034	0.764 ±0.027	0.608 ±0.055
BAcc		0.165 ±0.052	0.110 ±0.034	0.125 ±0.066	0.200 ±0.031	0.095 ±0.057	0.215 ±0.029	0.155 ±0.033	0.145 ±0.054	0.050 ±0.059	0.060 ±0.038	0.070 ±0.021	0.130 ±0.087	0.135 ±0.042	0.215 ±0.014	0.010 ±0.014	0.140 ±0.029	0.050 ±0.018	0.305 ± 0.011	0.070 ±0.033	0.240 ± 0.060	0.030 ±0.033	
Acc.1		0.165 ±0.052	0.110 ±0.034	0.125 ±0.066	0.200 ±0.031	0.095 ±0.057	0.266 ± 0.076	0.172 ±0.022	0.138 ±0.064	0.050 ±0.056	0.047 ±0.040	0.081 ±0.049	0.100 ±0.053	0.169 ±0.062	0.256 ±0.051	0.016 ±0.027	0.153 ±0.036	0.050 ±0.051	0.312 ± 0.029	0.100 ±0.070	0.253 ±0.073	0.037 ±0.041	
Acc.2		0.235 ±0.055	0.175 ±0.050	0.200 ±0.064	0.330 ±0.027	0.150 ±0.073	0.384 ± 0.051	0.247 ±0.067	0.222 ±0.079	0.069 ±0.066	0.075 ±0.057	0.159 ±0.046	0.222 ±0.058	0.244 ±0.070	0.353 ±0.077	0.028 ±0.039	0.237 ±0.062	0.097 ±0.061	0.409 ± 0.079	0.144 ±0.082	0.350 ±0.091	0.091 ±0.074	
Subject31_sync		κ	0.205 ±0.063	0.169 ±0.072	0.169 ±0.078	0.205 ±0.041	0.087 ±0.076	0.087 ±0.074	0.056 ±0.028	0.118 ±0.014	0.010 ±0.014	0.046 ±0.033	-0.005 ±0.028	0.062 ±0.053	0.159 ±0.061	0.200 ±0.142	-0.015 ±0.014	0.215 ±0.088	0.000 ±0.026	0.323 ± 0.078	0.041 ±0.029	0.292 ± 0.094	0.036 ±0.023
	AUC	0.817 ±0.056	0.759 ±0.040	0.775 ±0.031	0.827 ± 0.046	0.691 ±0.108	0.641 ±0.032	0.707 ±0.074	0.759 ±0.051	0.578 ±0.033	0.653 ±0.039	0.567 ±0.057	0.668 ±0.028	0.774 ±0.051	0.770 ±0.074	0.502 ±0.068	0.722 ±0.050	0.626 ±0.084	0.844 ± 0.036	0.619 ±0.074	0.812 ±0.052	0.674 ±0.084	
	BAcc	0.225 ±0.061	0.190 ±0.070	0.190 ±0.076	0.225 ±0.040	0.110 ±0.074	0.110 ±0.072	0.080 ±0.027	0.140 ±0.014	0.035 ±0.014	0.070 ±0.033	0.020 ±0.027	0.085 ±0.052	0.180 ±0.060	0.220 ±0.139	0.010 ±0.014	0.235 ±0.086	0.025 ±0.025	0.340 ± 0.076	0.065 ±0.029	0.310 ± 0.091	0.060 ±0.022	
	Acc.1	0.225 ±0.061	0.190 ±0.070	0.190 ±0.076	0.225 ±0.040	0.110 ±0.074	0.106 ±0.092	0.106 ±0.050	0.116 ±0.028	0.031 ±0.027	0.081 ±0.077	0.031 ±0.054	0.081 ±0.052	0.150 ±0.067	0.269 ±0.130	0.016 ±0.027	0.269 ±0.104	0.025 ±0.032	0.362 ± 0.127	0.059 ±0.036	0.381 ± 0.167	0.047 ±0.029	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
Subject32_sync	Acc.2	0.330 ±0.099	0.280 ±0.091	0.290 ±0.068	0.355 ±0.062	0.170 ±0.091	0.222 ±0.090	0.188 ±0.093	0.234 ±0.058	0.072 ±0.054	0.178 ±0.074	0.109 ±0.049	0.125 ±0.053	0.247 ±0.084	0.384 ±0.188	0.031 ±0.029	0.353 ±0.102	0.084 ±0.030	0.475 ± 0.098	0.109 ±0.049	0.453 ± 0.170	0.084 ±0.036
	κ	0.554 ±0.047	0.421 ±0.099	0.492 ±0.066	0.585 ±0.049	0.369 ±0.207	0.636 ±0.042	0.436 ±0.060	0.590 ±0.051	0.021 ±0.021	0.087 ±0.039	0.087 ±0.034	0.236 ±0.073	0.421 ±0.047	0.656 ±0.082	0.015 ±0.023	0.641 ±0.068	0.015 ±0.039	0.677 ± 0.084	0.026 ±0.041	0.723 ± 0.071	0.089 ±0.039
	AUC	0.982 ± 0.008	0.952 ±0.018	0.961 ±0.014	0.983 ± 0.004	0.863 ±0.204	0.946 ±0.026	0.975 ±0.006	0.977 ±0.015	0.648 ±0.043	0.675 ±0.054	0.775 ±0.046	0.829 ±0.042	0.928 ±0.020	0.956 ±0.040	0.574 ±0.042	0.935 ±0.011	0.647 ±0.054	0.976 ±0.017	0.690 ±0.051	0.971 ±0.021	0.788 ±0.032
	BAcc	0.565 ±0.045	0.435 ±0.096	0.505 ±0.065	0.595 ±0.048	0.385 ±0.202	0.645 ±0.041	0.450 ±0.059	0.600 ±0.050	0.045 ±0.021	0.110 ±0.038	0.110 ±0.034	0.255 ±0.072	0.435 ±0.045	0.665 ±0.080	0.040 ±0.022	0.650 ±0.066	0.040 ±0.038	0.685 ± 0.082	0.050 ±0.040	0.730 ± 0.069	0.088 ±0.038
	Acc.1	0.565 ±0.045	0.435 ±0.096	0.505 ±0.065	0.595 ±0.048	0.385 ±0.202	0.722 ± 0.085	0.441 ±0.084	0.609 ±0.073	0.037 ±0.026	0.134 ±0.056	0.131 ±0.082	0.300 ±0.045	0.516 ±0.077	0.697 ±0.079	0.053 ±0.036	0.669 ±0.070	0.025 ±0.024	0.709 ±0.055	0.050 ±0.045	0.719 ± 0.048	0.088 ±0.038
	Acc.2	0.785 ±0.074	0.610 ±0.122	0.675 ±0.047	0.795 ±0.054	0.530 ±0.272	0.900 ± 0.081	0.725 ±0.063	0.803 ±0.079	0.075 ±0.023	0.216 ±0.061	0.250 ±0.037	0.422 ±0.105	0.650 ±0.041	0.872 ±0.079	0.125 ±0.038	0.828 ±0.040	0.059 ±0.023	0.878 ±0.039	0.116 ±0.050	0.909 ± 0.042	0.182 ±0.062
	Subject33_sync	κ	0.390 ±0.088	0.262 ±0.053	0.277 ±0.071	0.421 ±0.067	0.169 ±0.097	0.318 ±0.126	0.169 ±0.056	0.426 ±0.084	0.021 ±0.042	0.077 ±0.031	0.041 ±0.029	0.077 ±0.065	0.195 ±0.074	0.410 ±0.077	-0.010 ±0.023	0.487 ±0.098	0.015 ±0.014	0.651 ± 0.069	0.026 ±0.018	0.631 ± 0.053
AUC		0.933 ±0.017	0.911 ±0.018	0.879 ±0.033	0.946 ±0.007	0.791 ±0.163	0.826 ±0.041	0.884 ±0.027	0.923 ±0.023	0.672 ±0.020	0.691 ±0.045	0.726 ±0.050	0.685 ±0.044	0.859 ±0.023	0.901 ±0.022	0.508 ±0.010	0.878 ±0.030	0.677 ±0.046	0.972 ± 0.018	0.661 ±0.033	0.948 ± 0.022	0.706 ±0.021
BAcc		0.405 ±0.086	0.280 ±0.051	0.295 ±0.069	0.435 ±0.065	0.190 ±0.095	0.335 ±0.123	0.190 ±0.055	0.440 ±0.082	0.045 ±0.041	0.100 ±0.031	0.065 ±0.029	0.100 ±0.064	0.215 ±0.072	0.425 ±0.075	0.015 ±0.022	0.500 ±0.095	0.040 ±0.014	0.660 ± 0.068	0.050 ±0.018	0.640 ± 0.052	0.045 ±0.011
Acc.1		0.405 ±0.086	0.280 ±0.051	0.295 ±0.069	0.435 ±0.065	0.190 ±0.095	0.303 ±0.105	0.156 ±0.061	0.425 ±0.113	0.056 ±0.067	0.138 ±0.066	0.116 ±0.042	0.109 ±0.086	0.200 ±0.039	0.453 ±0.101	0.009 ±0.014	0.500 ±0.089	0.025 ±0.009	0.637 ± 0.082	0.031 ±0.011	0.681 ± 0.081	0.037 ±0.024
Acc.2		0.585 ±0.080	0.475 ±0.064	0.425 ±0.064	0.630 ±0.033	0.300 ±0.147	0.469 ±0.102	0.359 ±0.090	0.613 ±0.069	0.100 ±0.039	0.247 ±0.058	0.244 ±0.068	0.203 ±0.102	0.334 ±0.045	0.631 ±0.082	0.037 ±0.036	0.644 ±0.078	0.062 ±0.029	0.778 ± 0.051	0.059 ±0.013	0.791 ± 0.074	0.081 ±0.020
Subject34_sync		κ	0.195 ±0.094	0.149 ±0.033	0.097 ±0.028	0.179 ±0.063	0.041 ±0.047	0.128 ±0.065	0.077 ±0.041	0.338 ±0.061	-0.005 ±0.021	0.072 ±0.046	0.041 ±0.029	0.113 ±0.090	0.154 ±0.026	0.246 ±0.111	0.021 ±0.021	0.272 ±0.067	0.010 ±0.014	0.390 ± 0.064	-0.000 ±0.018	0.349 ± 0.043
	AUC	0.844 ±0.027	0.824 ±0.023	0.769 ±0.022	0.851 ±0.034	0.689 ±0.112	0.689 ±0.043	0.715 ±0.032	0.877 ± 0.023	0.595 ±0.050	0.638 ±0.038	0.657 ±0.050	0.671 ±0.036	0.810 ±0.038	0.815 ±0.009	0.505 ±0.055	0.780 ±0.019	0.564 ±0.059	0.900 ± 0.030	0.571 ±0.019	0.862 ±0.035	0.608 ±0.038
	BAcc	0.215 ±0.091	0.170 ±0.033	0.120 ±0.027	0.200 ±0.061	0.065 ±0.045	0.150 ±0.064	0.100 ±0.040	0.355 ±0.060	0.020 ±0.021	0.095 ±0.045	0.065 ±0.029	0.135 ±0.088	0.175 ±0.025	0.265 ±0.108	0.045 ±0.021	0.290 ±0.065	0.035 ±0.014	0.405 ± 0.062	0.025 ±0.018	0.365 ± 0.042	0.045 ±0.033
	Acc.1	0.215 ±0.091	0.170 ±0.033	0.120 ±0.027	0.200 ±0.061	0.065 ±0.045	0.169 ±0.074	0.119 ±0.074	0.419 ± 0.118	0.013 ±0.013	0.106 ±0.055	0.087 ±0.060	0.141 ±0.088	0.184 ±0.056	0.325 ±0.154	0.028 ±0.013	0.331 ±0.077	0.022 ±0.009	0.384 ±0.099	0.016 ±0.011	0.397 ± 0.063	0.028 ±0.020
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Under Review
Subject35_sync	Acc.2	0.335 ±0.080	0.260 ±0.058	0.230 ±0.069	0.400 ±0.053	0.150 ±0.079	0.228 ±0.066	0.209 ±0.097	0.512 ±0.114	0.037 ±0.018	0.163 ±0.058	0.163 ±0.064	0.184 ±0.089	0.250 ±0.107	0.506 ±0.155	0.044 ±0.020	0.434 ±0.083	0.041 ±0.014	0.569 ±0.085	0.044 ±0.013	0.559 ±0.075	0.004 ±0.020	
	κ	0.200 ±0.053	0.169 ±0.072	0.159 ±0.061	0.226 ±0.056	0.185 ±0.114	0.205 ±0.075	0.108 ±0.056	0.210 ±0.058	0.062 ±0.053	0.087 ±0.043	0.031 ±0.033	0.077 ±0.048	0.154 ±0.051	0.251 ±0.140	0.000 ±0.026	0.144 ±0.014	0.010 ±0.029	0.323 ±0.092	0.026 ±0.031	0.323 ±0.050	0.004 ±0.028	
	AUC	0.874 ±0.023	0.855 ±0.024	0.852 ±0.017	0.886 ±0.018	0.787 ±0.163	0.761 ±0.067	0.794 ±0.022	0.813 ±0.037	0.704 ±0.039	0.683 ±0.050	0.729 ±0.025	0.668 ±0.048	0.850 ±0.017	0.774 ±0.060	0.526 ±0.086	0.729 ±0.048	0.594 ±0.058	0.861 ±0.054	0.599 ±0.038	0.839 ±0.054	0.663 ±0.061	
	BAcc	0.220 ±0.051	0.190 ±0.070	0.180 ±0.060	0.245 ±0.054	0.205 ±0.111	0.225 ±0.073	0.130 ±0.054	0.230 ±0.057	0.085 ±0.052	0.110 ±0.042	0.055 ±0.033	0.100 ±0.047	0.175 ±0.050	0.270 ±0.136	0.025 ±0.025	0.165 ±0.014	0.035 ±0.029	0.340 ±0.089	0.050 ±0.031	0.340 ±0.049	0.000 ±0.027	
	Acc.1	0.220 ±0.051	0.190 ±0.070	0.180 ±0.060	0.245 ±0.054	0.205 ±0.111	0.244 ±0.106	0.138 ±0.064	0.228 ±0.092	0.109 ±0.062	0.134 ±0.066	0.109 ±0.082	0.119 ±0.065	0.222 ±0.049	0.309 ±0.162	0.025 ±0.026	0.234 ±0.043	0.022 ±0.018	0.353 ±0.114	0.069 ±0.051	0.409 ±0.064	0.004 ±0.023	
	Acc.2	0.370 ±0.060	0.315 ±0.110	0.285 ±0.080	0.410 ±0.029	0.335 ±0.165	0.338 ±0.163	0.253 ±0.063	0.356 ±0.113	0.184 ±0.081	0.225 ±0.042	0.200 ±0.079	0.188 ±0.059	0.409 ±0.047	0.403 ±0.186	0.066 ±0.039	0.306 ±0.039	0.087 ±0.039	0.466 ±0.104	0.128 ±0.065	0.572 ±0.126	0.004 ±0.028	
	Subject3_sync	κ	0.497 ±0.086	0.359 ±0.048	0.405 ±0.049	0.518 ±0.049	0.287 ±0.180	0.610 ±0.108	0.513 ±0.112	0.600 ±0.136	0.041 ±0.047	0.062 ±0.059	0.077 ±0.041	0.349 ±0.113	0.333 ±0.073	0.682 ±0.080	0.010 ±0.023	0.579 ±0.104	0.046 ±0.038	0.677 ±0.108	0.026 ±0.036	0.651 ±0.088	0.004 ±0.029
AUC		0.972 ±0.010	0.960 ±0.010	0.951 ±0.018	0.976 ±0.007	0.852 ±0.197	0.949 ±0.026	0.971 ±0.018	0.965 ±0.015	0.623 ±0.026	0.677 ±0.047	0.736 ±0.047	0.886 ±0.047	0.931 ±0.032	0.966 ±0.024	0.551 ±0.029	0.924 ±0.037	0.625 ±0.057	0.969 ±0.022	0.659 ±0.058	0.969 ±0.021	0.751 ±0.047	
BAcc		0.510 ±0.084	0.375 ±0.047	0.420 ±0.048	0.530 ±0.048	0.305 ±0.175	0.620 ±0.105	0.525 ±0.109	0.610 ±0.133	0.065 ±0.045	0.085 ±0.058	0.100 ±0.040	0.365 ±0.110	0.350 ±0.071	0.690 ±0.078	0.035 ±0.022	0.590 ±0.101	0.070 ±0.037	0.685 ±0.105	0.050 ±0.035	0.660 ±0.086	0.095 ±0.048	
Acc.1		0.510 ±0.084	0.375 ±0.047	0.420 ±0.048	0.530 ±0.048	0.305 ±0.175	0.669 ±0.130	0.534 ±0.175	0.634 ±0.111	0.069 ±0.061	0.062 ±0.040	0.156 ±0.056	0.425 ±0.122	0.369 ±0.036	0.694 ±0.095	0.022 ±0.014	0.594 ±0.106	0.081 ±0.070	0.681 ±0.095	0.059 ±0.058	0.656 ±0.166	0.097 ±0.068	
Acc.2		0.725 ±0.090	0.630 ±0.057	0.615 ±0.022	0.750 ±0.053	0.480 ±0.255	0.831 ±0.084	0.778 ±0.140	0.784 ±0.064	0.122 ±0.046	0.184 ±0.056	0.225 ±0.084	0.541 ±0.160	0.588 ±0.051	0.875 ±0.071	0.056 ±0.036	0.831 ±0.103	0.128 ±0.076	0.794 ±0.074	0.122 ±0.099	0.853 ±0.087	0.209 ±0.072	
Subject4_sync		κ	0.113 ±0.064	0.103 ±0.065	0.108 ±0.042	0.164 ±0.053	0.036 ±0.034	0.221 ±0.069	0.097 ±0.064	0.062 ±0.053	0.000 ±0.031	0.021 ±0.033	0.026 ±0.031	0.041 ±0.023	0.077 ±0.041	0.185 ±0.061	-0.005 ±0.021	0.154 ±0.065	0.000 ±0.036	0.277 ±0.135	-0.015 ±0.023	0.297 ±0.059	-0.010 ±0.014
		AUC	0.756 ±0.017	0.724 ±0.030	0.697 ±0.043	0.787 ±0.011	0.619 ±0.074	0.743 ±0.076	0.809 ±0.037	0.710 ±0.055	0.512 ±0.041	0.587 ±0.024	0.668 ±0.017	0.610 ±0.035	0.728 ±0.049	0.765 ±0.034	0.509 ±0.033	0.658 ±0.048	0.534 ±0.023	0.823 ±0.047	0.517 ±0.021	0.800 ±0.037	0.569 ±0.022
	BAcc	0.135 ±0.063	0.125 ±0.064	0.130 ±0.041	0.185 ±0.052	0.060 ±0.034	0.240 ±0.068	0.120 ±0.062	0.085 ±0.052	0.025 ±0.031	0.045 ±0.033	0.050 ±0.031	0.065 ±0.022	0.100 ±0.040	0.205 ±0.060	0.020 ±0.021	0.175 ±0.064	0.025 ±0.035	0.295 ±0.132	0.010 ±0.022	0.315 ±0.058	0.015 ±0.014	
	Acc.1	0.135 ±0.063	0.125 ±0.064	0.130 ±0.041	0.185 ±0.052	0.060 ±0.034	0.291 ±0.087	0.122 ±0.064	0.091 ±0.068	0.034 ±0.060	0.056 ±0.045	0.059 ±0.060	0.078 ±0.029	0.119 ±0.063	0.241 ±0.107	0.022 ±0.026	0.203 ±0.125	0.025 ±0.041	0.306 ±0.139	0.006 ±0.014	0.300 ±0.098	0.019 ±0.026	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-h (f)	STEEGformer-h (l)	STEEGformer-l (f)	STEEGformer-l (l)	Under Review
Subject5_sync	Acc.2	0.240 ±0.038	0.200 ±0.066	0.190 ±0.042	0.310 ±0.068	0.125 ±0.085	0.375 ±0.097	0.316 ±0.079	0.175 ±0.097	0.056 ±0.069	0.116 ±0.051	0.087 ±0.051	0.156 ±0.066	0.209 ±0.069	0.353 ±0.092	0.044 ±0.043	0.269 ±0.092	0.053 ±0.044	0.447 ± 0.122	0.053 ±0.039	0.412 ± 0.089	0.036 ±0.052	
	κ	0.595 ±0.028	0.492 ±0.046	0.451 ±0.034	0.605 ±0.014	0.338 ±0.201	0.697 ±0.069	0.513 ±0.054	0.682 ±0.090	0.046 ±0.046	0.103 ±0.070	0.062 ±0.039	0.451 ±0.102	0.451 ±0.029	0.723 ± 0.046	0.041 ±0.023	0.667 ±0.065	0.046 ±0.021	0.703 ±0.056	0.046 ±0.021	0.759 ± 0.029	0.036 ±0.046	
	AUC	0.984 ±0.004	0.971 ±0.009	0.966 ±0.005	0.988 ± 0.004	0.866 ±0.205	0.961 ±0.015	0.980 ±0.010	0.977 ±0.014	0.674 ±0.014	0.733 ±0.032	0.764 ±0.034	0.907 ±0.019	0.964 ±0.012	0.981 ±0.014	0.575 ±0.039	0.953 ±0.031	0.637 ±0.046	0.985 ± 0.004	0.648 ±0.042	0.982 ±0.008	0.777 ±0.045	
	BAcc	0.605 ±0.027	0.505 ±0.045	0.465 ±0.034	0.615 ±0.014	0.355 ±0.196	0.705 ±0.067	0.525 ±0.053	0.690 ±0.088	0.070 ±0.045	0.125 ±0.068	0.085 ±0.038	0.465 ±0.099	0.465 ±0.029	0.730 ± 0.045	0.065 ±0.022	0.675 ±0.064	0.070 ±0.021	0.710 ±0.055	0.070 ±0.021	0.765 ± 0.029	0.036 ±0.045	
	Acc.1	0.605 ±0.027	0.505 ±0.045	0.465 ±0.034	0.615 ±0.014	0.355 ±0.196	0.731 ±0.066	0.562 ±0.115	0.681 ±0.100	0.062 ±0.044	0.144 ±0.076	0.125 ±0.061	0.516 ±0.098	0.525 ±0.066	0.766 ± 0.072	0.050 ±0.028	0.684 ±0.084	0.059 ±0.046	0.744 ±0.075	0.091 ±0.045	0.797 ± 0.037	0.038 ±0.054	
	Acc.2	0.785 ±0.034	0.745 ±0.045	0.670 ±0.027	0.835 ±0.014	0.540 ±0.281	0.856 ±0.060	0.816 ±0.134	0.831 ±0.051	0.094 ±0.059	0.294 ±0.112	0.203 ±0.088	0.641 ±0.059	0.716 ±0.077	0.909 ± 0.036	0.091 ±0.052	0.825 ±0.081	0.150 ±0.045	0.878 ±0.084	0.144 ±0.043	0.900 ± 0.049	0.159 ±0.049	
	Subject6_sync	κ	0.405 ±0.056	0.256 ±0.070	0.328 ±0.056	0.395 ±0.078	0.190 ±0.117	0.385 ±0.041	0.251 ±0.071	0.421 ±0.099	0.010 ±0.014	0.067 ±0.043	0.072 ±0.046	0.210 ±0.076	0.246 ±0.074	0.549 ±0.086	0.036 ±0.053	0.554 ±0.029	0.015 ±0.014	0.600 ± 0.086	0.036 ±0.034	0.703 ± 0.039	0.036 ±0.051
AUC		0.962 ±0.010	0.932 ±0.025	0.924 ±0.011	0.968 ± 0.008	0.782 ±0.158	0.854 ±0.022	0.923 ±0.012	0.918 ±0.014	0.522 ±0.035	0.656 ±0.031	0.696 ±0.043	0.777 ±0.051	0.866 ±0.021	0.943 ±0.021	0.531 ±0.026	0.924 ±0.023	0.669 ±0.024	0.967 ±0.009	0.636 ±0.049	0.967 ± 0.011	0.693 ±0.025	
BAcc		0.420 ±0.054	0.275 ±0.068	0.345 ±0.054	0.410 ±0.076	0.210 ±0.114	0.400 ±0.040	0.270 ±0.069	0.435 ±0.096	0.035 ±0.014	0.090 ±0.042	0.095 ±0.045	0.230 ±0.074	0.265 ±0.072	0.560 ±0.084	0.060 ±0.052	0.565 ±0.029	0.040 ±0.014	0.610 ± 0.084	0.060 ±0.034	0.710 ± 0.038	0.070 ±0.021	
Acc.1		0.420 ±0.054	0.275 ±0.068	0.345 ±0.054	0.410 ±0.076	0.210 ±0.114	0.372 ±0.040	0.309 ±0.137	0.366 ±0.063	0.041 ±0.028	0.122 ±0.036	0.144 ±0.072	0.237 ±0.124	0.269 ±0.094	0.603 ±0.129	0.037 ±0.032	0.569 ±0.050	0.025 ±0.009	0.606 ± 0.058	0.037 ±0.021	0.706 ± 0.074	0.062 ±0.037	
Acc.2		0.635 ±0.065	0.460 ±0.091	0.535 ±0.074	0.685 ±0.058	0.320 ±0.183	0.547 ±0.057	0.544 ±0.118	0.584 ±0.062	0.087 ±0.034	0.194 ±0.045	0.219 ±0.112	0.347 ±0.127	0.397 ±0.102	0.756 ±0.100	0.062 ±0.053	0.725 ±0.093	0.069 ±0.045	0.787 ± 0.036	0.069 ±0.032	0.863 ± 0.071	0.097 ±0.072	
Subject7_sync	κ	0.328 ±0.102	0.200 ±0.078	0.313 ±0.090	0.390 ±0.086	0.113 ±0.074	0.210 ±0.090	0.241 ±0.043	0.333 ±0.070	0.010 ±0.029	0.097 ±0.046	0.062 ±0.050	0.123 ±0.046	0.195 ±0.043	0.405 ±0.105	0.041 ±0.023	0.323 ±0.059	0.005 ±0.021	0.462 ± 0.118	0.026 ±0.018	0.441 ± 0.147	0.015 ±0.014	
	AUC	0.921 ± 0.035	0.864 ±0.043	0.894 ±0.042	0.935 ± 0.031	0.767 ±0.153	0.800 ±0.061	0.894 ±0.019	0.862 ±0.050	0.601 ±0.034	0.715 ±0.048	0.714 ±0.025	0.703 ±0.070	0.843 ±0.036	0.863 ±0.066	0.597 ±0.052	0.797 ±0.046	0.656 ±0.033	0.920 ±0.019	0.623 ±0.023	0.896 ±0.055	0.705 ±0.032	
	BAcc	0.345 ±0.099	0.220 ±0.076	0.330 ±0.087	0.405 ±0.084	0.135 ±0.072	0.230 ±0.087	0.260 ±0.042	0.350 ±0.068	0.035 ±0.029	0.120 ±0.045	0.085 ±0.049	0.145 ±0.045	0.215 ±0.042	0.420 ±0.102	0.065 ±0.022	0.340 ±0.058	0.030 ±0.021	0.475 ± 0.115	0.050 ±0.018	0.455 ± 0.143	0.040 ±0.014	
	Acc.1	0.345 ±0.099	0.220 ±0.076	0.330 ±0.087	0.405 ±0.084	0.135 ±0.072	0.247 ±0.092	0.312 ±0.046	0.350 ±0.048	0.041 ±0.042	0.159 ±0.058	0.109 ±0.080	0.138 ±0.051	0.275 ±0.066	0.459 ±0.128	0.078 ±0.040	0.334 ±0.104	0.019 ±0.013	0.522 ± 0.143	0.087 ±0.059	0.472 ± 0.195	0.034 ±0.026	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-h (f)	STEEGformer-h (l)	STEEGformer-l (f)	STEEGformer-l (l)	Unlabeled
Subject8_sync	Acc.2	0.530 ±0.116	0.380 ±0.062	0.460 ±0.049	0.620 ±0.076	0.240 ±0.128	0.481 ±0.051	0.478 ±0.041	0.481 ±0.062	0.119 ±0.038	0.244 ±0.059	0.181 ±0.067	0.191 ±0.076	0.409 ±0.049	0.591 ±0.133	0.125 ±0.083	0.484 ±0.100	0.047 ±0.031	0.659 ± 0.109	0.128 ±0.028	0.641 ± 0.155	0.039 ±0.041	
	κ	0.297 ±0.090	0.231 ±0.048	0.195 ±0.090	0.282 ±0.107	0.087 ±0.050	0.256 ±0.065	0.226 ±0.049	0.338 ±0.073	-0.010 ±0.023	0.026 ±0.026	0.000 ±0.044	0.113 ±0.034	0.174 ±0.049	0.354 ±0.090	0.021 ±0.021	0.344 ±0.029	0.005 ±0.033	0.415 ± 0.073	0.015 ±0.029	0.421 ± 0.067	0.035 ±0.041	
	AUC	0.903 ±0.027	0.873 ±0.023	0.859 ±0.015	0.909 ± 0.019	0.743 ±0.138	0.756 ±0.043	0.879 ±0.019	0.908 ±0.031	0.546 ±0.024	0.602 ±0.068	0.649 ±0.053	0.732 ±0.061	0.841 ±0.030	0.842 ±0.044	0.553 ±0.037	0.821 ±0.026	0.629 ±0.035	0.930 ± 0.003	0.598 ±0.067	0.872 ±0.040	0.600 ±0.041	
	BAcc	0.315 ±0.088	0.250 ±0.047	0.215 ±0.088	0.300 ±0.105	0.110 ±0.049	0.275 ±0.064	0.245 ±0.048	0.355 ±0.072	0.015 ±0.022	0.050 ±0.025	0.025 ±0.043	0.135 ±0.034	0.195 ±0.048	0.370 ±0.087	0.045 ±0.021	0.360 ±0.029	0.030 ±0.033	0.430 ± 0.072	0.040 ±0.029	0.435 ± 0.065	0.030 ±0.040	
	Acc.1	0.315 ±0.088	0.250 ±0.047	0.215 ±0.088	0.300 ±0.105	0.110 ±0.049	0.294 ±0.047	0.247 ±0.030	0.391 ±0.095	0.009 ±0.014	0.059 ±0.052	0.025 ±0.048	0.188 ±0.074	0.225 ±0.069	0.438 ±0.153	0.037 ±0.032	0.441 ±0.098	0.028 ±0.039	0.466 ± 0.116	0.025 ±0.018	0.487 ± 0.077	0.039 ±0.042	
	Acc.2	0.495 ±0.105	0.435 ±0.052	0.340 ±0.096	0.515 ±0.082	0.235 ±0.114	0.394 ±0.039	0.438 ±0.052	0.634 ±0.090	0.025 ±0.014	0.109 ±0.078	0.072 ±0.059	0.322 ±0.068	0.328 ±0.063	0.637 ± 0.095	0.041 ±0.030	0.550 ±0.086	0.053 ±0.077	0.631 ±0.102	0.041 ±0.018	0.678 ± 0.062	0.118 ±0.048	
	Subject9_sync	κ	0.379 ±0.061	0.267 ±0.080	0.277 ±0.091	0.379 ±0.049	0.282 ±0.166	0.318 ±0.082	0.231 ±0.031	0.349 ±0.090	0.046 ±0.033	0.123 ±0.042	0.015 ±0.039	0.108 ±0.064	0.185 ±0.088	0.313 ±0.097	0.010 ±0.023	0.328 ±0.042	0.010 ±0.029	0.503 ± 0.053	0.010 ±0.029	0.492 ± 0.064	0.030 ±0.041
AUC		0.929 ±0.011	0.899 ±0.024	0.894 ±0.022	0.938 ± 0.008	0.808 ±0.173	0.813 ±0.040	0.877 ±0.023	0.897 ±0.017	0.696 ±0.044	0.715 ±0.052	0.603 ±0.064	0.683 ±0.023	0.872 ±0.016	0.857 ±0.049	0.528 ±0.038	0.812 ±0.016	0.615 ±0.053	0.930 ± 0.014	0.606 ±0.022	0.923 ±0.040	0.667 ±0.020	
BAcc		0.395 ±0.060	0.285 ±0.078	0.295 ±0.089	0.395 ±0.048	0.300 ±0.162	0.335 ±0.080	0.250 ±0.031	0.365 ±0.088	0.070 ±0.033	0.145 ±0.041	0.040 ±0.038	0.130 ±0.062	0.205 ±0.086	0.330 ±0.094	0.035 ±0.022	0.345 ±0.041	0.035 ±0.029	0.515 ± 0.052	0.035 ±0.029	0.505 ± 0.062	0.045 ±0.011	
Acc.1		0.395 ±0.060	0.285 ±0.078	0.295 ±0.089	0.395 ±0.048	0.300 ±0.162	0.312 ±0.108	0.259 ±0.039	0.378 ±0.111	0.062 ±0.044	0.166 ±0.048	0.053 ±0.065	0.166 ±0.059	0.194 ±0.075	0.384 ±0.074	0.059 ±0.034	0.366 ±0.048	0.022 ±0.018	0.491 ± 0.127	0.050 ±0.036	0.494 ± 0.097	0.028 ±0.007	
Acc.2		0.520 ±0.099	0.485 ±0.107	0.440 ±0.074	0.570 ±0.041	0.375 ±0.189	0.416 ±0.128	0.400 ±0.054	0.572 ±0.128	0.113 ±0.052	0.250 ±0.029	0.097 ±0.051	0.231 ±0.062	0.406 ±0.083	0.497 ±0.043	0.084 ±0.056	0.497 ±0.084	0.044 ±0.007	0.659 ± 0.040	0.100 ±0.061	0.675 ± 0.098	0.072 ±0.030	

F.1.2 ASYNCHRONOUS DECODING RESULTS

Table 53: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.317	0.870	0.334	0.334	0.473
DeepConvnet	± 0.197	± 0.096	± 0.192	± 0.192	± 0.233
	0.260	0.850	0.278	0.278	0.411
EEGNet	± 0.161	± 0.095	± 0.157	± 0.157	± 0.200
	0.233	0.836	0.252	0.252	0.376
Conformer	± 0.144	± 0.091	± 0.140	± 0.140	± 0.179
	0.355	0.880	0.371	0.371	0.521
CTNet	± 0.201	± 0.102	± 0.196	± 0.196	± 0.239
	0.156	0.749	0.178	0.178	0.274
SSVEPDNN	± 0.103	± 0.077	± 0.101	± 0.101	± 0.131
	0.272	0.771	0.291	0.290	0.427
BIOT (f)	± 0.192	± 0.124	± 0.187	± 0.187	± 0.240
	0.213	0.815	0.232	0.232	0.383
BIOT (l)	± 0.151	± 0.134	± 0.147	± 0.146	± 0.221
	0.290	0.818	0.307	0.308	0.431
BENDR (f)	± 0.193	± 0.123	± 0.189	± 0.189	± 0.228
	0.035	0.658	0.059	0.059	0.110
BENDR (l)	± 0.013	± 0.040	± 0.012	± 0.013	± 0.020
	0.060	0.652	0.084	0.085	0.155
CBraMod (f)	± 0.029	± 0.047	± 0.028	± 0.028	± 0.044
	0.036	0.664	0.060	0.062	0.116
CBraMod (l)	± 0.019	± 0.049	± 0.018	± 0.018	± 0.030
	0.097	0.677	0.119	0.119	0.188
EEGPT (f)	± 0.090	± 0.086	± 0.088	± 0.088	± 0.114
	0.198	0.823	0.218	0.219	0.337
EEGPT (l)	± 0.125	± 0.086	± 0.122	± 0.122	± 0.160
	0.347	0.824	0.363	0.364	0.496
LaBraM (f)	± 0.193	± 0.103	± 0.189	± 0.189	± 0.215
	0.008	0.543	0.033	0.033	0.063
LaBraM (l)	± 0.005	± 0.021	± 0.005	± 0.005	± 0.009
	0.352	0.800	0.368	0.368	0.495
STEEGformer-s (f)	± 0.196	± 0.112	± 0.191	± 0.191	± 0.218
	0.017	0.613	0.042	0.041	0.080
STEEGformer-s (l)	± 0.012	± 0.042	± 0.011	± 0.011	± 0.017
	0.474	0.896	0.487	0.487	0.628
STEEGformer-b (f)	± 0.201	± 0.097	± 0.196	± 0.196	± 0.215
	0.018	0.612	0.043	0.043	0.083
STEEGformer-b (l)	± 0.013	± 0.049	± 0.013	± 0.013	± 0.020
	0.464	0.874	0.478	0.479	0.613
STEEGformer-l (f)	± 0.214	± 0.095	± 0.209	± 0.209	± 0.222
	0.034	0.672	0.058	0.058	0.107
STEEGformer-l (l)	± 0.022	± 0.063	± 0.022	± 0.021	± 0.035

Table 54: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-l (f)	Under review
Subject10.async	κ	0.059	0.060	0.046	0.078	0.039	0.041	0.026	0.066	0.024	0.040	0.035	0.032	0.055	0.186	0.009	0.123	0.020	0.333	0.017	0.254	0.033
		± 0.026	± 0.025	± 0.028	± 0.041	± 0.029	± 0.030	± 0.008	± 0.029	± 0.011	± 0.021	± 0.023	± 0.019	± 0.028	± 0.020	± 0.010	± 0.043	± 0.008	± 0.031	± 0.014	± 0.035	± 0.018
	AUC	0.704	0.687	0.685	0.713	0.637	0.584	0.605	0.653	0.629	0.604	0.660	0.582	0.701	0.745	0.545	0.669	0.640	0.864	0.625	0.780	0.702
		± 0.035	± 0.013	± 0.041	± 0.026	± 0.085	± 0.032	± 0.020	± 0.030	± 0.020	± 0.046	± 0.033	± 0.011	± 0.045	± 0.019	± 0.012	± 0.033	± 0.020	± 0.013	± 0.041	0.032	± 0.020
	BAcc	0.083	0.084	0.070	0.101	0.063	0.065	0.050	0.090	0.049	0.064	0.059	0.056	0.079	0.207	0.034	0.145	0.045	0.350	0.041	0.273	0.077
		± 0.026	± 0.025	± 0.028	± 0.040	± 0.029	± 0.030	± 0.007	± 0.028	± 0.011	± 0.020	± 0.022	± 0.019	± 0.027	± 0.019	± 0.010	± 0.042	± 0.008	± 0.030	± 0.014	± 0.035	± 0.017
Subject11.async	Acc.1	0.083	0.084	0.070	0.101	0.063	0.065	0.050	0.090	0.049	0.064	0.062	0.057	0.081	0.206	0.033	0.146	0.044	0.352	0.041	0.275	0.077
		± 0.026	± 0.025	± 0.028	± 0.040	± 0.029	± 0.030	± 0.007	± 0.028	± 0.011	± 0.020	± 0.022	± 0.018	± 0.027	± 0.022	± 0.010	± 0.041	± 0.007	± 0.028	± 0.014	0.037	± 0.017
	Acc.2	0.147	0.142	0.142	0.173	0.121	0.115	0.098	0.163	0.095	0.116	0.111	0.103	0.151	0.318	0.060	0.241	0.079	0.484	0.077	0.394	0.076
		± 0.034	± 0.040	± 0.038	± 0.047	± 0.050	± 0.036	± 0.017	± 0.042	± 0.014	± 0.014	± 0.041	± 0.026	± 0.043	± 0.032	± 0.012	± 0.063	± 0.014	± 0.026	± 0.023	± 0.038	± 0.017
	κ	0.143	0.117	0.102	0.170	0.068	0.073	0.114	0.095	0.024	0.020	0.028	0.028	0.085	0.099	0.008	0.113	0.001	0.228	-0.002	0.214	0.023
		± 0.046	± 0.048	± 0.025	± 0.035	± 0.046	± 0.047	± 0.023	± 0.024	± 0.011	± 0.019	± 0.015	± 0.006	± 0.038	± 0.023	± 0.006	± 0.037	± 0.018	± 0.050	± 0.009	± 0.025	± 0.009
Subject12.async	AUC	0.784	0.773	0.739	0.795	0.684	0.608	0.742	0.695	0.600	0.567	0.614	0.570	0.733	0.674	0.536	0.634	0.549	0.795	0.545	0.764	0.587
		± 0.026	± 0.023	± 0.027	± 0.030	± 0.106	± 0.038	± 0.044	± 0.037	± 0.035	± 0.032	± 0.042	± 0.023	± 0.032	± 0.024	± 0.031	± 0.024	± 0.019	± 0.022	± 0.050	± 0.018	± 0.032
	BAcc	0.164	0.139	0.124	0.190	0.091	0.096	0.136	0.118	0.049	0.045	0.052	0.052	0.108	0.122	0.033	0.135	0.026	0.248	0.023	0.234	0.038
		± 0.045	± 0.047	± 0.025	± 0.034	± 0.045	± 0.046	± 0.023	± 0.023	± 0.010	± 0.019	± 0.014	± 0.006	± 0.037	± 0.022	± 0.006	± 0.036	± 0.017	± 0.049	± 0.009	± 0.024	± 0.008
	Acc.1	0.164	0.139	0.124	0.190	0.091	0.096	0.136	0.117	0.049	0.045	0.052	0.052	0.107	0.120	0.032	0.134	0.026	0.246	0.022	0.232	0.038
		± 0.045	± 0.047	± 0.025	± 0.034	± 0.045	± 0.045	± 0.020	± 0.022	± 0.010	± 0.019	± 0.013	± 0.007	± 0.036	± 0.021	± 0.006	± 0.035	± 0.017	± 0.051	± 0.009	± 0.025	± 0.009
Subject12.async	Acc.2	0.271	0.240	0.209	0.308	0.158	0.154	0.230	0.196	0.089	0.085	0.102	0.092	0.189	0.206	0.059	0.222	0.055	0.355	0.053	0.340	0.071
		± 0.043	± 0.065	± 0.024	± 0.039	± 0.068	± 0.046	± 0.036	± 0.036	± 0.014	± 0.036	± 0.032	± 0.012	± 0.049	± 0.035	± 0.011	± 0.027	± 0.023	± 0.060	± 0.016	± 0.032	± 0.011
	κ	0.029	0.023	0.054	0.040	0.023	0.021	0.012	0.016	0.018	0.037	0.030	0.007	0.039	0.060	0.006	0.058	0.007	0.042	0.003	0.092	0.006
		± 0.020	± 0.018	± 0.022	± 0.025	± 0.029	± 0.008	± 0.006	± 0.013	± 0.015	± 0.022	± 0.018	± 0.006	± 0.032	± 0.036	± 0.010	± 0.028	± 0.022	± 0.024	± 0.006	± 0.022	± 0.015
	AUC	0.669	0.661	0.683	0.678	0.604	0.549	0.529	0.573	0.628	0.605	0.680	0.564	0.675	0.621	0.505	0.601	0.515	0.593	0.507	0.661	0.535
		± 0.045	± 0.025	± 0.042	± 0.042	± 0.089	± 0.014	± 0.021	± 0.028	± 0.017	± 0.013	± 0.025	± 0.022	± 0.033	± 0.026	± 0.024	± 0.026	± 0.025	± 0.025	± 0.025	± 0.024	± 0.019
Subject12.async	BAcc	0.054	0.047	0.077	0.064	0.047	0.045	0.037	0.041	0.043	0.061	0.054	0.032	0.063	0.084	0.030	0.082	0.032	0.066	0.028	0.115	0.030
		± 0.020	± 0.017	± 0.022	± 0.024	± 0.029	± 0.008	± 0.006	± 0.013	± 0.015	± 0.022	± 0.018	± 0.005	± 0.031	± 0.035	± 0.010	± 0.028	± 0.021	± 0.024	± 0.006	± 0.022	± 0.015
	Acc.1	0.054	0.047	0.077	0.064	0.047	0.045	0.036	0.041	0.043	0.061	0.056	0.032	0.063	0.083	0.030	0.080	0.032	0.065	0.027	0.113	0.030
		± 0.020	± 0.017	± 0.022	± 0.024	± 0.029	± 0.008	± 0.006	± 0.013	± 0.016	± 0.022	± 0.020	± 0.005	± 0.031	± 0.036	± 0.010	± 0.027	± 0.020	± 0.023	± 0.005	± 0.021	± 0.014

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)	STEEGformer-b ^(f)	STEEGformer-b ^(l)	STEEGformer-l ^(f)	Unimodal baseline
Subject13_async	Acc.2	0.113 ±0.028	0.100 ±0.029	0.127 ±0.024	0.120 ±0.037	0.085 ±0.051	0.088 ±0.009	0.062 ±0.005	0.084 ±0.013	0.090 ±0.022	0.114 ±0.019	0.107 ±0.027	0.062 ±0.011	0.114 ±0.047	0.146 ±0.040	0.051 ±0.013	0.140 ±0.024	0.060 ±0.020	0.108 ±0.024	0.061 ±0.024	0.190 ±0.015	0.164 ±0.026
	κ	0.507 ±0.067	0.418 ±0.058	0.340 ±0.063	0.560 ±0.084	0.201 ±0.126	0.334 ±0.071	0.216 ±0.059	0.543 ±0.047	0.060 ±0.017	0.067 ±0.024	0.008 ±0.013	0.174 ±0.035	0.406 ±0.046	0.518 ±0.092	0.007 ±0.010	0.552 ±0.076	0.041 ±0.015	0.685 ±0.079	0.040 ±0.018	0.697 ±0.081	0.100 ±0.027
	AUC	0.958 ±0.015	0.937 ±0.016	0.915 ±0.027	0.962 ±0.013	0.798 ±0.168	0.831 ±0.048	0.867 ±0.027	0.950 ±0.018	0.744 ±0.011	0.692 ±0.028	0.599 ±0.039	0.778 ±0.023	0.941 ±0.011	0.923 ±0.042	0.538 ±0.011	0.912 ±0.025	0.657 ±0.046	0.912 ±0.025	0.659 ±0.025	0.963 ±0.025	0.966 ±0.039
	BAcc	0.519 ±0.065	0.432 ±0.057	0.356 ±0.062	0.571 ±0.082	0.221 ±0.122	0.350 ±0.069	0.236 ±0.057	0.554 ±0.046	0.083 ±0.016	0.090 ±0.023	0.033 ±0.012	0.195 ±0.034	0.420 ±0.045	0.530 ±0.089	0.032 ±0.010	0.563 ±0.074	0.065 ±0.014	0.693 ±0.077	0.064 ±0.018	0.704 ±0.079	0.104 ±0.026
	Acc.1	0.519 ±0.065	0.432 ±0.057	0.356 ±0.062	0.571 ±0.082	0.221 ±0.122	0.354 ±0.068	0.234 ±0.056	0.556 ±0.047	0.085 ±0.016	0.092 ±0.022	0.039 ±0.014	0.195 ±0.034	0.421 ±0.047	0.532 ±0.088	0.032 ±0.010	0.565 ±0.075	0.064 ±0.015	0.695 ±0.077	0.063 ±0.018	0.705 ±0.078	0.104 ±0.025
	Acc.2	0.696 ±0.083	0.600 ±0.053	0.499 ±0.067	0.727 ±0.075	0.336 ±0.169	0.519 ±0.067	0.401 ±0.057	0.714 ±0.042	0.152 ±0.021	0.191 ±0.037	0.081 ±0.026	0.298 ±0.037	0.606 ±0.049	0.671 ±0.103	0.064 ±0.017	0.708 ±0.076	0.118 ±0.023	0.844 ±0.048	0.108 ±0.025	0.852 ±0.060	0.108 ±0.032
	κ	0.559 ±0.047	0.413 ±0.073	0.379 ±0.038	0.598 ±0.052	0.234 ±0.134	0.448 ±0.036	0.359 ±0.026	0.493 ±0.053	0.058 ±0.017	0.077 ±0.030	0.061 ±0.009	0.179 ±0.023	0.337 ±0.022	0.636 ±0.026	0.011 ±0.007	0.663 ±0.069	0.024 ±0.011	0.772 ±0.027	0.030 ±0.011	0.760 ±0.042	0.100 ±0.022
	AUC	0.969 ±0.007	0.943 ±0.018	0.941 ±0.007	0.974 ±0.009	0.815 ±0.177	0.898 ±0.013	0.943 ±0.011	0.947 ±0.009	0.721 ±0.012	0.695 ±0.031	0.752 ±0.025	0.777 ±0.014	0.926 ±0.011	0.958 ±0.012	0.569 ±0.019	0.951 ±0.020	0.677 ±0.032	0.986 ±0.003	0.694 ±0.024	0.977 ±0.003	0.803 ±0.028
	BAcc	0.570 ±0.046	0.428 ±0.072	0.395 ±0.037	0.608 ±0.050	0.254 ±0.130	0.462 ±0.035	0.375 ±0.025	0.506 ±0.052	0.081 ±0.017	0.100 ±0.029	0.084 ±0.009	0.199 ±0.023	0.353 ±0.022	0.645 ±0.026	0.036 ±0.007	0.672 ±0.067	0.049 ±0.011	0.778 ±0.026	0.055 ±0.011	0.766 ±0.041	0.112 ±0.022
	Acc.1	0.570 ±0.046	0.428 ±0.072	0.395 ±0.037	0.608 ±0.050	0.254 ±0.130	0.462 ±0.036	0.372 ±0.025	0.507 ±0.053	0.082 ±0.018	0.100 ±0.029	0.088 ±0.010	0.198 ±0.023	0.353 ±0.020	0.648 ±0.024	0.036 ±0.007	0.674 ±0.067	0.048 ±0.011	0.780 ±0.027	0.054 ±0.011	0.769 ±0.040	0.111 ±0.021
	Acc.2	0.740 ±0.042	0.616 ±0.072	0.573 ±0.042	0.780 ±0.049	0.376 ±0.185	0.649 ±0.032	0.588 ±0.024	0.672 ±0.062	0.145 ±0.011	0.178 ±0.034	0.164 ±0.028	0.300 ±0.017	0.517 ±0.013	0.795 ±0.030	0.067 ±0.009	0.823 ±0.030	0.084 ±0.016	0.902 ±0.020	0.108 ±0.012	0.892 ±0.019	0.205 ±0.027
Subject15_async	κ	0.331 ±0.109	0.283 ±0.112	0.175 ±0.084	0.348 ±0.105	0.193 ±0.132	0.264 ±0.081	0.214 ±0.065	0.307 ±0.133	0.031 ±0.020	0.034 ±0.031	0.008 ±0.011	0.089 ±0.026	0.181 ±0.059	0.245 ±0.080	0.007 ±0.008	0.283 ±0.112	-0.005 ±0.011	0.453 ±0.124	0.008 ±0.011	0.420 ±0.124	0.006 ±0.016
	AUC	0.881 ±0.062	0.868 ±0.053	0.802 ±0.057	0.890 ±0.049	0.767 ±0.156	0.792 ±0.052	0.847 ±0.071	0.842 ±0.080	0.645 ±0.019	0.611 ±0.039	0.624 ±0.045	0.680 ±0.035	0.832 ±0.043	0.796 ±0.047	0.522 ±0.023	0.778 ±0.080	0.568 ±0.025	0.911 ±0.048	0.573 ±0.035	0.875 ±0.051	0.631 ±0.042
	BAcc	0.348 ±0.106	0.301 ±0.110	0.195 ±0.082	0.364 ±0.102	0.213 ±0.128	0.282 ±0.079	0.234 ±0.064	0.324 ±0.130	0.055 ±0.020	0.059 ±0.031	0.033 ±0.011	0.111 ±0.025	0.202 ±0.057	0.264 ±0.078	0.031 ±0.008	0.300 ±0.109	0.020 ±0.011	0.467 ±0.121	0.033 ±0.011	0.434 ±0.121	0.030 ±0.015
	Acc.1	0.348 ±0.106	0.301 ±0.110	0.195 ±0.082	0.364 ±0.102	0.213 ±0.128	0.283 ±0.080	0.233 ±0.060	0.323 ±0.130	0.055 ±0.020	0.059 ±0.031	0.035 ±0.012	0.111 ±0.025	0.204 ±0.057	0.265 ±0.079	0.031 ±0.007	0.301 ±0.110	0.021 ±0.013	0.467 ±0.122	0.033 ±0.010	0.435 ±0.121	0.031 ±0.015

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	STEEGformer-b (f)	STEEGformer-b (f)	STEEGformer-l (f)	Unlabeled
Subject16_async	Acc.2	0.486 ±0.159	0.441 ±0.124	0.320 ±0.105	0.517 ±0.128	0.311 ±0.170	0.416 ±0.112	0.375 ±0.096	0.442 ±0.147	0.107 ±0.028	0.114 ±0.050	0.065 ±0.022	0.178 ±0.025	0.323 ±0.080	0.407 ±0.091	0.060 ±0.008	0.438 ±0.139	0.051 ±0.010	0.619 ± 0.137	0.067 ±0.020	0.597 ± 0.112	0.569 ±0.020
	κ	0.357 ±0.069	0.314 ±0.040	0.212 ±0.055	0.421 ±0.053	0.181 ±0.114	0.279 ±0.036	0.179 ±0.068	0.335 ±0.076	0.035 ±0.013	0.042 ±0.027	0.048 ±0.030	0.069 ±0.023	0.178 ±0.036	0.415 ±0.036	0.004 ±0.011	0.440 ±0.015	0.004 ±0.013	0.587 ± 0.021	0.010 ±0.011	0.580 ± 0.034	0.566 ±0.018
	AUC	0.907 ±0.034	0.892 ±0.035	0.840 ±0.031	0.928 ±0.018	0.774 ±0.157	0.824 ±0.026	0.868 ±0.031	0.891 ±0.032	0.658 ±0.012	0.650 ±0.014	0.693 ±0.032	0.659 ±0.012	0.825 ±0.039	0.880 ±0.020	0.516 ±0.023	0.872 ±0.009	0.590 ±0.027	0.963 ± 0.013	0.557 ±0.031	0.936 ± 0.017	0.907 ±0.031
	BAcc	0.373 ±0.067	0.331 ±0.039	0.231 ±0.054	0.435 ±0.052	0.201 ±0.111	0.297 ±0.035	0.199 ±0.066	0.351 ±0.074	0.059 ±0.013	0.066 ±0.026	0.072 ±0.029	0.093 ±0.023	0.199 ±0.035	0.430 ±0.035	0.029 ±0.010	0.454 ±0.015	0.029 ±0.013	0.598 ± 0.021	0.035 ±0.010	0.591 ± 0.033	0.561 ±0.018
	Acc.1	0.373 ±0.067	0.331 ±0.039	0.231 ±0.054	0.435 ±0.052	0.201 ±0.111	0.294 ±0.034	0.197 ±0.066	0.352 ±0.075	0.060 ±0.013	0.068 ±0.028	0.075 ±0.029	0.093 ±0.025	0.199 ±0.037	0.431 ±0.037	0.028 ±0.010	0.454 ±0.011	0.028 ±0.013	0.598 ± 0.019	0.035 ±0.011	0.593 ± 0.035	0.560 ±0.017
	Acc.2	0.529 ±0.077	0.477 ±0.055	0.368 ±0.054	0.588 ±0.043	0.297 ±0.155	0.483 ±0.046	0.360 ±0.061	0.515 ±0.075	0.113 ±0.009	0.140 ±0.043	0.138 ±0.055	0.143 ±0.033	0.311 ±0.060	0.580 ±0.047	0.047 ±0.008	0.619 ±0.033	0.068 ±0.018	0.758 ± 0.044	0.069 ±0.029	0.741 ± 0.026	0.627 ±0.023
	κ	0.415 ±0.068	0.340 ±0.055	0.311 ±0.052	0.424 ±0.046	0.208 ±0.123	0.426 ±0.079	0.331 ±0.026	0.392 ±0.050	0.030 ±0.008	0.035 ±0.017	0.021 ±0.019	0.096 ±0.013	0.195 ±0.027	0.413 ±0.073	0.010 ±0.006	0.461 ±0.063	0.018 ±0.020	0.588 ± 0.054	0.021 ±0.007	0.603 ± 0.068	0.579 ±0.025
	AUC	0.953 ± 0.018	0.927 ±0.031	0.907 ±0.030	0.951 ±0.014	0.822 ±0.181	0.891 ±0.033	0.940 ±0.006	0.916 ±0.020	0.627 ±0.013	0.607 ±0.038	0.621 ±0.018	0.693 ±0.019	0.853 ±0.024	0.876 ±0.046	0.524 ±0.028	0.871 ±0.029	0.584 ±0.030	0.963 ± 0.016	0.627 ±0.030	0.946 ±0.017	0.666 ±0.031
	BAcc	0.430 ±0.066	0.357 ±0.053	0.329 ±0.050	0.438 ±0.045	0.228 ±0.120	0.440 ±0.077	0.348 ±0.026	0.407 ±0.049	0.055 ±0.008	0.059 ±0.017	0.046 ±0.018	0.119 ±0.013	0.215 ±0.026	0.428 ±0.071	0.035 ±0.006	0.475 ±0.062	0.043 ±0.019	0.598 ± 0.053	0.046 ±0.007	0.613 ± 0.067	0.051 ±0.024
	Acc.1	0.430 ±0.066	0.357 ±0.053	0.329 ±0.050	0.438 ±0.045	0.228 ±0.120	0.443 ±0.077	0.349 ±0.027	0.405 ±0.047	0.055 ±0.008	0.062 ±0.018	0.046 ±0.018	0.117 ±0.013	0.217 ±0.025	0.427 ±0.072	0.035 ±0.006	0.476 ±0.061	0.042 ±0.019	0.601 ± 0.052	0.046 ±0.007	0.617 ± 0.064	0.050 ±0.024
	Acc.2	0.626 ±0.079	0.524 ±0.081	0.476 ±0.054	0.646 ±0.084	0.366 ±0.183	0.633 ±0.077	0.569 ±0.036	0.578 ±0.054	0.095 ±0.009	0.109 ±0.027	0.082 ±0.024	0.194 ±0.024	0.331 ±0.029	0.614 ±0.083	0.061 ±0.012	0.638 ±0.069	0.073 ±0.020	0.778 ± 0.059	0.094 ±0.021	0.787 ± 0.071	0.110 ±0.035
Subject18_async	κ	0.386 ±0.020	0.292 ±0.058	0.312 ±0.040	0.523 ±0.031	0.194 ±0.127	0.525 ±0.063	0.386 ±0.045	0.445 ±0.071	0.028 ±0.007	0.055 ±0.028	0.040 ±0.025	0.078 ±0.015	0.172 ±0.049	0.619 ±0.042	0.011 ±0.010	0.592 ±0.065	0.011 ±0.019	0.690 ± 0.026	0.020 ±0.014	0.746 ± 0.034	0.032 ±0.021
	AUC	0.937 ±0.006	0.897 ±0.043	0.912 ±0.008	0.971 ± 0.007	0.808 ±0.173	0.936 ±0.009	0.954 ±0.014	0.925 ±0.023	0.642 ±0.011	0.629 ±0.047	0.687 ±0.020	0.677 ±0.019	0.838 ±0.022	0.953 ±0.009	0.558 ±0.011	0.928 ±0.031	0.635 ±0.043	0.977 ± 0.006	0.664 ±0.036	0.967 ±0.013	0.728 ±0.034
	BAcc	0.401 ±0.019	0.310 ±0.057	0.329 ±0.039	0.535 ±0.030	0.215 ±0.124	0.537 ±0.061	0.401 ±0.044	0.459 ±0.069	0.052 ±0.007	0.078 ±0.027	0.064 ±0.024	0.101 ±0.015	0.192 ±0.048	0.628 ±0.041	0.036 ±0.009	0.602 ±0.063	0.035 ±0.019	0.698 ± 0.025	0.044 ±0.014	0.753 ± 0.033	0.056 ±0.021
	Acc.1	0.401 ±0.019	0.310 ±0.057	0.329 ±0.039	0.535 ±0.030	0.215 ±0.124	0.535 ±0.063	0.397 ±0.044	0.458 ±0.071	0.053 ±0.006	0.079 ±0.028	0.066 ±0.024	0.102 ±0.015	0.193 ±0.046	0.629 ±0.040	0.036 ±0.010	0.601 ±0.062	0.034 ±0.018	0.697 ± 0.023	0.044 ±0.014	0.753 ± 0.032	0.056 ±0.020
	Acc.2	0.401 ±0.019	0.310 ±0.057	0.329 ±0.039	0.535 ±0.030	0.215 ±0.124	0.535 ±0.063	0.397 ±0.044	0.458 ±0.071	0.053 ±0.006	0.079 ±0.028	0.066 ±0.024	0.102 ±0.015	0.193 ±0.046	0.629 ±0.040	0.036 ±0.010	0.601 ±0.062	0.034 ±0.018	0.697 ± 0.023	0.044 ±0.014	0.753 ± 0.032	0.056 ±0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	Unlabeled
Subject19_async	Acc.2	0.571 ±0.027	0.468 ±0.087	0.490 ±0.028	0.755 ±0.049	0.331 ±0.173	0.791 ±0.081	0.646 ±0.061	0.615 ±0.071	0.104 ±0.013	0.141 ±0.035	0.118 ±0.019	0.162 ±0.016	0.300 ±0.063	0.796 ±0.023	0.061 ±0.008	0.750 ±0.052	0.075 ±0.023	0.853 ± 0.035	0.084 ±0.022	0.869 ± 0.029	0.577 ±0.019
	κ	0.208 ±0.029	0.191 ±0.050	0.132 ±0.048	0.292 ±0.047	0.071 ±0.043	0.172 ±0.025	0.134 ±0.035	0.156 ±0.035	0.026 ±0.011	0.076 ±0.039	0.039 ±0.009	0.053 ±0.010	0.107 ±0.023	0.274 ±0.079	0.003 ±0.007	0.262 ±0.055	0.018 ±0.007	0.485 ± 0.041	0.022 ±0.015	0.426 ± 0.058	0.577 ±0.022
	AUC	0.871 ±0.012	0.835 ±0.017	0.803 ±0.040	0.895 ± 0.019	0.706 ±0.117	0.734 ±0.018	0.783 ±0.016	0.762 ±0.028	0.673 ±0.007	0.704 ±0.037	0.714 ±0.018	0.645 ±0.013	0.787 ±0.016	0.807 ±0.029	0.549 ±0.026	0.776 ±0.026	0.656 ±0.028	0.930 ± 0.019	0.641 ±0.053	0.872 ±0.021	0.577 ±0.038
	BAcc	0.228 ±0.028	0.211 ±0.049	0.154 ±0.047	0.310 ±0.046	0.094 ±0.042	0.193 ±0.025	0.155 ±0.034	0.177 ±0.034	0.050 ±0.011	0.099 ±0.038	0.063 ±0.009	0.077 ±0.010	0.129 ±0.023	0.292 ±0.077	0.028 ±0.007	0.280 ±0.054	0.042 ±0.007	0.498 ± 0.040	0.046 ±0.015	0.440 ± 0.057	0.577 ±0.021
	Acc.1	0.228 ±0.028	0.211 ±0.049	0.154 ±0.047	0.310 ±0.046	0.094 ±0.042	0.193 ±0.025	0.154 ±0.034	0.177 ±0.036	0.052 ±0.012	0.099 ±0.039	0.065 ±0.010	0.076 ±0.010	0.130 ±0.023	0.291 ±0.077	0.028 ±0.006	0.278 ±0.052	0.042 ±0.006	0.495 ± 0.042	0.046 ±0.015	0.438 ± 0.055	0.577 ±0.021
	Acc.2	0.362 ±0.019	0.321 ±0.051	0.270 ±0.059	0.451 ±0.049	0.159 ±0.063	0.300 ±0.036	0.283 ±0.038	0.268 ±0.037	0.112 ±0.015	0.174 ±0.044	0.139 ±0.013	0.137 ±0.024	0.218 ±0.028	0.423 ±0.066	0.059 ±0.008	0.420 ±0.041	0.077 ±0.008	0.628 ± 0.043	0.088 ±0.023	0.547 ± 0.060	0.577 ±0.026
Subject1_async	κ	0.219 ±0.043	0.138 ±0.035	0.139 ±0.029	0.261 ±0.056	0.082 ±0.052	0.139 ±0.061	0.164 ±0.035	0.134 ±0.039	0.014 ±0.006	0.018 ±0.029	0.015 ±0.011	0.028 ±0.012	0.079 ±0.031	0.278 ±0.061	0.003 ±0.007	0.278 ±0.023	0.004 ±0.019	0.501 ± 0.046	0.001 ±0.012	0.432 ± 0.044	0.577 ±0.011
	AUC	0.841 ±0.026	0.787 ±0.033	0.776 ±0.019	0.883 ± 0.024	0.696 ±0.112	0.691 ±0.061	0.816 ±0.036	0.743 ±0.055	0.576 ±0.048	0.575 ±0.047	0.589 ±0.056	0.586 ±0.020	0.698 ±0.026	0.798 ±0.033	0.523 ±0.031	0.766 ±0.021	0.575 ±0.026	0.921 ± 0.015	0.557 ±0.026	0.877 ±0.029	0.624 ±0.053
	BAcc	0.238 ±0.042	0.160 ±0.034	0.160 ±0.028	0.280 ±0.054	0.105 ±0.050	0.160 ±0.059	0.185 ±0.034	0.156 ±0.038	0.038 ±0.006	0.043 ±0.028	0.040 ±0.010	0.052 ±0.011	0.102 ±0.030	0.296 ±0.059	0.028 ±0.007	0.296 ±0.022	0.029 ±0.018	0.514 ± 0.044	0.026 ±0.012	0.446 ± 0.043	0.048 ±0.011
	Acc.1	0.238 ±0.042	0.160 ±0.034	0.160 ±0.028	0.280 ±0.054	0.105 ±0.050	0.158 ±0.058	0.185 ±0.033	0.154 ±0.038	0.038 ±0.006	0.042 ±0.027	0.039 ±0.010	0.051 ±0.011	0.102 ±0.030	0.298 ±0.059	0.028 ±0.007	0.296 ±0.024	0.029 ±0.018	0.515 ± 0.047	0.026 ±0.011	0.446 ± 0.041	0.047 ±0.010
	Acc.2	0.366 ±0.059	0.274 ±0.052	0.250 ±0.034	0.453 ±0.059	0.181 ±0.075	0.255 ±0.078	0.322 ±0.055	0.254 ±0.073	0.070 ±0.010	0.083 ±0.034	0.075 ±0.029	0.090 ±0.017	0.178 ±0.045	0.416 ±0.079	0.055 ±0.007	0.419 ±0.016	0.058 ±0.020	0.678 ± 0.034	0.055 ±0.023	0.603 ± 0.058	0.089 ±0.008
	Subject20_async	κ	0.286 ±0.051	0.279 ±0.040	0.256 ±0.049	0.444 ±0.056	0.176 ±0.106	0.356 ±0.054	0.333 ±0.044	0.287 ±0.018	0.057 ±0.018	0.063 ±0.017	0.073 ±0.016	0.100 ±0.026	0.282 ±0.041	0.540 ±0.088	0.010 ±0.012	0.542 ±0.049	0.031 ±0.025	0.660 ± 0.075	0.037 ±0.018	0.637 ± 0.060
AUC		0.890 ±0.012	0.894 ±0.027	0.871 ±0.026	0.942 ±0.011	0.777 ±0.156	0.857 ±0.019	0.913 ±0.017	0.846 ±0.006	0.711 ±0.021	0.671 ±0.025	0.725 ±0.028	0.704 ±0.018	0.881 ±0.010	0.911 ±0.034	0.568 ±0.031	0.898 ±0.027	0.657 ±0.023	0.963 ± 0.014	0.673 ±0.012	0.949 ± 0.016	0.744 ±0.032
BAcc		0.304 ±0.050	0.297 ±0.039	0.275 ±0.047	0.458 ±0.055	0.197 ±0.104	0.372 ±0.053	0.350 ±0.043	0.305 ±0.018	0.080 ±0.018	0.086 ±0.016	0.096 ±0.015	0.122 ±0.025	0.300 ±0.040	0.551 ±0.086	0.035 ±0.012	0.554 ±0.048	0.055 ±0.024	0.668 ± 0.074	0.061 ±0.017	0.646 ± 0.058	0.093 ±0.033
Acc.1		0.304 ±0.050	0.297 ±0.039	0.275 ±0.047	0.458 ±0.055	0.197 ±0.104	0.373 ±0.056	0.350 ±0.046	0.305 ±0.017	0.081 ±0.018	0.087 ±0.015	0.097 ±0.017	0.122 ±0.026	0.301 ±0.042	0.556 ±0.085	0.036 ±0.013	0.554 ±0.050	0.055 ±0.024	0.670 ± 0.073	0.061 ±0.018	0.648 ± 0.061	0.092 ±0.033
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)	STEEGformer-h ^(f)	STEEGformer-h ^(l)	STEEGformer-l ^(f)	Underreview
Subject21_async	Acc.2	0.445 ±0.041	0.441 ±0.057	0.402 ±0.062	0.609 ±0.045	0.303 ±0.149	0.541 ±0.060	0.565 ±0.056	0.431 ±0.010	0.144 ±0.023	0.200 ±0.024	0.175 ±0.025	0.199 ±0.028	0.436 ±0.032	0.684 ±0.074	0.076 ±0.007	0.687 ±0.042	0.093 ±0.031	0.797 ± 0.055	0.102 ±0.018	0.775 ± 0.040	0.751 ±0.022
	κ	0.478 ±0.050	0.406 ±0.038	0.343 ±0.056	0.522 ±0.048	0.208 ±0.117	0.328 ±0.044	0.297 ±0.038	0.433 ±0.015	0.041 ±0.013	0.100 ±0.028	0.009 ±0.007	0.119 ±0.023	0.344 ±0.017	0.522 ±0.066	0.009 ±0.008	0.524 ±0.025	0.046 ±0.027	0.669 ± 0.045	0.040 ±0.017	0.653 ± 0.070	0.711 ±0.032
	AUC	0.962 ±0.008	0.943 ±0.013	0.909 ±0.020	0.965 ± 0.011	0.823 ±0.181	0.838 ±0.014	0.917 ±0.020	0.922 ±0.012	0.690 ±0.024	0.721 ±0.015	0.600 ±0.057	0.731 ±0.020	0.919 ±0.008	0.933 ±0.015	0.561 ±0.023	0.915 ±0.012	0.676 ±0.033	0.968 ± 0.012	0.671 ±0.025	0.956 ±0.010	0.952 ±0.033
	BAcc	0.491 ±0.049	0.421 ±0.037	0.359 ±0.055	0.534 ±0.046	0.228 ±0.114	0.345 ±0.043	0.314 ±0.037	0.447 ±0.014	0.065 ±0.013	0.122 ±0.027	0.034 ±0.007	0.141 ±0.022	0.360 ±0.016	0.534 ±0.064	0.034 ±0.008	0.536 ±0.024	0.070 ±0.027	0.677 ± 0.044	0.064 ±0.017	0.662 ± 0.068	0.744 ±0.031
	Acc.1	0.491 ±0.049	0.421 ±0.037	0.359 ±0.055	0.534 ±0.046	0.228 ±0.114	0.342 ±0.042	0.311 ±0.037	0.447 ±0.017	0.066 ±0.013	0.123 ±0.030	0.038 ±0.010	0.142 ±0.022	0.362 ±0.016	0.532 ±0.062	0.033 ±0.008	0.531 ±0.020	0.069 ±0.026	0.673 ± 0.041	0.063 ±0.017	0.658 ± 0.065	0.733 ±0.031
	Acc.2	0.686 ±0.044	0.594 ±0.051	0.499 ±0.068	0.719 ±0.055	0.356 ±0.172	0.549 ±0.026	0.503 ±0.046	0.590 ±0.028	0.118 ±0.023	0.226 ±0.037	0.082 ±0.016	0.217 ±0.030	0.514 ±0.018	0.704 ±0.048	0.070 ±0.010	0.708 ±0.024	0.116 ±0.021	0.817 ± 0.034	0.108 ±0.015	0.812 ± 0.036	0.739 ±0.031
	κ	0.638 ±0.035	0.549 ±0.063	0.491 ±0.034	0.649 ±0.037	0.299 ±0.182	0.584 ±0.073	0.475 ±0.035	0.528 ±0.053	0.055 ±0.013	0.083 ±0.037	0.041 ±0.007	0.154 ±0.021	0.427 ±0.045	0.560 ±0.029	0.020 ±0.011	0.576 ±0.032	0.024 ±0.012	0.705 ± 0.040	0.032 ±0.020	0.732 ± 0.065	0.725 ±0.038
	AUC	0.982 ± 0.003	0.966 ±0.010	0.958 ±0.009	0.981 ± 0.003	0.840 ±0.191	0.941 ±0.024	0.974 ±0.005	0.958 ±0.011	0.701 ±0.024	0.695 ±0.028	0.675 ±0.017	0.765 ±0.026	0.941 ±0.007	0.938 ±0.008	0.585 ±0.027	0.924 ±0.020	0.657 ±0.035	0.980 ±0.007	0.672 ±0.020	0.975 ±0.016	0.747 ±0.044
	BAcc	0.647 ±0.034	0.560 ±0.061	0.504 ±0.034	0.658 ±0.036	0.317 ±0.177	0.594 ±0.071	0.488 ±0.035	0.540 ±0.051	0.079 ±0.013	0.106 ±0.036	0.065 ±0.007	0.175 ±0.021	0.441 ±0.044	0.571 ±0.028	0.044 ±0.011	0.586 ±0.031	0.049 ±0.011	0.712 ± 0.039	0.056 ±0.019	0.739 ± 0.063	0.069 ±0.008
	Acc.1	0.647 ±0.034	0.560 ±0.061	0.504 ±0.034	0.658 ±0.036	0.317 ±0.177	0.594 ±0.071	0.488 ±0.036	0.540 ±0.049	0.078 ±0.012	0.105 ±0.035	0.066 ±0.007	0.176 ±0.021	0.443 ±0.043	0.575 ±0.030	0.045 ±0.012	0.589 ±0.029	0.050 ±0.012	0.714 ± 0.038	0.056 ±0.020	0.742 ± 0.063	0.068 ±0.008
	Acc.2	0.818 ±0.023	0.734 ±0.051	0.662 ±0.028	0.847 ±0.030	0.450 ±0.232	0.829 ±0.047	0.754 ±0.043	0.710 ±0.043	0.135 ±0.018	0.197 ±0.026	0.122 ±0.007	0.280 ±0.038	0.611 ±0.025	0.745 ±0.014	0.080 ±0.009	0.752 ±0.058	0.104 ±0.018	0.868 ± 0.023	0.102 ±0.025	0.885 ± 0.040	0.119 ±0.010
Subject23_async	κ	0.028 ±0.017	0.039 ±0.017	0.041 ±0.015	0.033 ±0.016	0.021 ±0.017	0.039 ±0.025	0.009 ±0.013	0.022 ±0.011	0.025 ±0.012	0.042 ±0.024	0.026 ±0.012	0.035 ±0.008	0.058 ±0.019	0.052 ±0.023	0.004 ±0.005	0.080 ±0.057	0.007 ±0.008	0.087 ± 0.049	-0.002 ±0.009	0.092 ± 0.038	0.003 ±0.011
	AUC	0.693 ± 0.034	0.689 ±0.035	0.690 ±0.030	0.671 ±0.032	0.592 ±0.057	0.592 ±0.028	0.533 ±0.014	0.602 ±0.025	0.658 ±0.024	0.620 ±0.063	0.678 ±0.014	0.602 ±0.013	0.693 ± 0.026	0.641 ±0.034	0.529 ±0.008	0.612 ±0.056	0.556 ±0.017	0.661 ±0.052	0.536 ±0.029	0.668 ±0.052	0.564 ±0.037
	BAcc	0.052 ±0.016	0.063 ±0.016	0.065 ±0.015	0.057 ±0.016	0.045 ±0.017	0.063 ±0.024	0.034 ±0.013	0.046 ±0.011	0.050 ±0.012	0.066 ±0.024	0.050 ±0.012	0.059 ±0.008	0.082 ±0.018	0.076 ±0.023	0.029 ±0.005	0.103 ±0.056	0.032 ±0.008	0.110 ± 0.048	0.023 ±0.009	0.115 ± 0.037	0.028 ±0.011
	Acc.1	0.052 ±0.016	0.063 ±0.016	0.065 ±0.015	0.057 ±0.016	0.045 ±0.017	0.063 ±0.024	0.034 ±0.012	0.047 ±0.012	0.050 ±0.012	0.066 ±0.024	0.051 ±0.012	0.059 ±0.008	0.085 ±0.018	0.076 ±0.023	0.029 ±0.005	0.102 ±0.055	0.032 ±0.007	0.109 ± 0.047	0.023 ±0.009	0.114 ± 0.038	0.027 ±0.011

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Univariate
Subject24_async	Acc.2	0.104 ±0.019	0.115 ±0.007	0.111 ±0.013	0.113 ±0.010	0.085 ±0.023	0.125 ±0.026	0.072 ±0.012	0.093 ±0.016	0.100 ±0.016	0.127 ±0.042	0.106 ±0.017	0.105 ±0.006	0.142 ±0.015	0.155 ±0.041	0.066 ±0.011	0.177 ±0.063	0.061 ±0.014	0.196 ± 0.066	0.050 ±0.009	0.210 ± 0.072	0.260 ±0.008	
	κ	0.088 ±0.021	0.061 ±0.008	0.100 ±0.006	0.114 ±0.018	0.032 ±0.021	0.073 ±0.033	0.059 ±0.024	0.058 ±0.028	0.029 ±0.005	0.060 ±0.013	0.034 ±0.007	0.032 ±0.017	0.084 ±0.016	0.275 ±0.055	0.007 ±0.011	0.265 ±0.036	0.025 ±0.016	0.431 ± 0.064	-0.000 ±0.011	0.395 ± 0.042	0.422 ±0.026	
	AUC	0.728 ±0.019	0.714 ±0.031	0.739 ±0.025	0.773 ±0.016	0.636 ±0.082	0.640 ±0.038	0.695 ±0.014	0.641 ±0.026	0.619 ±0.026	0.629 ±0.034	0.684 ±0.009	0.612 ±0.007	0.757 ±0.017	0.796 ±0.033	0.545 ±0.017	0.775 ±0.024	0.630 ±0.034	0.914 ± 0.016	0.635 ±0.021	0.864 ± 0.024	0.833 ±0.021	
	BAcc	0.111 ±0.021	0.084 ±0.008	0.123 ±0.006	0.136 ±0.018	0.056 ±0.020	0.096 ±0.032	0.082 ±0.023	0.082 ±0.027	0.054 ±0.005	0.083 ±0.013	0.058 ±0.007	0.056 ±0.017	0.107 ±0.016	0.293 ±0.053	0.031 ±0.010	0.283 ±0.035	0.049 ±0.015	0.445 ± 0.063	0.025 ±0.011	0.410 ± 0.041	0.466 ±0.026	
	Acc.1	0.111 ±0.021	0.084 ±0.008	0.123 ±0.006	0.136 ±0.018	0.056 ±0.020	0.097 ±0.034	0.082 ±0.024	0.082 ±0.028	0.053 ±0.005	0.085 ±0.015	0.061 ±0.009	0.056 ±0.017	0.107 ±0.016	0.295 ±0.052	0.032 ±0.010	0.284 ±0.037	0.048 ±0.015	0.447 ± 0.062	0.024 ±0.010	0.413 ± 0.041	0.466 ±0.025	
	Acc.2	0.182 ±0.026	0.155 ±0.017	0.209 ±0.010	0.220 ±0.020	0.116 ±0.039	0.174 ±0.038	0.151 ±0.030	0.150 ±0.035	0.100 ±0.008	0.146 ±0.026	0.120 ±0.015	0.104 ±0.023	0.177 ±0.025	0.417 ±0.064	0.062 ±0.008	0.399 ±0.028	0.080 ±0.018	0.602 ± 0.057	0.061 ±0.010	0.561 ± 0.041	0.605 ±0.022	
Subject25_async	κ	0.056 ±0.012	0.055 ±0.019	0.042 ±0.017	0.041 ±0.015	0.056 ±0.035	0.098 ±0.028	0.009 ±0.009	0.137 ±0.033	0.018 ±0.005	0.154 ±0.028	0.059 ±0.015	0.046 ±0.020	0.067 ±0.020	0.202 ±0.028	0.007 ±0.010	0.236 ±0.024	0.027 ±0.017	0.334 ± 0.020	0.010 ±0.010	0.334 ± 0.041	0.291 ±0.012	
	AUC	0.767 ±0.015	0.735 ±0.030	0.783 ±0.021	0.684 ±0.027	0.725 ±0.128	0.670 ±0.040	0.579 ±0.042	0.732 ±0.019	0.600 ±0.013	0.766 ±0.031	0.781 ±0.013	0.655 ±0.022	0.723 ±0.017	0.757 ±0.026	0.571 ±0.051	0.746 ±0.024	0.638 ±0.042	0.841 ± 0.005	0.595 ±0.035	0.837 ± 0.014	0.655 ±0.038	
	BAcc	0.080 ±0.011	0.078 ±0.018	0.066 ±0.017	0.065 ±0.015	0.080 ±0.034	0.121 ±0.027	0.034 ±0.009	0.158 ±0.032	0.042 ±0.005	0.175 ±0.027	0.082 ±0.015	0.070 ±0.020	0.090 ±0.019	0.222 ±0.027	0.032 ±0.010	0.255 ±0.024	0.051 ±0.017	0.350 ± 0.020	0.035 ±0.010	0.351 ± 0.040	0.046 ±0.012	
	Acc.1	0.080 ±0.011	0.078 ±0.018	0.066 ±0.017	0.065 ±0.015	0.080 ±0.034	0.120 ±0.028	0.036 ±0.010	0.160 ±0.036	0.042 ±0.006	0.177 ±0.025	0.081 ±0.016	0.069 ±0.020	0.093 ±0.020	0.225 ±0.027	0.032 ±0.010	0.256 ±0.028	0.052 ±0.016	0.351 ± 0.020	0.036 ±0.011	0.355 ± 0.040	0.045 ±0.013	
	Acc.2	0.158 ±0.014	0.138 ±0.034	0.146 ±0.025	0.122 ±0.029	0.151 ±0.059	0.223 ±0.059	0.078 ±0.021	0.259 ±0.033	0.078 ±0.005	0.282 ±0.042	0.178 ±0.015	0.129 ±0.024	0.159 ±0.023	0.348 ±0.033	0.070 ±0.020	0.379 ±0.046	0.086 ±0.014	0.475 ± 0.036	0.066 ±0.009	0.478 ± 0.043	0.106 ±0.024	
	Subject26_async	κ	0.158 ±0.057	0.164 ±0.050	0.170 ±0.028	0.324 ±0.019	0.124 ±0.070	0.399 ±0.032	0.191 ±0.051	0.313 ±0.052	0.029 ±0.010	0.037 ±0.006	0.041 ±0.017	0.063 ±0.024	0.095 ±0.012	0.299 ±0.032	0.007 ±0.008	0.334 ±0.037	0.015 ±0.013	0.585 ± 0.039	0.014 ±0.014	0.571 ± 0.025	0.035 ±0.010
AUC		0.831 ±0.021	0.835 ±0.032	0.845 ±0.021	0.912 ±0.015	0.750 ±0.141	0.882 ±0.014	0.849 ±0.022	0.867 ±0.025	0.668 ±0.015	0.638 ±0.018	0.683 ±0.021	0.650 ±0.022	0.802 ±0.016	0.817 ±0.020	0.544 ±0.015	0.815 ±0.021	0.600 ±0.025	0.958 ± 0.010	0.631 ±0.025	0.941 ± 0.013	0.678 ±0.022	
BAcc		0.179 ±0.056	0.185 ±0.048	0.191 ±0.027	0.341 ±0.018	0.145 ±0.068	0.414 ±0.032	0.211 ±0.050	0.330 ±0.050	0.053 ±0.009	0.061 ±0.006	0.065 ±0.017	0.087 ±0.023	0.117 ±0.012	0.317 ±0.031	0.031 ±0.008	0.351 ±0.036	0.040 ±0.013	0.595 ± 0.038	0.038 ±0.014	0.582 ± 0.024	0.060 ±0.010	
Acc.1		0.179 ±0.056	0.185 ±0.048	0.191 ±0.027	0.341 ±0.018	0.145 ±0.068	0.414 ±0.032	0.212 ±0.051	0.331 ±0.050	0.054 ±0.010	0.064 ±0.005	0.066 ±0.017	0.088 ±0.025	0.119 ±0.013	0.318 ±0.034	0.032 ±0.008	0.353 ±0.039	0.040 ±0.013	0.594 ± 0.037	0.039 ±0.014	0.581 ± 0.026	0.060 ±0.010	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Univariate
Subject27_async	Acc.2	0.299 ±0.063	0.285 ±0.042	0.312 ±0.043	0.517 ±0.028	0.239 ±0.108	0.612 ±0.049	0.362 ±0.078	0.477 ±0.066	0.106 ±0.020	0.128 ±0.015	0.118 ±0.031	0.143 ±0.032	0.225 ±0.028	0.450 ±0.040	0.057 ±0.017	0.495 ±0.050	0.082 ±0.021	0.755 ± 0.013	0.081 ±0.023	0.740 ± 0.031	0.507 ±0.016	
		κ	0.166 ±0.052	0.125 ±0.043	0.111 ±0.049	0.182 ±0.039	0.059 ±0.038	0.093 ±0.026	0.081 ±0.014	0.131 ±0.039	0.032 ±0.013	0.041 ±0.021	0.037 ±0.024	0.019 ±0.010	0.109 ±0.025	0.186 ±0.031	-0.003 ±0.007	0.156 ±0.035	-0.000 ±0.012	0.283 ± 0.033	0.010 ±0.013	0.248 ± 0.020	0.308 ±0.016
	AUC	0.816 ± 0.018	0.783 ±0.031	0.756 ±0.018	0.815 ±0.013	0.679 ±0.101	0.638 ±0.011	0.728 ±0.037	0.736 ±0.036	0.639 ±0.020	0.626 ±0.019	0.666 ±0.018	0.601 ±0.031	0.760 ±0.025	0.746 ±0.021	0.506 ±0.007	0.688 ±0.025	0.556 ±0.021	0.825 ± 0.020	0.535 ±0.036	0.781 ±0.018	0.777 ±0.026	
		BAcc	0.187 ±0.051	0.147 ±0.042	0.133 ±0.048	0.203 ±0.038	0.082 ±0.037	0.116 ±0.026	0.104 ±0.013	0.152 ±0.038	0.056 ±0.013	0.065 ±0.020	0.061 ±0.024	0.044 ±0.009	0.131 ±0.024	0.207 ±0.031	0.022 ±0.007	0.177 ±0.034	0.025 ±0.012	0.300 ± 0.032	0.035 ±0.013	0.267 ± 0.020	0.322 ±0.016
	Acc.1	0.187 ±0.051	0.147 ±0.042	0.133 ±0.048	0.203 ±0.038	0.082 ±0.037	0.115 ±0.025	0.105 ±0.013	0.152 ±0.039	0.056 ±0.013	0.064 ±0.019	0.061 ±0.023	0.044 ±0.010	0.130 ±0.024	0.205 ±0.031	0.022 ±0.007	0.178 ±0.035	0.025 ±0.012	0.300 ± 0.030	0.036 ±0.013	0.267 ± 0.019	0.322 ±0.015	
		Acc.2	0.298 ±0.066	0.268 ±0.056	0.216 ±0.059	0.311 ±0.053	0.146 ±0.065	0.175 ±0.030	0.183 ±0.019	0.241 ±0.053	0.100 ±0.014	0.118 ±0.028	0.118 ±0.027	0.089 ±0.020	0.220 ±0.033	0.310 ±0.046	0.045 ±0.011	0.288 ±0.042	0.053 ±0.009	0.432 ± 0.039	0.066 ±0.018	0.382 ± 0.014	0.328 ±0.022
	Subject28_async	κ	0.186 ± 0.074	0.131 ±0.043	0.126 ±0.032	0.221 ± 0.079	0.069 ±0.048	0.105 ±0.023	0.087 ±0.041	0.099 ±0.031	0.028 ±0.017	0.076 ±0.025	0.027 ±0.021	0.024 ±0.013	0.103 ±0.045	0.121 ±0.060	0.010 ±0.009	0.125 ±0.066	0.022 ±0.015	0.173 ±0.058	0.029 ±0.013	0.166 ±0.064	0.237 ±0.023
			AUC	0.828 ± 0.041	0.794 ±0.021	0.793 ±0.040	0.824 ± 0.041	0.681 ±0.106	0.650 ±0.049	0.708 ±0.041	0.701 ±0.023	0.645 ±0.014	0.696 ±0.038	0.618 ±0.043	0.578 ±0.020	0.765 ±0.030	0.709 ±0.054	0.560 ±0.042	0.661 ±0.039	0.636 ±0.024	0.759 ±0.040	0.607 ±0.026	0.746 ±0.028
		BAcc	0.206 ± 0.072	0.153 ±0.042	0.148 ±0.031	0.240 ± 0.077	0.092 ±0.047	0.128 ±0.022	0.110 ±0.040	0.122 ±0.031	0.052 ±0.017	0.100 ±0.025	0.051 ±0.021	0.048 ±0.012	0.125 ±0.044	0.143 ±0.059	0.035 ±0.009	0.147 ±0.064	0.047 ±0.015	0.194 ±0.057	0.054 ±0.013	0.187 ±0.062	0.067 ±0.023
			Acc.1	0.206 ± 0.072	0.153 ±0.042	0.148 ±0.031	0.240 ± 0.077	0.092 ±0.047	0.128 ±0.022	0.109 ±0.039	0.124 ±0.032	0.052 ±0.017	0.101 ±0.022	0.052 ±0.022	0.048 ±0.012	0.125 ±0.045	0.144 ±0.059	0.036 ±0.010	0.147 ±0.066	0.046 ±0.015	0.195 ±0.058	0.054 ±0.012	0.187 ±0.064
Acc.2		0.334 ± 0.099	0.260 ±0.048	0.259 ±0.041	0.352 ± 0.089	0.160 ±0.081	0.205 ±0.036	0.191 ±0.059	0.207 ±0.033	0.110 ±0.011	0.179 ±0.022	0.088 ±0.023	0.093 ±0.011	0.224 ±0.052	0.247 ±0.079	0.066 ±0.017	0.221 ±0.075	0.090 ±0.019	0.296 ±0.088	0.091 ±0.016	0.296 ±0.080	0.120 ±0.032	
		Subject29_async	κ	0.059 ±0.028	0.053 ±0.023	0.051 ±0.026	0.051 ±0.014	0.039 ±0.035	0.026 ±0.012	0.017 ±0.014	0.032 ±0.013	0.020 ±0.014	0.049 ±0.024	0.042 ±0.020	0.021 ±0.011	0.058 ±0.025	0.080 ±0.021	0.002 ±0.009	0.065 ±0.034	0.019 ±0.016	0.117 ± 0.027	0.010 ±0.024	0.097 ± 0.040
AUC	0.680 ±0.042			0.676 ±0.041	0.651 ±0.020	0.643 ±0.028	0.623 ±0.072	0.553 ±0.024	0.545 ±0.026	0.600 ±0.024	0.598 ±0.030	0.607 ±0.035	0.658 ±0.021	0.584 ±0.024	0.694 ± 0.026	0.631 ±0.038	0.524 ±0.019	0.598 ±0.029	0.566 ±0.033	0.700 ± 0.023	0.546 ±0.019	0.665 ±0.036	0.563 ±0.023
BAcc	0.083 ±0.028		0.077 ±0.023	0.075 ±0.026	0.075 ±0.014	0.063 ±0.034	0.050 ±0.011	0.042 ±0.014	0.056 ±0.012	0.044 ±0.014	0.073 ±0.023	0.066 ±0.020	0.046 ±0.011	0.081 ±0.024	0.103 ±0.021	0.027 ±0.009	0.088 ±0.033	0.043 ±0.015	0.140 ± 0.026	0.035 ±0.023	0.120 ± 0.039	0.033 ±0.015	
	Acc.1		0.083 ±0.028	0.077 ±0.023	0.075 ±0.026	0.075 ±0.014	0.063 ±0.034	0.051 ±0.011	0.042 ±0.014	0.056 ±0.013	0.044 ±0.013	0.073 ±0.023	0.067 ±0.020	0.047 ±0.011	0.082 ±0.024	0.105 ±0.020	0.027 ±0.008	0.090 ±0.034	0.044 ±0.015	0.140 ± 0.028	0.036 ±0.023	0.122 ± 0.039	0.033 ±0.014
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)	STEEGformer-h ^(f)	STEEGformer-h ^(l)	STEEGformer-l ^(f)	Unlabeled
Subject2_async	Acc.2	0.136 ±0.037	0.149 ±0.030	0.130 ±0.038	0.138 ±0.027	0.115 ±0.055	0.089 ±0.018	0.078 ±0.027	0.108 ±0.027	0.085 ±0.018	0.137 ±0.035	0.117 ±0.016	0.095 ±0.009	0.156 ±0.033	0.184 ±0.044	0.058 ±0.015	0.153 ±0.045	0.076 ±0.018	0.237 ± 0.031	0.071 ±0.025	0.203 ± 0.039	0.257 ±0.013
	κ	0.076 ±0.030	0.089 ±0.025	0.103 ±0.025	0.148 ±0.080	0.049 ±0.040	0.146 ±0.028	0.102 ±0.043	0.053 ±0.015	0.023 ±0.013	0.031 ±0.017	0.032 ±0.025	0.024 ±0.009	0.069 ±0.018	0.168 ±0.042	0.012 ±0.012	0.126 ±0.038	0.012 ±0.012	0.297 ± 0.047	0.022 ±0.020	0.225 ± 0.020	0.256 ±0.008
	AUC	0.760 ±0.016	0.738 ±0.020	0.758 ±0.017	0.811 ± 0.030	0.656 ±0.092	0.701 ±0.018	0.745 ±0.042	0.636 ±0.021	0.600 ±0.020	0.621 ±0.048	0.644 ±0.055	0.573 ±0.013	0.723 ±0.047	0.721 ±0.014	0.525 ±0.028	0.672 ±0.030	0.596 ±0.037	0.829 ± 0.023	0.597 ±0.041	0.784 ±0.023	0.766 ±0.037
	BAcc	0.100 ±0.029	0.112 ±0.024	0.125 ±0.025	0.170 ±0.078	0.073 ±0.039	0.168 ±0.027	0.124 ±0.042	0.077 ±0.015	0.048 ±0.013	0.055 ±0.016	0.056 ±0.024	0.048 ±0.009	0.092 ±0.017	0.189 ±0.041	0.037 ±0.012	0.148 ±0.037	0.037 ±0.012	0.315 ± 0.045	0.046 ±0.020	0.244 ± 0.019	0.251 ±0.008
	Acc.1	0.100 ±0.029	0.112 ±0.024	0.125 ±0.025	0.170 ±0.078	0.073 ±0.039	0.167 ±0.028	0.123 ±0.042	0.077 ±0.016	0.048 ±0.014	0.055 ±0.016	0.058 ±0.024	0.048 ±0.009	0.093 ±0.017	0.190 ±0.042	0.037 ±0.012	0.149 ±0.036	0.037 ±0.012	0.313 ± 0.046	0.046 ±0.020	0.244 ± 0.019	0.251 ±0.008
	Acc.2	0.188 ±0.030	0.187 ±0.037	0.196 ±0.033	0.284 ±0.095	0.128 ±0.052	0.264 ±0.027	0.219 ±0.035	0.135 ±0.024	0.084 ±0.026	0.111 ±0.025	0.113 ±0.035	0.085 ±0.018	0.158 ±0.034	0.284 ±0.045	0.071 ±0.015	0.246 ±0.044	0.076 ±0.010	0.455 ± 0.038	0.087 ±0.033	0.393 ± 0.022	0.277 ±0.015
	κ	0.241 ±0.048	0.167 ±0.052	0.130 ±0.035	0.253 ± 0.041	0.111 ±0.069	0.145 ±0.025	0.119 ±0.036	0.148 ±0.026	0.042 ±0.023	0.031 ±0.026	0.058 ±0.021	0.070 ±0.020	0.131 ±0.007	0.172 ±0.014	-0.001 ±0.007	0.152 ±0.026	0.018 ±0.016	0.285 ± 0.034	0.019 ±0.017	0.245 ±0.038	0.256 ±0.014
	AUC	0.848 ± 0.024	0.829 ±0.034	0.778 ±0.028	0.860 ± 0.028	0.731 ±0.132	0.707 ±0.017	0.763 ±0.022	0.761 ±0.020	0.682 ±0.035	0.599 ±0.048	0.716 ±0.040	0.675 ±0.025	0.803 ±0.020	0.717 ±0.011	0.530 ±0.015	0.679 ±0.019	0.599 ±0.054	0.832 ±0.027	0.603 ±0.044	0.790 ±0.025	0.632 ±0.036
	BAcc	0.260 ±0.047	0.188 ±0.051	0.152 ±0.034	0.271 ± 0.040	0.133 ±0.067	0.167 ±0.025	0.141 ±0.035	0.170 ±0.025	0.066 ±0.022	0.055 ±0.026	0.081 ±0.021	0.093 ±0.019	0.152 ±0.007	0.192 ±0.014	0.024 ±0.007	0.173 ±0.026	0.043 ±0.015	0.303 ± 0.033	0.043 ±0.017	0.264 ±0.037	0.040 ±0.013
	Acc.1	0.260 ±0.047	0.188 ±0.051	0.152 ±0.034	0.271 ± 0.040	0.133 ±0.067	0.167 ±0.024	0.141 ±0.035	0.170 ±0.026	0.066 ±0.022	0.056 ±0.026	0.083 ±0.019	0.093 ±0.020	0.154 ±0.008	0.192 ±0.010	0.024 ±0.006	0.174 ±0.026	0.042 ±0.015	0.304 ± 0.033	0.044 ±0.018	0.269 ±0.039	0.040 ±0.013
	Acc.2	0.381 ±0.048	0.305 ±0.058	0.253 ±0.060	0.409 ± 0.039	0.210 ±0.100	0.267 ±0.029	0.230 ±0.040	0.279 ±0.027	0.122 ±0.030	0.114 ±0.037	0.151 ±0.023	0.151 ±0.013	0.273 ±0.016	0.287 ±0.016	0.054 ±0.010	0.257 ±0.020	0.083 ±0.026	0.433 ± 0.044	0.080 ±0.020	0.380 ±0.054	0.077 ±0.015
Subject31_async	κ	0.311 ±0.037	0.234 ±0.035	0.228 ±0.029	0.301 ±0.036	0.103 ±0.063	0.113 ±0.038	0.116 ±0.035	0.200 ±0.030	0.024 ±0.020	0.059 ±0.030	0.002 ±0.012	0.059 ±0.006	0.166 ±0.039	0.197 ±0.032	0.004 ±0.008	0.266 ±0.046	0.014 ±0.014	0.399 ± 0.082	0.026 ±0.016	0.388 ± 0.074	0.045 ±0.033
	AUC	0.880 ±0.032	0.856 ±0.033	0.827 ±0.020	0.880 ± 0.027	0.750 ±0.140	0.663 ±0.018	0.750 ±0.035	0.798 ±0.019	0.674 ±0.018	0.661 ±0.036	0.556 ±0.051	0.653 ±0.013	0.829 ±0.031	0.765 ±0.027	0.526 ±0.022	0.767 ±0.031	0.619 ±0.068	0.880 ± 0.038	0.611 ±0.048	0.859 ±0.038	0.668 ±0.081
	BAcc	0.328 ±0.036	0.253 ±0.034	0.247 ±0.028	0.319 ±0.035	0.125 ±0.062	0.135 ±0.037	0.138 ±0.035	0.220 ±0.029	0.048 ±0.020	0.082 ±0.029	0.027 ±0.012	0.082 ±0.006	0.187 ±0.038	0.217 ±0.031	0.029 ±0.008	0.285 ±0.045	0.039 ±0.013	0.414 ± 0.080	0.050 ±0.016	0.403 ± 0.072	0.069 ±0.032
	Acc.1	0.328 ±0.036	0.253 ±0.034	0.247 ±0.028	0.319 ±0.035	0.125 ±0.062	0.135 ±0.038	0.138 ±0.034	0.220 ±0.028	0.049 ±0.020	0.083 ±0.029	0.029 ±0.013	0.083 ±0.006	0.188 ±0.036	0.218 ±0.033	0.028 ±0.007	0.287 ±0.042	0.039 ±0.014	0.418 ± 0.078	0.050 ±0.014	0.406 ± 0.068	0.068 ±0.031
	Acc.2	0.328 ±0.036	0.253 ±0.034	0.247 ±0.028	0.319 ±0.035	0.125 ±0.062	0.135 ±0.038	0.138 ±0.034	0.220 ±0.028	0.049 ±0.020	0.083 ±0.029	0.029 ±0.013	0.083 ±0.006	0.188 ±0.036	0.218 ±0.033	0.028 ±0.007	0.287 ±0.042	0.039 ±0.014	0.418 ± 0.078	0.050 ±0.014	0.406 ± 0.068	0.068 ±0.031

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Unlabeled
Subject32_async	Acc.2	0.472 ±0.047	0.380 ±0.046	0.368 ±0.036	0.475 ±0.041	0.213 ±0.093	0.216 ±0.036	0.226 ±0.034	0.334 ±0.021	0.104 ±0.027	0.150 ±0.047	0.074 ±0.024	0.149 ±0.012	0.314 ±0.065	0.338 ±0.043	0.056 ±0.011	0.402 ±0.056	0.092 ±0.015	0.563 ± 0.079	0.098 ±0.019	0.543 ± 0.072	0.39 ±0.049	
	κ	0.642 ±0.041	0.481 ±0.027	0.500 ±0.056	0.664 ±0.025	0.389 ±0.218	0.647 ±0.027	0.501 ±0.028	0.616 ±0.033	0.042 ±0.021	0.079 ±0.034	0.045 ±0.016	0.197 ±0.021	0.384 ±0.024	0.658 ±0.015	0.014 ±0.005	0.631 ±0.053	0.015 ±0.019	0.735 ± 0.046	0.039 ±0.021	0.778 ± 0.050	0.66 ±0.029	
	AUC	0.987 ±0.004	0.966 ±0.013	0.971 ±0.004	0.989 ± 0.001	0.872 ±0.208	0.959 ±0.009	0.982 ±0.005	0.976 ±0.005	0.663 ±0.017	0.670 ±0.033	0.621 ±0.030	0.800 ±0.011	0.923 ±0.006	0.966 ±0.011	0.575 ±0.014	0.939 ±0.018	0.627 ±0.049	0.988 ± 0.004	0.676 ±0.034	0.980 ±0.009	0.70 ±0.016	
	BAcc	0.651 ±0.040	0.494 ±0.026	0.513 ±0.055	0.673 ±0.024	0.404 ±0.213	0.655 ±0.026	0.514 ±0.028	0.625 ±0.032	0.066 ±0.021	0.102 ±0.033	0.069 ±0.015	0.217 ±0.020	0.399 ±0.023	0.666 ±0.015	0.039 ±0.005	0.640 ±0.052	0.040 ±0.018	0.741 ± 0.045	0.063 ±0.020	0.784 ± 0.049	0.69 ±0.028	
	Acc.1	0.651 ±0.040	0.494 ±0.026	0.513 ±0.055	0.673 ±0.024	0.404 ±0.213	0.655 ±0.029	0.515 ±0.029	0.623 ±0.033	0.066 ±0.021	0.104 ±0.033	0.068 ±0.014	0.217 ±0.019	0.397 ±0.025	0.667 ±0.015	0.040 ±0.004	0.639 ±0.055	0.039 ±0.018	0.742 ± 0.044	0.063 ±0.020	0.784 ± 0.050	0.68 ±0.027	
	Acc.2	0.845 ±0.026	0.690 ±0.035	0.701 ±0.049	0.875 ±0.017	0.552 ±0.281	0.907 ± 0.017	0.801 ±0.041	0.812 ±0.026	0.106 ±0.030	0.167 ±0.044	0.111 ±0.020	0.328 ±0.028	0.557 ±0.029	0.835 ±0.032	0.078 ±0.010	0.804 ±0.044	0.092 ±0.025	0.903 ±0.031	0.116 ±0.027	0.911 ± 0.021	0.74 ±0.033	
Subject33_async	κ	0.432 ±0.052	0.338 ±0.033	0.271 ±0.055	0.462 ±0.033	0.171 ±0.096	0.307 ±0.031	0.207 ±0.023	0.381 ±0.041	0.034 ±0.006	0.076 ±0.015	0.025 ±0.010	0.059 ±0.018	0.192 ±0.030	0.431 ±0.053	0.006 ±0.009	0.454 ±0.034	0.021 ±0.008	0.655 ± 0.044	0.028 ±0.017	0.604 ± 0.043	0.69 ±0.009	
	AUC	0.935 ±0.015	0.915 ±0.020	0.886 ±0.030	0.945 ± 0.015	0.775 ±0.154	0.826 ±0.017	0.882 ±0.018	0.905 ±0.017	0.668 ±0.020	0.660 ±0.043	0.675 ±0.043	0.662 ±0.005	0.835 ±0.011	0.895 ±0.017	0.557 ±0.009	0.870 ±0.029	0.670 ±0.013	0.970 ± 0.006	0.665 ±0.016	0.944 ±0.020	0.698 ±0.009	
	BAcc	0.446 ±0.051	0.354 ±0.032	0.290 ±0.053	0.476 ±0.032	0.192 ±0.094	0.325 ±0.030	0.226 ±0.023	0.396 ±0.040	0.058 ±0.006	0.099 ±0.015	0.050 ±0.009	0.082 ±0.018	0.212 ±0.029	0.445 ±0.051	0.031 ±0.008	0.467 ±0.033	0.045 ±0.008	0.664 ± 0.043	0.052 ±0.017	0.614 ± 0.042	0.063 ±0.009	
	Acc.1	0.446 ±0.051	0.354 ±0.032	0.290 ±0.053	0.476 ±0.032	0.192 ±0.094	0.323 ±0.031	0.224 ±0.023	0.394 ±0.039	0.059 ±0.006	0.099 ±0.014	0.050 ±0.009	0.083 ±0.018	0.211 ±0.028	0.447 ±0.050	0.031 ±0.008	0.467 ±0.031	0.044 ±0.008	0.663 ± 0.045	0.051 ±0.016	0.613 ± 0.042	0.062 ±0.009	
	Acc.2	0.619 ±0.050	0.522 ±0.044	0.448 ±0.070	0.642 ±0.039	0.298 ±0.142	0.484 ±0.035	0.400 ±0.031	0.543 ±0.048	0.113 ±0.003	0.178 ±0.029	0.090 ±0.025	0.157 ±0.026	0.340 ±0.053	0.597 ±0.041	0.061 ±0.004	0.610 ±0.056	0.089 ±0.010	0.803 ± 0.026	0.095 ±0.014	0.753 ± 0.038	0.121 ±0.021	
	Subject34_async	κ	0.324 ±0.052	0.262 ±0.070	0.182 ±0.030	0.344 ±0.071	0.119 ±0.072	0.166 ±0.044	0.119 ±0.044	0.391 ±0.027	0.039 ±0.014	0.048 ±0.022	0.040 ±0.019	0.102 ±0.027	0.261 ±0.037	0.297 ±0.075	0.003 ±0.010	0.345 ±0.059	0.011 ±0.013	0.449 ± 0.055	0.002 ±0.008	0.462 ± 0.035	0.027 ±0.020
AUC		0.895 ±0.022	0.881 ±0.021	0.809 ±0.015	0.897 ±0.026	0.743 ±0.140	0.720 ±0.029	0.759 ±0.050	0.897 ±0.024	0.657 ±0.025	0.639 ±0.036	0.664 ±0.026	0.695 ±0.022	0.863 ±0.028	0.822 ±0.025	0.508 ±0.045	0.830 ±0.025	0.571 ±0.024	0.912 ± 0.016	0.574 ±0.022	0.899 ± 0.016	0.626 ±0.036	
BAcc		0.341 ±0.051	0.280 ±0.068	0.203 ±0.030	0.360 ±0.069	0.141 ±0.070	0.187 ±0.043	0.141 ±0.043	0.406 ±0.026	0.063 ±0.013	0.072 ±0.021	0.064 ±0.018	0.125 ±0.026	0.280 ±0.036	0.315 ±0.073	0.028 ±0.010	0.361 ±0.058	0.036 ±0.013	0.463 ± 0.054	0.027 ±0.008	0.476 ± 0.034	0.051 ±0.019	
Acc.1		0.341 ±0.051	0.280 ±0.068	0.203 ±0.030	0.360 ±0.069	0.141 ±0.070	0.189 ±0.046	0.140 ±0.042	0.409 ±0.024	0.066 ±0.014	0.074 ±0.023	0.068 ±0.021	0.125 ±0.024	0.281 ±0.037	0.315 ±0.073	0.027 ±0.010	0.361 ±0.057	0.035 ±0.013	0.464 ± 0.053	0.027 ±0.008	0.476 ± 0.033	0.051 ±0.020	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Uncertainty
Subject35_async	Acc.2	0.500 ±0.053	0.424 ±0.065	0.326 ±0.028	0.539 ±0.073	0.229 ±0.106	0.292 ±0.059	0.246 ±0.055	0.552 ±0.018	0.119 ±0.021	0.136 ±0.031	0.114 ±0.026	0.191 ±0.037	0.411 ±0.049	0.463 ±0.065	0.054 ±0.007	0.511 ±0.045	0.064 ±0.011	0.640 ± 0.056	0.059 ±0.017	0.646 ± 0.038	0.511 ±0.022	
	κ	0.258 ±0.059	0.204 ±0.033	0.212 ±0.056	0.286 ±0.056	0.180 ±0.103	0.217 ±0.071	0.160 ±0.075	0.224 ±0.042	0.032 ±0.010	0.063 ±0.008	0.021 ±0.016	0.063 ±0.016	0.152 ±0.027	0.254 ±0.068	0.007 ±0.008	0.212 ±0.070	0.018 ±0.023	0.355 ± 0.081	0.016 ±0.017	0.325 ± 0.070	0.259 ±0.016	
	AUC	0.876 ±0.039	0.857 ±0.021	0.840 ±0.032	0.900 ± 0.025	0.780 ±0.158	0.762 ±0.057	0.836 ±0.040	0.829 ±0.024	0.687 ±0.013	0.676 ±0.033	0.657 ±0.029	0.638 ±0.028	0.821 ±0.029	0.786 ±0.047	0.544 ±0.019	0.741 ±0.050	0.581 ±0.048	0.885 ± 0.037	0.605 ±0.028	0.838 ±0.046	0.799 ±0.045	
	BAcc	0.276 ±0.057	0.224 ±0.032	0.231 ±0.054	0.304 ±0.055	0.201 ±0.100	0.236 ±0.069	0.181 ±0.073	0.244 ±0.040	0.056 ±0.010	0.087 ±0.008	0.045 ±0.015	0.087 ±0.016	0.173 ±0.026	0.272 ±0.066	0.032 ±0.008	0.231 ±0.068	0.042 ±0.023	0.371 ± 0.079	0.040 ±0.016	0.342 ± 0.069	0.263 ±0.015	
	Acc.1	0.276 ±0.057	0.224 ±0.032	0.231 ±0.054	0.304 ±0.055	0.201 ±0.100	0.236 ±0.070	0.179 ±0.072	0.245 ±0.040	0.057 ±0.011	0.087 ±0.008	0.046 ±0.015	0.086 ±0.016	0.174 ±0.026	0.273 ±0.064	0.032 ±0.008	0.232 ±0.069	0.043 ±0.023	0.371 ± 0.079	0.040 ±0.016	0.343 ± 0.068	0.264 ±0.015	
	Acc.2	0.410 ±0.082	0.351 ±0.050	0.343 ±0.058	0.463 ±0.069	0.312 ±0.148	0.364 ±0.090	0.335 ±0.079	0.372 ±0.053	0.111 ±0.022	0.159 ±0.017	0.092 ±0.025	0.139 ±0.024	0.299 ±0.038	0.403 ±0.088	0.069 ±0.012	0.336 ±0.077	0.085 ±0.032	0.522 ± 0.092	0.083 ±0.028	0.484 ± 0.085	0.211 ±0.032	
	κ	0.639 ±0.107	0.553 ±0.050	0.497 ±0.089	0.665 ±0.038	0.367 ±0.211	0.667 ±0.109	0.524 ±0.093	0.659 ±0.062	0.055 ±0.026	0.092 ±0.039	0.074 ±0.029	0.371 ±0.070	0.416 ±0.037	0.699 ±0.065	0.008 ±0.005	0.686 ±0.063	0.022 ±0.025	0.704 ± 0.084	0.021 ±0.019	0.731 ± 0.045	0.258 ±0.024	
	AUC	0.987 ± 0.010	0.978 ±0.008	0.969 ±0.017	0.989 ± 0.005	0.866 ±0.205	0.957 ±0.032	0.978 ±0.011	0.980 ±0.010	0.704 ±0.016	0.663 ±0.044	0.717 ±0.029	0.883 ±0.028	0.959 ±0.012	0.967 ±0.020	0.560 ±0.032	0.955 ±0.024	0.625 ±0.041	0.979 ±0.014	0.662 ±0.030	0.976 ±0.015	0.733 ±0.037	
Subject3_async	BAcc	0.648 ±0.104	0.565 ±0.049	0.510 ±0.087	0.674 ±0.037	0.383 ±0.206	0.675 ±0.106	0.535 ±0.091	0.668 ±0.061	0.078 ±0.026	0.115 ±0.038	0.097 ±0.028	0.386 ±0.069	0.431 ±0.036	0.706 ±0.064	0.033 ±0.004	0.694 ±0.062	0.046 ±0.025	0.712 ± 0.082	0.045 ±0.018	0.738 ± 0.044	0.081 ±0.023	
	Acc.1	0.648 ±0.104	0.565 ±0.049	0.510 ±0.087	0.674 ±0.037	0.383 ±0.206	0.673 ±0.107	0.536 ±0.094	0.669 ±0.060	0.079 ±0.025	0.116 ±0.036	0.099 ±0.028	0.387 ±0.069	0.432 ±0.036	0.707 ±0.065	0.033 ±0.005	0.693 ±0.061	0.046 ±0.025	0.711 ± 0.079	0.045 ±0.020	0.738 ± 0.044	0.082 ±0.024	
	Acc.2	0.840 ±0.080	0.763 ±0.060	0.706 ±0.070	0.872 ± 0.037	0.541 ±0.285	0.841 ±0.085	0.792 ±0.085	0.848 ±0.051	0.146 ±0.028	0.192 ±0.036	0.168 ±0.037	0.521 ±0.074	0.619 ±0.052	0.854 ±0.066	0.063 ±0.010	0.840 ±0.087	0.094 ±0.022	0.854 ±0.061	0.109 ±0.031	0.875 ± 0.064	0.155 ±0.039	
	κ	0.197 ±0.022	0.186 ±0.030	0.147 ±0.044	0.254 ±0.046	0.114 ±0.070	0.226 ±0.067	0.172 ±0.049	0.142 ±0.046	0.022 ±0.009	0.030 ±0.018	0.035 ±0.013	0.056 ±0.018	0.131 ±0.021	0.241 ±0.020	0.009 ±0.006	0.214 ±0.046	0.007 ±0.013	0.333 ± 0.065	-0.001 ±0.021	0.304 ± 0.040	0.015 ±0.017	
	AUC	0.818 ±0.024	0.793 ±0.032	0.782 ±0.032	0.841 ± 0.021	0.711 ±0.121	0.750 ±0.043	0.824 ±0.032	0.739 ±0.030	0.616 ±0.012	0.571 ±0.031	0.658 ±0.026	0.627 ±0.018	0.757 ±0.042	0.771 ±0.029	0.532 ±0.018	0.723 ±0.039	0.563 ±0.027	0.846 ± 0.031	0.552 ±0.031	0.814 ±0.023	0.614 ±0.012	
	BAcc	0.217 ±0.022	0.207 ±0.029	0.169 ±0.043	0.272 ±0.045	0.136 ±0.068	0.245 ±0.065	0.192 ±0.048	0.163 ±0.045	0.046 ±0.008	0.054 ±0.018	0.060 ±0.013	0.080 ±0.017	0.152 ±0.020	0.260 ±0.019	0.034 ±0.006	0.233 ±0.045	0.032 ±0.013	0.350 ± 0.063	0.024 ±0.020	0.322 ± 0.039	0.040 ±0.017	
	Acc.1	0.217 ±0.022	0.207 ±0.029	0.169 ±0.043	0.272 ±0.045	0.136 ±0.068	0.244 ±0.064	0.191 ±0.049	0.165 ±0.045	0.047 ±0.008	0.056 ±0.021	0.061 ±0.013	0.079 ±0.017	0.154 ±0.022	0.263 ±0.019	0.033 ±0.006	0.236 ±0.047	0.032 ±0.013	0.350 ± 0.065	0.023 ±0.020	0.325 ± 0.040	0.039 ±0.016	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Univariate
Subject5_async	Acc.2	0.345 ±0.033	0.325 ±0.047	0.278 ±0.056	0.421 ±0.042	0.230 ±0.114	0.367 ±0.083	0.360 ±0.051	0.265 ±0.046	0.092 ±0.012	0.108 ±0.024	0.108 ±0.021	0.141 ±0.022	0.248 ±0.042	0.372 ±0.025	0.059 ±0.006	0.355 ±0.074	0.064 ±0.016	0.507 ± 0.068	0.055 ±0.022	0.464 ± 0.058	0.053 ±0.020	
	κ	0.717 ±0.032	0.622 ±0.022	0.541 ±0.027	0.747 ±0.017	0.418 ±0.237	0.750 ± 0.049	0.546 ±0.036	0.705 ±0.036	0.062 ±0.023	0.116 ±0.060	0.070 ±0.027	0.421 ±0.032	0.469 ±0.040	0.737 ±0.036	0.019 ±0.007	0.712 ±0.047	0.047 ±0.011	0.719 ±0.059	0.048 ±0.015	0.773 ± 0.039	0.054 ±0.025	
	AUC	0.992 ± 0.002	0.985 ±0.003	0.975 ±0.004	0.993 ± 0.002	0.875 ±0.209	0.978 ±0.009	0.986 ±0.004	0.984 ±0.005	0.742 ±0.023	0.730 ±0.031	0.725 ±0.029	0.913 ±0.016	0.972 ±0.005	0.976 ±0.007	0.563 ±0.023	0.965 ±0.016	0.639 ±0.027	0.986 ±0.005	0.659 ±0.026	0.983 ±0.006	0.054 ±0.029	
	BAcc	0.725 ±0.032	0.631 ±0.021	0.553 ±0.026	0.753 ±0.017	0.433 ±0.231	0.756 ± 0.048	0.558 ±0.035	0.712 ±0.036	0.085 ±0.022	0.138 ±0.058	0.093 ±0.026	0.435 ±0.031	0.482 ±0.039	0.744 ±0.035	0.043 ±0.007	0.719 ±0.046	0.070 ±0.010	0.726 ±0.057	0.071 ±0.015	0.779 ± 0.038	0.057 ±0.024	
	Acc.1	0.725 ±0.032	0.631 ±0.021	0.553 ±0.026	0.753 ±0.017	0.433 ±0.231	0.755 ± 0.048	0.556 ±0.038	0.713 ±0.037	0.087 ±0.023	0.137 ±0.058	0.096 ±0.026	0.435 ±0.032	0.483 ±0.040	0.745 ±0.035	0.042 ±0.008	0.718 ±0.046	0.070 ±0.012	0.725 ±0.057	0.072 ±0.015	0.780 ± 0.040	0.058 ±0.026	
	Acc.2	0.905 ±0.029	0.838 ±0.018	0.744 ±0.022	0.938 ± 0.016	0.576 ±0.296	0.912 ±0.024	0.846 ±0.034	0.878 ±0.023	0.148 ±0.037	0.233 ±0.081	0.163 ±0.048	0.578 ±0.031	0.681 ±0.047	0.916 ±0.025	0.072 ±0.011	0.862 ±0.037	0.121 ±0.017	0.888 ±0.041	0.122 ±0.026	0.923 ± 0.025	0.055 ±0.029	
	Subject6_async	κ	0.593 ±0.032	0.471 ±0.037	0.396 ±0.058	0.610 ±0.041	0.256 ±0.143	0.386 ±0.041	0.328 ±0.041	0.495 ±0.052	0.034 ±0.020	0.087 ±0.027	0.057 ±0.025	0.195 ±0.018	0.357 ±0.033	0.584 ±0.039	0.017 ±0.015	0.598 ±0.025	0.009 ±0.009	0.701 ± 0.026	0.033 ±0.013	0.736 ± 0.037	0.058 ±0.014
AUC		0.981 ± 0.003	0.962 ±0.010	0.944 ±0.006	0.981 ± 0.003	0.824 ±0.181	0.875 ±0.020	0.944 ±0.011	0.944 ±0.008	0.652 ±0.021	0.692 ±0.020	0.706 ±0.034	0.786 ±0.018	0.929 ±0.009	0.947 ±0.015	0.545 ±0.003	0.939 ±0.008	0.666 ±0.027	0.976 ±0.007	0.653 ±0.034	0.974 ±0.007	0.729 ±0.019	
BAcc		0.604 ±0.031	0.485 ±0.036	0.411 ±0.057	0.620 ±0.040	0.275 ±0.140	0.401 ±0.040	0.345 ±0.040	0.508 ±0.051	0.059 ±0.019	0.110 ±0.027	0.081 ±0.024	0.215 ±0.018	0.373 ±0.032	0.595 ±0.038	0.041 ±0.015	0.608 ±0.025	0.034 ±0.009	0.708 ± 0.025	0.057 ±0.013	0.742 ± 0.036	0.072 ±0.014	
Acc.1		0.604 ±0.031	0.485 ±0.036	0.411 ±0.057	0.620 ±0.040	0.275 ±0.140	0.397 ±0.039	0.343 ±0.040	0.506 ±0.051	0.059 ±0.019	0.110 ±0.026	0.081 ±0.025	0.214 ±0.016	0.371 ±0.034	0.592 ±0.043	0.041 ±0.015	0.604 ±0.026	0.033 ±0.009	0.703 ± 0.025	0.057 ±0.015	0.739 ± 0.036	0.070 ±0.013	
Acc.2		0.792 ±0.013	0.684 ±0.059	0.591 ±0.047	0.826 ±0.033	0.408 ±0.202	0.593 ±0.039	0.581 ±0.042	0.675 ±0.038	0.108 ±0.023	0.196 ±0.029	0.146 ±0.024	0.320 ±0.026	0.538 ±0.033	0.767 ±0.046	0.071 ±0.018	0.778 ±0.028	0.073 ±0.013	0.844 ± 0.027	0.107 ±0.016	0.883 ± 0.019	0.110 ±0.021	
Subject7_async		κ	0.469 ±0.089	0.329 ±0.054	0.391 ±0.056	0.499 ±0.060	0.192 ±0.109	0.293 ±0.023	0.300 ±0.064	0.323 ±0.031	0.038 ±0.008	0.066 ±0.033	0.047 ±0.020	0.084 ±0.020	0.224 ±0.057	0.372 ±0.077	0.021 ±0.010	0.404 ±0.091	0.017 ±0.004	0.518 ± 0.046	0.015 ±0.020	0.524 ± 0.072	0.028 ±0.011
		AUC	0.952 ± 0.021	0.914 ±0.019	0.928 ±0.025	0.956 ± 0.019	0.791 ±0.165	0.827 ±0.021	0.911 ±0.019	0.874 ±0.019	0.655 ±0.016	0.680 ±0.045	0.661 ±0.015	0.681 ±0.028	0.872 ±0.030	0.857 ±0.049	0.582 ±0.015	0.838 ±0.034	0.654 ±0.023	0.939 ±0.009	0.620 ±0.019	0.921 ±0.027	0.703 ±0.033
	BAcc	0.482 ±0.086	0.346 ±0.052	0.406 ±0.055	0.512 ±0.058	0.212 ±0.106	0.310 ±0.023	0.317 ±0.062	0.340 ±0.031	0.062 ±0.008	0.089 ±0.032	0.071 ±0.020	0.107 ±0.020	0.244 ±0.056	0.387 ±0.075	0.045 ±0.010	0.419 ±0.088	0.041 ±0.004	0.530 ± 0.045	0.040 ±0.020	0.536 ± 0.070	0.053 ±0.011	
	Acc.1	0.482 ±0.086	0.346 ±0.052	0.406 ±0.055	0.512 ±0.058	0.212 ±0.106	0.314 ±0.019	0.320 ±0.062	0.340 ±0.031	0.062 ±0.008	0.088 ±0.031	0.072 ±0.021	0.107 ±0.020	0.242 ±0.055	0.388 ±0.072	0.045 ±0.010	0.421 ±0.088	0.042 ±0.006	0.533 ± 0.044	0.040 ±0.020	0.538 ± 0.067	0.052 ±0.010	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)	Univariate
Subject8_async	Acc.2	0.660 ±0.100	0.510 ±0.045	0.565 ±0.073	0.710 ± 0.077	0.335 ±0.163	0.492 ±0.053	0.511 ±0.061	0.481 ±0.028	0.113 ±0.015	0.167 ±0.042	0.133 ±0.016	0.165 ±0.023	0.390 ±0.057	0.533 ±0.092	0.080 ±0.017	0.562 ±0.076	0.088 ±0.022	0.710 ± 0.046	0.070 ±0.018	0.704 ±0.063	0.596 ±0.017	
	κ	0.422 ±0.068	0.359 ±0.061	0.282 ±0.029	0.440 ±0.065	0.179 ±0.104	0.326 ±0.024	0.291 ±0.010	0.396 ±0.060	0.035 ±0.020	0.034 ±0.019	0.038 ±0.032	0.158 ±0.035	0.292 ±0.036	0.399 ±0.046	0.008 ±0.006	0.396 ±0.017	0.015 ±0.030	0.462 ± 0.058	0.019 ±0.012	0.470 ± 0.041	0.581 ±0.030	
	AUC	0.947 ± 0.022	0.928 ±0.025	0.899 ±0.025	0.954 ± 0.016	0.784 ±0.161	0.822 ±0.017	0.914 ±0.015	0.910 ±0.016	0.655 ±0.043	0.638 ±0.036	0.653 ±0.061	0.749 ±0.024	0.894 ±0.026	0.872 ±0.030	0.557 ±0.025	0.840 ±0.007	0.615 ±0.030	0.933 ±0.021	0.602 ±0.022	0.900 ±0.011	0.909 ±0.032	
	BAcc	0.436 ±0.066	0.375 ±0.060	0.300 ±0.029	0.454 ±0.063	0.200 ±0.102	0.343 ±0.024	0.309 ±0.010	0.411 ±0.059	0.060 ±0.020	0.059 ±0.018	0.062 ±0.031	0.179 ±0.034	0.310 ±0.035	0.414 ±0.045	0.033 ±0.005	0.411 ±0.017	0.040 ±0.029	0.475 ± 0.057	0.044 ±0.011	0.483 ± 0.040	0.555 ±0.029	
	Acc.1	0.436 ±0.066	0.375 ±0.060	0.300 ±0.029	0.454 ±0.063	0.200 ±0.102	0.341 ±0.023	0.306 ±0.009	0.411 ±0.057	0.060 ±0.020	0.059 ±0.020	0.065 ±0.031	0.180 ±0.036	0.313 ±0.037	0.415 ±0.046	0.033 ±0.005	0.411 ±0.016	0.039 ±0.029	0.478 ± 0.060	0.044 ±0.010	0.486 ± 0.039	0.555 ±0.030	
	Acc.2	0.629 ±0.077	0.549 ±0.064	0.464 ±0.055	0.662 ± 0.055	0.311 ±0.150	0.505 ±0.027	0.519 ±0.020	0.586 ±0.043	0.110 ±0.028	0.116 ±0.043	0.113 ±0.037	0.281 ±0.027	0.463 ±0.047	0.585 ±0.047	0.070 ±0.010	0.558 ±0.009	0.063 ±0.039	0.647 ±0.062	0.080 ±0.005	0.649 ± 0.058	0.596 ±0.034	
Subject9_async	κ	0.412 ±0.034	0.349 ±0.032	0.326 ±0.044	0.460 ±0.041	0.249 ±0.141	0.325 ±0.035	0.262 ±0.033	0.385 ±0.030	0.046 ±0.009	0.097 ±0.035	0.007 ±0.019	0.082 ±0.026	0.237 ±0.026	0.350 ±0.027	0.006 ±0.009	0.381 ±0.054	0.015 ±0.009	0.553 ± 0.038	0.009 ±0.003	0.535 ± 0.041	0.580 ±0.012	
	AUC	0.944 ±0.003	0.922 ±0.024	0.906 ±0.008	0.952 ± 0.008	0.814 ±0.176	0.826 ±0.018	0.908 ±0.010	0.901 ±0.019	0.692 ±0.013	0.706 ±0.025	0.587 ±0.038	0.670 ±0.014	0.866 ±0.015	0.853 ±0.020	0.537 ±0.017	0.837 ±0.024	0.602 ±0.024	0.954 ± 0.005	0.575 ±0.021	0.934 ±0.019	0.659 ±0.017	
	BAcc	0.427 ±0.033	0.365 ±0.031	0.343 ±0.043	0.474 ±0.040	0.268 ±0.138	0.342 ±0.034	0.280 ±0.032	0.400 ±0.030	0.070 ±0.008	0.120 ±0.034	0.032 ±0.019	0.105 ±0.025	0.256 ±0.025	0.366 ±0.027	0.031 ±0.009	0.397 ±0.053	0.040 ±0.008	0.565 ± 0.037	0.034 ±0.003	0.546 ± 0.040	0.055 ±0.012	
	Acc.1	0.427 ±0.033	0.365 ±0.031	0.343 ±0.043	0.474 ±0.040	0.268 ±0.138	0.341 ±0.032	0.281 ±0.031	0.401 ±0.030	0.069 ±0.009	0.120 ±0.035	0.034 ±0.021	0.105 ±0.026	0.255 ±0.024	0.367 ±0.027	0.031 ±0.009	0.396 ±0.052	0.039 ±0.008	0.565 ± 0.037	0.034 ±0.003	0.547 ± 0.043	0.054 ±0.012	
	Acc.2	0.608 ±0.041	0.521 ±0.075	0.504 ±0.031	0.659 ±0.041	0.389 ±0.191	0.502 ±0.038	0.483 ±0.038	0.546 ±0.039	0.128 ±0.020	0.206 ±0.033	0.073 ±0.021	0.173 ±0.022	0.390 ±0.035	0.507 ±0.038	0.062 ±0.007	0.534 ±0.049	0.076 ±0.015	0.737 ± 0.028	0.068 ±0.020	0.697 ± 0.048	0.098 ±0.024	

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F.2 PER-SUBJECT RESULTS

F.2.1 SYNCHRONOUS DECODING RESULTS

Within-Subject Evaluation

Table 55: Average “Self” Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.051	0.646	0.075	0.075	0.135
DeepConvnet	± 0.089	± 0.098	± 0.087	± 0.087	± 0.114
	0.019	0.589	0.043	0.043	0.085
EEGNet	± 0.027	± 0.062	± 0.026	± 0.026	± 0.042
	0.041	0.611	0.065	0.065	0.112
Conformer	± 0.044	± 0.076	± 0.043	± 0.043	± 0.061
	0.137	0.728	0.159	0.159	0.249
CTNet	± 0.146	± 0.127	± 0.142	± 0.142	± 0.195
	0.038	0.608	0.062	0.062	0.111
SSVEPDNN	± 0.038	± 0.066	± 0.037	± 0.037	± 0.047
	0.047	0.597	0.071	0.080	0.138
BIOT (f)	± 0.068	± 0.085	± 0.066	± 0.066	± 0.093
	0.029	0.577	0.053	0.055	0.098
BIOT (l)	± 0.039	± 0.071	± 0.038	± 0.041	± 0.069
	0.026	0.574	0.050	0.048	0.092
BENDR (f)	± 0.023	± 0.049	± 0.022	± 0.023	± 0.039
	0.006	0.520	0.031	0.032	0.061
BENDR (l)	± 0.011	± 0.021	± 0.010	± 0.013	± 0.018
	0.038	0.601	0.062	0.066	0.115
CBraMod (f)	± 0.025	± 0.041	± 0.024	± 0.031	± 0.040
	0.022	0.602	0.047	0.054	0.102
CBraMod (l)	± 0.019	± 0.053	± 0.018	± 0.023	± 0.041
	0.022	0.557	0.047	0.047	0.081
EEGPT (f)	± 0.039	± 0.062	± 0.038	± 0.045	± 0.065
	0.117	0.718	0.139	0.145	0.228
EEGPT (l)	± 0.117	± 0.116	± 0.114	± 0.123	± 0.171
	0.069	0.615	0.092	0.094	0.158
LaBraM (f)	± 0.092	± 0.082	± 0.089	± 0.090	± 0.120
	0.013	0.548	0.037	0.037	0.072
LaBraM (l)	± 0.018	± 0.040	± 0.018	± 0.020	± 0.028
	0.066	0.616	0.090	0.088	0.156
STEEGformer-s (f)	± 0.057	± 0.077	± 0.056	± 0.059	± 0.093
	0.025	0.594	0.050	0.046	0.086
STEEGformer-s (l)	± 0.023	± 0.051	± 0.022	± 0.028	± 0.036

Table 56: Per-Subject ‘‘Self’’ Performance (trained+tested on same subject)

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (t)	BENDR (f)	BENDR (t)	CBraMod (f)	CBraMod (t)	EEGPT (f)	EEGPT (t)	LaBraM (f)	LaBraM (t)	STEEGformer-s (f)	STEEGformer-s (t)
Subject10_sync	κ	0.005 ± 0.042	-0.005 ± 0.021	0.010 ± 0.023	0.056 ± 0.038	0.010 ± 0.039	0.021 ± 0.033	0.026 ± 0.026	0.031 ± 0.021	-0.005 ± 0.011	0.015 ± 0.039	0.026 ± 0.026	0.051 ± 0.060	0.041 ± 0.029	0.026 ± 0.031	-0.021 ± 0.011	0.041 ± 0.043	-0.005 ± 0.011
	AUC	0.605 ± 0.023	0.552 ± 0.043	0.586 ± 0.044	0.658 ± 0.022	0.584 ± 0.029	0.552 ± 0.045	0.562 ± 0.044	0.575 ± 0.054	0.515 ± 0.025	0.562 ± 0.037	0.581 ± 0.035	0.569 ± 0.046	0.621 ± 0.063	0.612 ± 0.045	0.512 ± 0.038	0.587 ± 0.030	0.594 ± 0.061
	BAcc	0.030 ± 0.041	0.020 ± 0.021	0.035 ± 0.022	0.080 ± 0.037	0.035 ± 0.038	0.045 ± 0.033	0.050 ± 0.025	0.055 ± 0.021	0.020 ± 0.011	0.040 ± 0.038	0.050 ± 0.025	0.075 ± 0.059	0.065 ± 0.029	0.050 ± 0.031	0.005 ± 0.011	0.065 ± 0.042	0.020 ± 0.011
	Acc.1	0.030 ± 0.041	0.020 ± 0.021	0.035 ± 0.022	0.080 ± 0.037	0.035 ± 0.038	0.066 ± 0.055	0.078 ± 0.062	0.053 ± 0.026	0.022 ± 0.024	0.034 ± 0.034	0.078 ± 0.031	0.066 ± 0.036	0.087 ± 0.063	0.069 ± 0.051	0.003 ± 0.007	0.059 ± 0.045	0.013 ± 0.007
	Acc.2	0.075 ± 0.040	0.065 ± 0.029	0.115 ± 0.042	0.155 ± 0.069	0.085 ± 0.063	0.103 ± 0.109	0.116 ± 0.056	0.087 ± 0.059	0.028 ± 0.020	0.091 ± 0.049	0.144 ± 0.047	0.119 ± 0.063	0.156 ± 0.091	0.144 ± 0.049	0.019 ± 0.007	0.109 ± 0.051	0.059 ± 0.036
Subject11_sync	κ	0.015 ± 0.023	0.005 ± 0.028	-0.015 ± 0.014	0.000 ± 0.018	0.000 ± 0.026	0.000 ± 0.026	-0.005 ± 0.021	-0.010 ± 0.023	0.000 ± 0.018	0.021 ± 0.042	0.010 ± 0.034	0.015 ± 0.039	0.021 ± 0.042	0.015 ± 0.039	-0.015 ± 0.014	0.000 ± 0.031	0.005 ± 0.011
	AUC	0.552 ± 0.039	0.532 ± 0.010	0.516 ± 0.025	0.532 ± 0.024	0.528 ± 0.021	0.508 ± 0.051	0.523 ± 0.033	0.472 ± 0.026	0.502 ± 0.019	0.555 ± 0.037	0.540 ± 0.049	0.517 ± 0.059	0.527 ± 0.038	0.527 ± 0.019	0.512 ± 0.050	0.515 ± 0.050	0.548 ± 0.025
	BAcc	0.040 ± 0.022	0.030 ± 0.027	0.010 ± 0.014	0.025 ± 0.018	0.025 ± 0.025	0.025 ± 0.025	0.020 ± 0.021	0.015 ± 0.022	0.025 ± 0.018	0.045 ± 0.041	0.035 ± 0.034	0.040 ± 0.038	0.045 ± 0.041	0.040 ± 0.038	0.010 ± 0.014	0.025 ± 0.031	0.030 ± 0.011
	Acc.1	0.040 ± 0.022	0.030 ± 0.027	0.010 ± 0.014	0.025 ± 0.018	0.025 ± 0.025	0.025 ± 0.032	0.031 ± 0.037	0.009 ± 0.014	0.025 ± 0.030	0.056 ± 0.084	0.041 ± 0.058	0.044 ± 0.034	0.037 ± 0.044	0.044 ± 0.064	0.006 ± 0.009	0.016 ± 0.019	0.028 ± 0.020
	Acc.2	0.055 ± 0.033	0.060 ± 0.052	0.030 ± 0.033	0.035 ± 0.022	0.070 ± 0.033	0.066 ± 0.059	0.047 ± 0.037	0.028 ± 0.023	0.044 ± 0.032	0.078 ± 0.089	0.119 ± 0.067	0.066 ± 0.053	0.062 ± 0.031	0.059 ± 0.060	0.022 ± 0.014	0.031 ± 0.027	0.091 ± 0.028
Subject12_sync	κ	0.005 ± 0.021	0.015 ± 0.029	0.005 ± 0.028	0.005 ± 0.021	0.005 ± 0.021	0.000 ± 0.018	0.015 ± 0.023	0.015 ± 0.029	0.000 ± 0.018	0.026 ± 0.041	0.005 ± 0.028	0.015 ± 0.044	0.005 ± 0.021	-0.005 ± 0.021	0.000 ± 0.031	0.005 ± 0.021	0.015 ± 0.014
	AUC	0.535 ± 0.035	0.524 ± 0.047	0.511 ± 0.020	0.538 ± 0.050	0.560 ± 0.038	0.506 ± 0.064	0.529 ± 0.032	0.535 ± 0.043	0.506 ± 0.040	0.574 ± 0.016	0.543 ± 0.038	0.514 ± 0.055	0.598 ± 0.030	0.536 ± 0.014	0.490 ± 0.049	0.506 ± 0.046	0.513 ± 0.048
	BAcc	0.030 ± 0.021	0.040 ± 0.029	0.030 ± 0.027	0.030 ± 0.021	0.030 ± 0.021	0.025 ± 0.018	0.040 ± 0.022	0.040 ± 0.029	0.025 ± 0.018	0.050 ± 0.040	0.030 ± 0.027	0.039 ± 0.043	0.030 ± 0.021	0.020 ± 0.021	0.025 ± 0.031	0.030 ± 0.021	0.040 ± 0.014
	Acc.1	0.030 ± 0.021	0.040 ± 0.029	0.030 ± 0.027	0.030 ± 0.021	0.030 ± 0.021	0.016 ± 0.011	0.034 ± 0.034	0.025 ± 0.018	0.025 ± 0.024	0.041 ± 0.026	0.019 ± 0.017	0.038 ± 0.041	0.019 ± 0.013	0.022 ± 0.026	0.025 ± 0.039	0.028 ± 0.030	0.025 ± 0.009
	Acc.2	0.055 ± 0.048	0.050 ± 0.031	0.040 ± 0.022	0.080 ± 0.065	0.070 ± 0.033	0.050 ± 0.043	0.047 ± 0.027	0.053 ± 0.035	0.053 ± 0.042	0.066 ± 0.017	0.034 ± 0.026	0.071 ± 0.038	0.047 ± 0.025	0.044 ± 0.020	0.072 ± 0.045	0.062 ± 0.038	0.056 ± 0.024

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject13_sync	κ	0.021 ± 0.033	0.000 ± 0.031	0.062 ± 0.029	0.226 ± 0.095	0.062 ± 0.029	0.031 ± 0.033	0.010 ± 0.023	0.041 ± 0.014	0.010 ± 0.034	0.077 ± 0.031	0.031 ± 0.033	0.021 ± 0.033	0.282 ± 0.036	0.041 ± 0.047	0.015 ± 0.023	0.087 ± 0.039	0.067 ± 0.039
	AUC	0.675 ± 0.028	0.586 ± 0.025	0.677 ± 0.044	0.861 ± 0.052	0.625 ± 0.057	0.567 ± 0.024	0.543 ± 0.034	0.629 ± 0.058	0.520 ± 0.018	0.657 ± 0.042	0.547 ± 0.042	0.520 ± 0.061	0.897 ± 0.022	0.633 ± 0.035	0.557 ± 0.043	0.644 ± 0.045	0.648 ± 0.031
	BAcc	0.045 ± 0.033	0.025 ± 0.031	0.085 ± 0.029	0.245 ± 0.093	0.085 ± 0.029	0.055 ± 0.033	0.035 ± 0.022	0.065 ± 0.014	0.035 ± 0.034	0.100 ± 0.031	0.055 ± 0.033	0.045 ± 0.033	0.300 ± 0.035	0.065 ± 0.045	0.040 ± 0.022	0.110 ± 0.038	0.090 ± 0.038
	Acc.1	0.045 ± 0.033	0.025 ± 0.031	0.085 ± 0.029	0.245 ± 0.093	0.085 ± 0.029	0.072 ± 0.065	0.041 ± 0.036	0.041 ± 0.009	0.041 ± 0.044	0.100 ± 0.051	0.034 ± 0.020	0.047 ± 0.044	0.309 ± 0.051	0.059 ± 0.053	0.025 ± 0.014	0.106 ± 0.043	0.075 ± 0.043
	Acc.2	0.115 ± 0.088	0.090 ± 0.034	0.145 ± 0.065	0.410 ± 0.140	0.135 ± 0.042	0.134 ± 0.084	0.066 ± 0.056	0.097 ± 0.051	0.072 ± 0.065	0.184 ± 0.037	0.047 ± 0.011	0.053 ± 0.046	0.484 ± 0.027	0.150 ± 0.074	0.044 ± 0.026	0.209 ± 0.087	0.147 ± 0.067
Subject14_sync	κ	0.041 ± 0.039	0.000 ± 0.018	0.021 ± 0.033	0.292 ± 0.039	0.005 ± 0.042	0.031 ± 0.038	0.026 ± 0.026	0.021 ± 0.033	0.021 ± 0.028	0.010 ± 0.029	0.046 ± 0.046	0.026 ± 0.018	0.256 ± 0.081	0.082 ± 0.028	0.015 ± 0.014	0.154 ± 0.077	0.046 ± 0.021
	AUC	0.675 ± 0.033	0.587 ± 0.033	0.605 ± 0.044	0.877 ± 0.020	0.618 ± 0.056	0.641 ± 0.048	0.591 ± 0.031	0.571 ± 0.037	0.531 ± 0.045	0.592 ± 0.042	0.669 ± 0.058	0.560 ± 0.081	0.881 ± 0.020	0.682 ± 0.037	0.634 ± 0.053	0.671 ± 0.049	0.659 ± 0.021
	BAcc	0.065 ± 0.038	0.025 ± 0.018	0.045 ± 0.033	0.310 ± 0.038	0.030 ± 0.041	0.055 ± 0.037	0.050 ± 0.025	0.045 ± 0.033	0.045 ± 0.027	0.035 ± 0.029	0.070 ± 0.045	0.050 ± 0.018	0.275 ± 0.079	0.105 ± 0.027	0.040 ± 0.014	0.175 ± 0.075	0.070 ± 0.021
	Acc.1	0.065 ± 0.038	0.025 ± 0.018	0.045 ± 0.033	0.310 ± 0.038	0.030 ± 0.041	0.072 ± 0.042	0.041 ± 0.032	0.037 ± 0.024	0.037 ± 0.034	0.041 ± 0.042	0.081 ± 0.043	0.041 ± 0.014	0.219 ± 0.076	0.141 ± 0.077	0.044 ± 0.032	0.194 ± 0.094	0.072 ± 0.054
	Acc.2	0.130 ± 0.037	0.050 ± 0.035	0.100 ± 0.050	0.420 ± 0.057	0.080 ± 0.060	0.150 ± 0.038	0.075 ± 0.052	0.084 ± 0.046	0.066 ± 0.069	0.078 ± 0.057	0.156 ± 0.040	0.062 ± 0.027	0.375 ± 0.120	0.247 ± 0.074	0.069 ± 0.045	0.272 ± 0.071	0.109 ± 0.065
Subject15_sync	κ	0.000 ± 0.000	0.005 ± 0.021	0.005 ± 0.028	0.031 ± 0.028	0.010 ± 0.023	0.005 ± 0.028	0.036 ± 0.034	0.021 ± 0.049	-0.010 ± 0.014	0.015 ± 0.034	0.010 ± 0.014	0.015 ± 0.029	0.015 ± 0.029	-0.005 ± 0.011	0.005 ± 0.028	0.010 ± 0.034	0.000 ± 0.026
	AUC	0.516 ± 0.052	0.517 ± 0.025	0.502 ± 0.020	0.616 ± 0.024	0.525 ± 0.033	0.507 ± 0.073	0.535 ± 0.039	0.557 ± 0.062	0.496 ± 0.075	0.537 ± 0.055	0.547 ± 0.025	0.510 ± 0.065	0.644 ± 0.029	0.483 ± 0.047	0.544 ± 0.060	0.567 ± 0.039	0.554 ± 0.034
	BAcc	0.025 ± 0.000	0.030 ± 0.021	0.030 ± 0.027	0.055 ± 0.027	0.035 ± 0.022	0.030 ± 0.027	0.060 ± 0.034	0.045 ± 0.048	0.015 ± 0.014	0.040 ± 0.034	0.035 ± 0.014	0.040 ± 0.029	0.040 ± 0.029	0.020 ± 0.011	0.030 ± 0.027	0.035 ± 0.034	0.025 ± 0.025
	Acc.1	0.025 ± 0.000	0.030 ± 0.021	0.030 ± 0.027	0.055 ± 0.027	0.035 ± 0.022	0.028 ± 0.026	0.075 ± 0.050	0.037 ± 0.050	0.009 ± 0.009	0.044 ± 0.057	0.050 ± 0.046	0.025 ± 0.018	0.053 ± 0.038	0.022 ± 0.024	0.028 ± 0.032	0.022 ± 0.021	0.016 ± 0.016
	Acc.2	0.070 ± 0.021	0.045 ± 0.033	0.055 ± 0.027	0.085 ± 0.029	0.065 ± 0.058	0.056 ± 0.039	0.087 ± 0.055	0.081 ± 0.064	0.031 ± 0.031	0.094 ± 0.062	0.091 ± 0.049	0.047 ± 0.033	0.069 ± 0.036	0.031 ± 0.029	0.062 ± 0.063	0.050 ± 0.013	0.031 ± 0.037
Subject16_sync	κ	0.036 ± 0.029	0.005 ± 0.028	0.015 ± 0.023	0.082 ± 0.088	0.036 ± 0.039	0.010 ± 0.029	0.010 ± 0.043	0.036 ± 0.029	0.005 ± 0.021	0.072 ± 0.066	0.015 ± 0.039	-0.005 ± 0.021	0.056 ± 0.042	0.031 ± 0.033	0.005 ± 0.021	0.026 ± 0.041	0.010 ± 0.039

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
	AUC	0.586 ±0.049	0.546 ±0.027	0.555 ±0.044	0.653 ± 0.038	0.569 ±0.046	0.581 ±0.023	0.516 ±0.045	0.557 ±0.029	0.517 ±0.037	0.623 ± 0.048	0.595 ±0.052	0.557 ±0.052	0.607 ±0.060	0.560 ±0.069	0.514 ±0.048	0.568 ±0.030	0.558 ±0.056
		0.060 ±0.029	0.030 ±0.027	0.040 ±0.022	0.105 ± 0.086	0.060 ±0.038	0.035 ±0.029	0.035 ±0.042	0.060 ±0.029	0.030 ±0.021	0.095 ± 0.065	0.040 ±0.038	0.020 ±0.021	0.080 ±0.041	0.055 ±0.033	0.030 ±0.021	0.050 ±0.040	0.035 ±0.038
	BAcc	0.060 ±0.029	0.030 ±0.027	0.040 ±0.022	0.105 ± 0.086	0.060 ±0.038	0.031 ±0.037	0.041 ±0.050	0.056 ±0.042	0.028 ±0.030	0.106 ± 0.091	0.053 ±0.049	0.022 ±0.032	0.059 ±0.042	0.044 ±0.020	0.028 ±0.030	0.050 ±0.036	0.022 ±0.024
		0.090 ±0.022	0.080 ±0.011	0.070 ±0.037	0.130 ± 0.086	0.095 ±0.033	0.075 ±0.078	0.078 ±0.063	0.081 ±0.023	0.031 ±0.037	0.178 ± 0.102	0.103 ±0.059	0.053 ±0.065	0.078 ±0.054	0.075 ±0.030	0.056 ±0.024	0.087 ±0.045	0.069 ±0.041
	Acc.1	0.015 ±0.023	0.010 ±0.029	0.021 ±0.038	0.164 ± 0.069	0.062 ±0.023	0.082 ±0.058	0.015 ±0.029	0.026 ±0.018	0.021 ±0.033	0.046 ±0.021	0.036 ±0.029	0.005 ±0.028	0.123 ± 0.064	0.041 ±0.023	0.000 ±0.026	0.082 ±0.058	0.000 ±0.031
		0.638 ±0.046	0.579 ±0.021	0.569 ±0.018	0.762 ± 0.040	0.654 ±0.037	0.616 ±0.062	0.598 ±0.009	0.571 ±0.084	0.530 ±0.035	0.603 ±0.025	0.581 ±0.055	0.539 ±0.036	0.778 ± 0.044	0.621 ±0.032	0.574 ±0.073	0.644 ±0.052	0.605 ±0.035
	BAcc	0.040 ±0.022	0.035 ±0.029	0.045 ±0.037	0.185 ± 0.068	0.085 ±0.022	0.105 ±0.057	0.040 ±0.029	0.050 ±0.018	0.045 ±0.033	0.070 ±0.021	0.060 ±0.029	0.030 ±0.027	0.145 ± 0.062	0.065 ±0.022	0.025 ±0.025	0.105 ±0.057	0.025 ±0.031
		0.040 ±0.022	0.035 ±0.029	0.045 ±0.037	0.185 ± 0.068	0.085 ±0.022	0.113 ±0.062	0.044 ±0.036	0.050 ±0.034	0.037 ±0.036	0.081 ±0.023	0.075 ±0.052	0.037 ±0.039	0.147 ± 0.099	0.059 ±0.039	0.016 ±0.016	0.094 ±0.049	0.016 ±0.019
	Acc.2	0.120 ±0.048	0.090 ±0.022	0.090 ±0.052	0.265 ± 0.084	0.155 ±0.054	0.191 ±0.042	0.103 ±0.048	0.081 ±0.013	0.078 ±0.053	0.113 ±0.050	0.122 ±0.026	0.062 ±0.063	0.263 ± 0.091	0.134 ±0.042	0.031 ±0.016	0.141 ±0.073	0.075 ±0.043
		0.082 ±0.084	-0.021 ±0.011	0.036 ±0.043	0.246 ± 0.090	0.056 ±0.064	0.164 ± 0.059	0.036 ±0.043	0.015 ±0.023	0.010 ±0.014	0.026 ±0.018	0.046 ±0.033	0.010 ±0.014	0.072 ±0.049	0.072 ±0.066	0.015 ±0.029	0.108 ±0.053	0.026 ±0.031
Subject17_sync	AUC	0.726 ±0.110	0.526 ±0.037	0.547 ±0.051	0.873 ± 0.037	0.637 ±0.065	0.782 ± 0.064	0.636 ±0.045	0.541 ±0.062	0.504 ±0.066	0.570 ±0.061	0.647 ±0.041	0.529 ±0.047	0.723 ±0.052	0.658 ±0.081	0.521 ±0.039	0.665 ±0.053	0.623 ±0.039
		0.105 ±0.082	0.005 ±0.011	0.060 ±0.042	0.265 ± 0.088	0.080 ±0.062	0.185 ± 0.058	0.060 ±0.042	0.040 ±0.022	0.035 ±0.014	0.050 ±0.018	0.070 ±0.033	0.035 ±0.014	0.095 ±0.048	0.095 ±0.065	0.040 ±0.029	0.130 ±0.051	0.050 ±0.031
	BAcc	0.105 ±0.082	0.005 ±0.011	0.060 ±0.042	0.265 ± 0.088	0.080 ±0.062	0.172 ± 0.052	0.047 ±0.037	0.044 ±0.039	0.031 ±0.027	0.041 ±0.030	0.109 ±0.070	0.031 ±0.027	0.106 ±0.030	0.106 ±0.097	0.034 ±0.030	0.128 ±0.057	0.050 ±0.037
		0.185 ±0.138	0.040 ±0.042	0.075 ±0.047	0.425 ± 0.095	0.155 ±0.107	0.275 ± 0.103	0.094 ±0.048	0.066 ±0.056	0.066 ±0.039	0.097 ±0.053	0.175 ±0.053	0.062 ±0.043	0.225 ±0.087	0.228 ±0.131	0.069 ±0.050	0.250 ±0.077	0.100 ±0.056
	Acc.1	0.036 ±0.014	0.056 ±0.042	0.072 ±0.038	0.031 ±0.042	0.041 ±0.029	0.026 ±0.036	0.031 ±0.042	0.000 ±0.018	0.015 ±0.039	0.031 ±0.046	-0.005 ±0.021	-0.021 ±0.011	0.056 ±0.033	0.082 ± 0.038	0.021 ±0.033	0.087 ± 0.053	0.062 ±0.023
		0.721 ± 0.020	0.679 ±0.035	0.707 ±0.026	0.756 ± 0.014	0.616 ±0.010	0.611 ±0.033	0.530 ±0.049	0.574 ±0.061	0.529 ±0.041	0.607 ±0.049	0.603 ±0.033	0.506 ±0.061	0.708 ±0.024	0.674 ±0.048	0.548 ±0.050	0.719 ±0.017	0.667 ±0.039
	Acc.2	0.036 ±0.014	0.056 ±0.042	0.072 ±0.038	0.031 ±0.042	0.041 ±0.029	0.026 ±0.036	0.031 ±0.042	0.000 ±0.018	0.015 ±0.039	0.031 ±0.046	-0.005 ±0.021	-0.021 ±0.011	0.056 ±0.033	0.082 ± 0.038	0.021 ±0.033	0.087 ± 0.053	0.062 ±0.023
		0.721 ± 0.020	0.679 ±0.035	0.707 ±0.026	0.756 ± 0.014	0.616 ±0.010	0.611 ±0.033	0.530 ±0.049	0.574 ±0.061	0.529 ±0.041	0.607 ±0.049	0.603 ±0.033	0.506 ±0.061	0.708 ±0.024	0.674 ±0.048	0.548 ±0.050	0.719 ±0.017	0.667 ±0.039
	AUC	0.036 ±0.014	0.056 ±0.042	0.072 ±0.038	0.031 ±0.042	0.041 ±0.029	0.026 ±0.036	0.031 ±0.042	0.000 ±0.018	0.015 ±0.039	0.031 ±0.046	-0.005 ±0.021	-0.021 ±0.011	0.056 ±0.033	0.082 ± 0.038	0.021 ±0.033	0.087 ± 0.053	0.062 ±0.023
		0.721 ± 0.020	0.679 ±0.035	0.707 ±0.026	0.756 ± 0.014	0.616 ±0.010	0.611 ±0.033	0.530 ±0.049	0.574 ±0.061	0.529 ±0.041	0.607 ±0.049	0.603 ±0.033	0.506 ±0.061	0.708 ±0.024	0.674 ±0.048	0.548 ±0.050	0.719 ±0.017	0.667 ±0.039
	AUC	0.036 ±0.014	0.056 ±0.042	0.072 ±0.038	0.031 ±0.042	0.041 ±0.029	0.026 ±0.036	0.031 ±0.042	0.000 ±0.018	0.015 ±0.039	0.031 ±0.046	-0.005 ±0.021	-0.021 ±0.011	0.056 ±0.033	0.082 ± 0.038	0.021 ±0.033	0.087 ± 0.053	0.062 ±0.023
		0.721 ± 0.020	0.679 ±0.035	0.707 ±0.026	0.756 ± 0.014	0.616 ±0.010	0.611 ±0.033	0.530 ±0.049	0.574 ±0.061	0.529 ±0.041	0.607 ±0.049	0.603 ±0.033	0.506 ±0.061	0.708 ±0.024	0.674 ±0.048	0.548 ±0.050	0.719 ±0.017	0.667 ±0.039

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1_sync	BAcc	0.060 ±0.014	0.080 ±0.041	0.095 ±0.037	0.055 ±0.041	0.065 ±0.029	0.050 ±0.035	0.055 ±0.041	0.025 ±0.018	0.040 ±0.038	0.055 ±0.045	0.020 ±0.021	0.005 ±0.011	0.080 ±0.033	0.105 ± 0.037	0.045 ±0.033	0.110 ± 0.052	0.085 ±0.022
		0.060 ±0.014	0.080 ±0.041	0.095 ± 0.037	0.055 ±0.041	0.065 ±0.029	0.050 ±0.061	0.044 ±0.032	0.016 ±0.011	0.044 ±0.064	0.044 ±0.043	0.041 ±0.038	0.003 ±0.007	0.087 ±0.053	0.094 ±0.049	0.047 ±0.040	0.106 ± 0.068	0.072 ±0.036
	Acc.1	0.145 ±0.051	0.140 ±0.052	0.140 ±0.049	0.190 ± 0.072	0.100 ±0.047	0.144 ±0.087	0.056 ±0.028	0.119 ±0.106	0.075 ±0.066	0.103 ±0.075	0.069 ±0.021	0.025 ±0.021	0.119 ±0.071	0.166 ±0.083	0.072 ±0.053	0.225 ± 0.041	0.097 ±0.051
		0.145 ±0.051	0.140 ±0.052	0.140 ±0.049	0.190 ± 0.072	0.100 ±0.047	0.144 ±0.087	0.056 ±0.028	0.119 ±0.106	0.075 ±0.066	0.103 ±0.075	0.069 ±0.021	0.025 ±0.021	0.119 ±0.071	0.166 ±0.083	0.072 ±0.053	0.225 ± 0.041	0.097 ±0.051
	κ	0.003 ±0.030	0.006 ±0.029	0.008 ±0.027	0.010 ±0.035	0.012 ±0.035	-0.003 ±0.020	0.004 ±0.024	0.001 ±0.027	0.004 ±0.031	0.012 ± 0.027	0.016 ± 0.027	0.002 ±0.026	0.011 ±0.024	0.007 ±0.027	0.005 ±0.024	0.003 ±0.024	0.000 ±0.020
		0.539 ±0.055	0.517 ±0.044	0.522 ±0.049	0.569 ± 0.058	0.524 ±0.050	0.515 ±0.039	0.512 ±0.041	0.501 ±0.050	0.500 ±0.035	0.547 ±0.044	0.566 ±0.065	0.505 ±0.049	0.577 ± 0.047	0.537 ±0.044	0.514 ±0.054	0.518 ±0.053	0.523 ±0.040
	BAcc	0.028 ±0.030	0.030 ±0.028	0.033 ±0.026	0.035 ±0.034	0.036 ±0.034	0.022 ±0.019	0.029 ±0.023	0.026 ±0.027	0.029 ±0.030	0.037 ± 0.026	0.040 ± 0.026	0.027 ±0.026	0.036 ±0.023	0.031 ±0.026	0.030 ±0.023	0.028 ±0.023	0.025 ±0.020
		0.028 ±0.030	0.030 ±0.028	0.033 ±0.026	0.035 ±0.034	0.036 ±0.034	0.016 ±0.019	0.023 ±0.024	0.027 ±0.033	0.027 ±0.032	0.037 ± 0.031	0.045 ± 0.031	0.024 ±0.026	0.028 ±0.024	0.030 ±0.031	0.024 ±0.026	0.022 ±0.019	0.020 ±0.020
	Acc.1	0.059 ±0.042	0.063 ±0.035	0.064 ±0.036	0.071 ± 0.044	0.064 ±0.040	0.037 ±0.029	0.045 ±0.032	0.047 ±0.041	0.047 ±0.033	0.070 ±0.046	0.079 ± 0.052	0.044 ±0.032	0.059 ±0.039	0.061 ±0.042	0.040 ±0.035	0.051 ±0.042	0.039 ±0.031
		0.059 ±0.042	0.063 ±0.035	0.064 ±0.036	0.071 ± 0.044	0.064 ±0.040	0.037 ±0.029	0.045 ±0.032	0.047 ±0.041	0.047 ±0.033	0.070 ±0.046	0.079 ± 0.052	0.044 ±0.032	0.059 ±0.039	0.061 ±0.042	0.040 ±0.035	0.051 ±0.042	0.039 ±0.031
Subject20_sync	κ	0.010 ±0.023	0.015 ±0.029	0.092 ±0.053	0.256 ± 0.091	0.031 ±0.028	0.062 ±0.034	0.041 ±0.034	0.046 ±0.021	0.000 ±0.026	0.067 ±0.053	0.072 ±0.046	0.041 ±0.039	0.190 ± 0.053	0.097 ±0.056	-0.010 ±0.014	0.077 ±0.018	-0.005 ±0.028
		0.644 ±0.046	0.607 ±0.033	0.703 ±0.041	0.846 ± 0.040	0.632 ±0.061	0.624 ±0.041	0.591 ±0.017	0.560 ±0.041	0.507 ±0.047	0.636 ±0.012	0.673 ±0.046	0.627 ±0.032	0.837 ± 0.040	0.659 ±0.041	0.537 ±0.071	0.667 ±0.015	0.627 ±0.042
	BAcc	0.035 ±0.022	0.040 ±0.029	0.115 ±0.052	0.275 ± 0.088	0.055 ±0.027	0.085 ±0.034	0.065 ±0.034	0.070 ±0.021	0.025 ±0.025	0.090 ±0.052	0.095 ±0.045	0.065 ±0.038	0.210 ± 0.052	0.120 ±0.054	0.015 ±0.014	0.100 ±0.018	0.020 ±0.027
		0.035 ±0.022	0.040 ±0.029	0.115 ±0.052	0.275 ± 0.088	0.055 ±0.027	0.109 ±0.079	0.078 ±0.057	0.053 ±0.032	0.034 ±0.052	0.084 ±0.054	0.078 ±0.048	0.059 ±0.039	0.244 ± 0.074	0.103 ±0.056	0.019 ±0.026	0.081 ±0.020	0.013 ±0.017
	Acc.1	0.085 ±0.034	0.105 ±0.054	0.170 ±0.062	0.420 ± 0.091	0.120 ±0.021	0.188 ±0.080	0.116 ±0.059	0.094 ±0.053	0.059 ±0.062	0.122 ±0.074	0.144 ±0.058	0.116 ±0.045	0.397 ± 0.061	0.181 ±0.080	0.041 ±0.036	0.172 ±0.046	0.059 ±0.049
		0.085 ±0.034	0.105 ±0.054	0.170 ±0.062	0.420 ± 0.091	0.120 ±0.021	0.188 ±0.080	0.116 ±0.059	0.094 ±0.053	0.059 ±0.062	0.122 ±0.074	0.144 ±0.058	0.116 ±0.045	0.397 ± 0.061	0.181 ±0.080	0.041 ±0.036	0.172 ±0.046	0.059 ±0.049
Subject21_sync	κ	0.036 ±0.023	0.041 ±0.029	0.082 ±0.021	0.174 ± 0.098	0.015 ±0.029	0.021 ±0.021	0.021 ±0.028	0.005 ±0.033	0.021 ±0.064	0.072 ±0.042	0.010 ±0.014	-0.005 ±0.021	0.226 ± 0.056	0.036 ±0.023	0.056 ±0.049	0.123 ±0.033	0.051 ±0.018
		0.658 ±0.032	0.645 ±0.046	0.701 ±0.022	0.831 ± 0.035	0.616 ±0.054	0.571 ±0.048	0.574 ±0.027	0.573 ±0.030	0.512 ±0.041	0.671 ±0.054	0.624 ±0.062	0.516 ±0.033	0.844 ± 0.026	0.576 ±0.034	0.644 ±0.033	0.657 ±0.067	0.651 ±0.032
	AUC	0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018
		0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018
	BAcc	0.036 ±0.023	0.041 ±0.029	0.082 ±0.021	0.174 ± 0.098	0.015 ±0.029	0.021 ±0.021	0.021 ±0.028	0.005 ±0.033	0.021 ±0.064	0.072 ±0.042	0.010 ±0.014	-0.005 ±0.021	0.226 ± 0.056	0.036 ±0.023	0.056 ±0.049	0.123 ±0.033	0.051 ±0.018
		0.036 ±0.023	0.041 ±0.029	0.082 ±0.021	0.174 ± 0.098	0.015 ±0.029	0.021 ±0.021	0.021 ±0.028	0.005 ±0.033	0.021 ±0.064	0.072 ±0.042	0.010 ±0.014	-0.005 ±0.021	0.226 ± 0.056	0.036 ±0.023	0.056 ±0.049	0.123 ±0.033	0.051 ±0.018
	AUC	0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018
		0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018
	BAcc	0.036 ±0.023	0.041 ±0.029	0.082 ±0.021	0.174 ± 0.098	0.015 ±0.029	0.021 ±0.021	0.021 ±0.028	0.005 ±0.033	0.021 ±0.064	0.072 ±0.042	0.010 ±0.014	-0.005 ±0.021	0.226 ± 0.056	0.036 ±0.023	0.056 ±0.049	0.123 ±0.033	0.051 ±0.018
		0.036 ±0.023	0.041 ±0.029	0.082 ±0.021	0.174 ± 0.098	0.015 ±0.029	0.021 ±0.021	0.021 ±0.028	0.005 ±0.033	0.021 ±0.064	0.072 ±0.042	0.010 ±0.014	-0.005 ±0.021	0.226 ± 0.056	0.036 ±0.023	0.056 ±0.049	0.123 ±0.033	0.051 ±0.018
	AUC	0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018
		0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.045 ±0.021	0.045 ±0.027	0.030 ±0.033	0.045 ±0.062	0.095 ±0.041	0.035 ±0.014	0.020 ±0.021	0.245 ± 0.054	0.060 ±0.022	0.080 ±0.048	0.145 ±0.033	0.075 ±0.018

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
Subject22_sync	Acc.1	0.060 ±0.022	0.065 ±0.029	0.105 ±0.021	0.195 ± 0.096	0.040 ±0.029	0.047 ±0.037	0.056 ±0.051	0.028 ±0.039	0.056 ±0.078	0.097 ±0.053	0.041 ±0.028	0.013 ±0.013	0.228 ± 0.056	0.056 ±0.036	0.050 ±0.030	0.147 ±0.065	0.047 ±0.011
		0.135 ±0.042	0.135 ±0.045	0.155 ±0.027	0.330 ± 0.102	0.080 ±0.054	0.094 ±0.051	0.081 ±0.053	0.044 ±0.046	0.100 ±0.083	0.147 ±0.074	0.072 ±0.032	0.028 ±0.007	0.366 ± 0.091	0.097 ±0.030	0.091 ±0.039	0.237 ±0.099	0.087 ±0.041
	κ	0.056 ±0.038	0.051 ±0.057	0.046 ±0.021	0.421 ± 0.069	0.087 ±0.039	0.103 ±0.018	0.087 ±0.053	0.041 ±0.034	0.000 ±0.044	0.056 ±0.033	0.031 ±0.033	0.056 ±0.033	0.323 ± 0.097	0.123 ±0.046	0.046 ±0.033	0.123 ±0.046	0.036 ±0.059
		0.696 ±0.057	0.671 ±0.055	0.663 ±0.022	0.930 ± 0.023	0.716 ±0.034	0.666 ±0.086	0.674 ±0.091	0.617 ±0.057	0.544 ±0.056	0.631 ±0.043	0.664 ±0.041	0.638 ±0.047	0.898 ± 0.018	0.688 ±0.025	0.603 ±0.048	0.681 ±0.047	0.660 ±0.048
	BAcc	0.080 ±0.037	0.075 ±0.056	0.070 ±0.021	0.435 ± 0.068	0.110 ±0.038	0.125 ±0.018	0.110 ±0.052	0.065 ±0.034	0.025 ±0.043	0.080 ±0.033	0.055 ±0.033	0.080 ±0.033	0.340 ± 0.095	0.145 ±0.045	0.070 ±0.033	0.145 ±0.045	0.060 ±0.058
		0.080 ±0.037	0.075 ±0.056	0.070 ±0.021	0.435 ± 0.068	0.110 ±0.038	0.181 ±0.045	0.144 ±0.070	0.059 ±0.032	0.044 ±0.068	0.106 ±0.034	0.091 ±0.058	0.116 ±0.073	0.400 ± 0.089	0.166 ±0.024	0.053 ±0.036	0.175 ±0.064	0.037 ±0.036
	Acc.2	0.155 ±0.045	0.130 ±0.033	0.115 ±0.052	0.610 ± 0.055	0.185 ±0.042	0.281 ±0.115	0.209 ±0.050	0.138 ±0.026	0.081 ±0.113	0.166 ±0.053	0.150 ±0.089	0.178 ±0.056	0.575 ± 0.036	0.266 ±0.025	0.109 ±0.083	0.266 ±0.083	0.062 ±0.053
	κ	0.026 ±0.031	0.015 ±0.023	0.000 ±0.018	0.031 ±0.038	0.010 ±0.050	0.021 ±0.011	-0.005 ±0.021	-0.005 ±0.021	0.005 ±0.028	0.010 ±0.014	0.021 ±0.021	0.000 ±0.031	0.036 ± 0.050	0.031 ±0.042	-0.015 ±0.014	0.051 ± 0.051	0.031 ±0.033
		0.593 ±0.061	0.565 ±0.017	0.584 ±0.022	0.637 ± 0.027	0.521 ±0.059	0.581 ±0.050	0.543 ±0.020	0.505 ±0.048	0.504 ±0.024	0.541 ±0.025	0.563 ±0.041	0.515 ±0.071	0.603 ± 0.055	0.569 ±0.033	0.519 ±0.036	0.542 ±0.080	0.572 ±0.051
	BAcc	0.050 ±0.031	0.040 ±0.022	0.025 ±0.018	0.055 ±0.037	0.035 ±0.049	0.045 ±0.011	0.020 ±0.021	0.020 ±0.021	0.030 ±0.027	0.035 ±0.014	0.045 ±0.021	0.025 ±0.031	0.060 ± 0.049	0.055 ±0.041	0.010 ±0.014	0.075 ± 0.050	0.055 ±0.033
		0.050 ±0.031	0.040 ±0.022	0.025 ±0.018	0.055 ± 0.037	0.035 ±0.049	0.047 ±0.029	0.022 ±0.032	0.013 ±0.013	0.028 ±0.032	0.031 ±0.019	0.047 ±0.037	0.025 ±0.028	0.066 ± 0.072	0.034 ±0.026	0.006 ±0.009	0.066 ± 0.040	0.053 ±0.041
	Acc.2	0.090 ±0.038	0.080 ±0.033	0.085 ±0.022	0.115 ± 0.063	0.070 ±0.054	0.116 ± 0.076	0.044 ±0.036	0.053 ±0.024	0.053 ±0.030	0.056 ±0.018	0.062 ±0.031	0.066 ±0.034	0.097 ±0.056	0.059 ±0.030	0.062 ±0.058	0.113 ±0.089	0.075 ±0.049
Subject24_sync	κ	-0.010 ±0.023	-0.005 ±0.021	0.031 ±0.061	0.103 ± 0.087	0.036 ±0.053	0.041 ±0.050	-0.005 ±0.021	0.010 ±0.039	-0.005 ±0.021	0.026 ±0.031	0.051 ±0.031	0.000 ±0.031	0.077 ± 0.044	0.046 ±0.038	0.005 ±0.021	0.015 ±0.053	0.031 ±0.038
		0.558 ±0.033	0.529 ±0.044	0.541 ±0.085	0.697 ± 0.039	0.569 ±0.065	0.579 ±0.049	0.556 ±0.056	0.589 ±0.034	0.522 ±0.079	0.590 ±0.046	0.624 ±0.026	0.551 ±0.040	0.717 ± 0.021	0.601 ±0.037	0.544 ±0.021	0.624 ±0.030	0.616 ±0.033
	BAcc	0.015 ±0.022	0.020 ±0.021	0.055 ±0.060	0.125 ± 0.085	0.060 ±0.052	0.065 ±0.049	0.020 ±0.021	0.035 ±0.038	0.020 ±0.021	0.050 ±0.031	0.075 ±0.031	0.025 ±0.031	0.100 ± 0.043	0.070 ±0.037	0.030 ±0.021	0.040 ±0.052	0.055 ±0.037
		0.015 ±0.022	0.020 ±0.021	0.055 ±0.060	0.125 ± 0.085	0.060 ±0.052	0.097 ±0.081	0.031 ±0.037	0.050 ±0.064	0.031 ±0.037	0.059 ±0.042	0.113 ±0.037	0.025 ±0.028	0.119 ± 0.082	0.081 ±0.062	0.037 ±0.032	0.034 ±0.040	0.053 ±0.032

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
	Acc.2	0.065 ±0.014	0.030 ±0.021	0.100 ±0.053	0.220 ± 0.089	0.100 ±0.056	0.116 ±0.087	0.087 ±0.084	0.106 ±0.037	0.050 ±0.060	0.116 ±0.078	0.178 ±0.069	0.069 ±0.079	0.234 ± 0.038	0.159 ±0.068	0.053 ±0.032	0.116 ±0.070	0.119 ±0.053
Subject25_sync	κ	0.077 ±0.075	0.118 ±0.069	0.113 ±0.062	0.062 ±0.039	0.128 ±0.036	0.103 ±0.036	0.046 ±0.046	0.082 ±0.033	0.000 ±0.018	0.118 ±0.053	0.041 ±0.039	0.026 ±0.044	0.056 ±0.058	0.133 ± 0.021	0.041 ±0.023	0.138 ± 0.047	0.072 ±0.033
	AUC	0.767 ±0.040	0.786 ± 0.025	0.765 ±0.019	0.775 ± 0.040	0.767 ±0.036	0.682 ±0.037	0.675 ±0.053	0.689 ±0.047	0.564 ±0.040	0.714 ±0.038	0.727 ±0.033	0.627 ±0.030	0.716 ±0.035	0.713 ±0.035	0.612 ±0.068	0.710 ±0.040	0.686 ±0.032
	BAcc	0.100 ±0.073	0.140 ±0.068	0.135 ±0.060	0.085 ±0.038	0.150 ±0.035	0.125 ±0.035	0.070 ±0.045	0.105 ±0.033	0.025 ±0.018	0.140 ±0.052	0.065 ±0.038	0.050 ±0.043	0.080 ±0.057	0.155 ± 0.021	0.065 ±0.022	0.160 ± 0.045	0.095 ±0.033
	Acc.1	0.100 ±0.073	0.140 ±0.068	0.135 ±0.060	0.085 ±0.038	0.150 ±0.035	0.163 ± 0.059	0.053 ±0.045	0.094 ±0.044	0.025 ±0.030	0.172 ± 0.080	0.087 ±0.045	0.041 ±0.028	0.087 ±0.074	0.059 ± 0.053	0.059 ±0.028	0.156 ±0.038	0.097 ±0.051
	Acc.2	0.195 ±0.069	0.235 ±0.074	0.260 ±0.074	0.230 ±0.080	0.230 ±0.048	0.244 ±0.041	0.128 ±0.055	0.219 ±0.069	0.069 ±0.059	0.228 ±0.108	0.184 ±0.049	0.094 ±0.037	0.163 ±0.071	0.297 ± 0.083	0.094 ±0.043	0.325 ± 0.072	0.206 ±0.078
	κ	0.056 ±0.056	0.010 ±0.023	0.026 ±0.065	0.144 ± 0.043	0.051 ±0.018	0.067 ±0.064	0.015 ±0.014	0.015 ±0.039	0.010 ±0.014	0.056 ±0.046	0.041 ±0.050	0.005 ±0.033	0.082 ± 0.058	0.051 ±0.041	0.015 ±0.034	0.051 ±0.031	0.000 ±0.026
	AUC	0.642 ±0.077	0.582 ±0.071	0.596 ±0.046	0.784 ± 0.053	0.642 ±0.022	0.691 ±0.059	0.621 ±0.031	0.570 ±0.022	0.531 ±0.070	0.613 ±0.023	0.668 ±0.027	0.522 ±0.047	0.709 ± 0.052	0.662 ±0.046	0.530 ±0.048	0.648 ±0.019	0.559 ±0.039
	BAcc	0.080 ±0.054	0.035 ±0.022	0.050 ±0.064	0.165 ± 0.042	0.075 ±0.018	0.090 ±0.063	0.040 ±0.014	0.040 ±0.038	0.035 ±0.014	0.080 ±0.045	0.065 ±0.049	0.030 ±0.033	0.105 ± 0.057	0.075 ±0.040	0.040 ±0.034	0.075 ±0.031	0.025 ±0.025
Subject26_sync	Acc.1	0.080 ±0.054	0.035 ±0.022	0.050 ±0.064	0.165 ± 0.042	0.075 ±0.018	0.084 ±0.055	0.034 ±0.026	0.053 ±0.045	0.059 ±0.026	0.087 ± 0.056	0.050 ±0.051	0.037 ±0.041	0.084 ±0.042	0.056 ±0.042	0.034 ±0.026	0.075 ±0.017	0.034 ±0.036
	Acc.2	0.170 ± 0.087	0.070 ±0.041	0.095 ±0.051	0.280 ± 0.048	0.145 ±0.041	0.100 ±0.046	0.119 ±0.053	0.125 ±0.071	0.075 ±0.040	0.119 ±0.049	0.081 ±0.042	0.050 ±0.045	0.156 ±0.075	0.134 ±0.041	0.072 ±0.041	0.128 ±0.037	0.066 ±0.049
	κ	0.026 ±0.041	0.000 ±0.036	0.021 ±0.021	0.026 ±0.051	0.005 ±0.033	0.000 ±0.018	0.005 ±0.011	0.005 ±0.021	0.010 ±0.029	0.026 ±0.036	0.005 ±0.028	-0.021 ±0.011	0.051 ± 0.026	0.051 ± 0.036	0.000 ±0.031	0.036 ±0.023	0.021 ±0.021
	AUC	0.588 ±0.068	0.541 ±0.032	0.550 ±0.023	0.622 ± 0.042	0.540 ±0.042	0.557 ±0.035	0.505 ±0.037	0.578 ±0.039	0.507 ±0.042	0.610 ± 0.041	0.576 ±0.042	0.475 ±0.047	0.608 ±0.061	0.592 ±0.065	0.533 ±0.037	0.582 ±0.056	0.557 ±0.054
	BAcc	0.050 ±0.040	0.025 ±0.035	0.045 ±0.021	0.050 ±0.050	0.030 ±0.033	0.025 ±0.018	0.030 ±0.011	0.030 ±0.021	0.035 ±0.029	0.050 ±0.035	0.030 ±0.027	0.005 ±0.011	0.075 ± 0.025	0.075 ± 0.035	0.025 ±0.031	0.060 ± 0.022	0.045 ±0.021
	Acc.1	0.050 ±0.040	0.025 ±0.035	0.045 ±0.021	0.050 ±0.050	0.030 ±0.033	0.025 ±0.024	0.028 ±0.028	0.047 ±0.031	0.041 ±0.038	0.041 ±0.030	0.028 ±0.032	0.013 ±0.028	0.084 ± 0.042	0.122 ± 0.077	0.016 ±0.019	0.084 ± 0.056	0.037 ±0.018
	Acc.2	0.105 ±0.054	0.065 ±0.022	0.095 ±0.033	0.105 ±0.060	0.070 ±0.037	0.087 ±0.028	0.037 ±0.032	0.066 ±0.037	0.078 ±0.019	0.119 ±0.069	0.050 ±0.040	0.028 ±0.039	0.119 ±0.056	0.103 ± 0.077	0.103 ±0.050	0.159 ± 0.073	0.047 ±0.025

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject28_sync	κ	$\begin{matrix} 0.051 \\ \pm 0.041 \end{matrix}$	0.015 ± 0.023	0.026 ± 0.031	0.036 ± 0.014	0.026 ± 0.041	0.015 ± 0.039	0.000 ± 0.026	0.026 ± 0.041	0.021 ± 0.049	0.036 ± 0.029	0.005 ± 0.028	0.015 ± 0.023	-0.015 ± 0.014	0.031 ± 0.021	0.021 ± 0.021	0.036 ± 0.039	0.015 ± 0.039
	AUC	$\begin{matrix} 0.695 \\ \pm 0.033 \end{matrix}$	0.628 ± 0.026	0.650 ± 0.015	0.623 ± 0.027	0.641 ± 0.049	0.569 ± 0.046	0.556 ± 0.062	0.575 ± 0.029	0.511 ± 0.056	0.595 ± 0.019	0.585 ± 0.055	0.558 ± 0.033	0.589 ± 0.021	0.544 ± 0.048	0.593 ± 0.049	0.553 ± 0.039	0.628 ± 0.041
	BAcc	$\begin{matrix} 0.075 \\ \pm 0.040 \end{matrix}$	0.040 ± 0.022	0.050 ± 0.031	0.060 ± 0.014	0.050 ± 0.040	0.040 ± 0.038	0.025 ± 0.025	0.050 ± 0.040	0.045 ± 0.048	0.060 ± 0.029	0.030 ± 0.027	0.040 ± 0.022	0.010 ± 0.014	0.055 ± 0.021	0.045 ± 0.021	0.060 ± 0.038	0.040 ± 0.038
	Acc.1	$\begin{matrix} 0.075 \\ \pm 0.040 \end{matrix}$	0.040 ± 0.022	0.050 ± 0.031	0.060 ± 0.014	0.050 ± 0.040	0.062 ± 0.040	0.016 ± 0.016	0.041 ± 0.026	0.037 ± 0.050	0.066 ± 0.023	0.037 ± 0.039	0.044 ± 0.020	0.016 ± 0.027	0.062 ± 0.053	0.056 ± 0.050	0.056 ± 0.030	0.034 ± 0.043
	Acc.2	0.120 ± 0.037	0.090 ± 0.052	0.080 ± 0.021	0.075 ± 0.018	0.115 ± 0.052	$\begin{matrix} 0.131 \\ \pm 0.071 \end{matrix}$	0.047 ± 0.019	0.072 ± 0.042	0.072 ± 0.042	$\begin{matrix} 0.131 \\ \pm 0.041 \end{matrix}$	0.087 ± 0.053	0.056 ± 0.028	0.072 ± 0.054	0.100 ± 0.042	0.113 ± 0.062	0.091 ± 0.051	0.097 ± 0.053
Subject29_sync	κ	$\begin{matrix} 0.010 \\ \pm 0.023 \end{matrix}$	0.041 ± 0.039	0.031 ± 0.028	0.031 ± 0.028	0.005 ± 0.021	0.005 ± 0.021	0.021 ± 0.033	0.015 ± 0.023	0.015 ± 0.029	0.015 ± 0.029	0.026 ± 0.018	0.005 ± 0.011	$\begin{matrix} 0.046 \\ \pm 0.038 \end{matrix}$	0.041 ± 0.014	0.021 ± 0.021	0.026 ± 0.031	0.031 ± 0.064
	AUC	$\begin{matrix} 0.583 \\ \pm 0.029 \end{matrix}$	0.558 ± 0.040	0.568 ± 0.038	0.587 ± 0.062	0.548 ± 0.042	0.503 ± 0.037	0.521 ± 0.054	0.522 ± 0.041	0.500 ± 0.026	0.582 ± 0.057	0.593 ± 0.029	0.507 ± 0.027	$\begin{matrix} 0.645 \\ \pm 0.045 \end{matrix}$	0.618 ± 0.049	0.574 ± 0.045	0.589 ± 0.054	0.578 ± 0.026
	BAcc	$\begin{matrix} 0.035 \\ \pm 0.022 \end{matrix}$	0.065 ± 0.038	0.055 ± 0.027	0.055 ± 0.027	0.030 ± 0.021	0.030 ± 0.021	0.045 ± 0.033	0.040 ± 0.022	0.040 ± 0.029	0.040 ± 0.029	0.050 ± 0.018	0.030 ± 0.011	$\begin{matrix} 0.070 \\ \pm 0.037 \end{matrix}$	0.065 ± 0.014	0.045 ± 0.021	0.050 ± 0.031	0.055 ± 0.062
	Acc.1	$\begin{matrix} 0.035 \\ \pm 0.022 \end{matrix}$	0.065 ± 0.038	0.055 ± 0.027	0.055 ± 0.027	0.030 ± 0.021	0.028 ± 0.030	0.056 ± 0.056	0.044 ± 0.034	0.053 ± 0.054	0.025 ± 0.018	0.059 ± 0.039	0.028 ± 0.028	0.053 ± 0.042	$\begin{matrix} 0.069 \\ \pm 0.048 \end{matrix}$	0.056 ± 0.026	0.050 ± 0.037	0.044 ± 0.047
	Acc.2	$\begin{matrix} 0.080 \\ \pm 0.021 \end{matrix}$	0.100 ± 0.053	0.080 ± 0.021	0.070 ± 0.045	0.075 ± 0.025	0.050 ± 0.037	0.081 ± 0.081	0.091 ± 0.064	0.066 ± 0.051	0.053 ± 0.039	0.103 ± 0.053	0.069 ± 0.044	$\begin{matrix} 0.106 \\ \pm 0.051 \end{matrix}$	$\begin{matrix} 0.119 \\ \pm 0.055 \end{matrix}$	0.116 ± 0.038	0.113 ± 0.046	0.091 ± 0.056
Subject2_sync	κ	$\begin{matrix} 0.001 \\ \pm 0.023 \end{matrix}$	0.004 ± 0.024	0.007 ± 0.028	0.007 ± 0.035	0.005 ± 0.028	0.002 ± 0.021	0.004 ± 0.022	-0.001 ± 0.025	-0.001 ± 0.024	0.020 ± 0.029	$\begin{matrix} 0.021 \\ \pm 0.029 \end{matrix}$	0.002 ± 0.025	0.015 ± 0.033	0.013 ± 0.028	0.006 ± 0.026	0.006 ± 0.027	0.007 ± 0.022
	AUC	$\begin{matrix} 0.542 \\ \pm 0.066 \end{matrix}$	0.525 ± 0.066	0.522 ± 0.067	0.545 ± 0.082	0.510 ± 0.065	0.503 ± 0.051	0.513 ± 0.046	0.499 ± 0.050	0.498 ± 0.038	0.552 ± 0.056	0.573 ± 0.062	0.505 ± 0.048	$\begin{matrix} 0.574 \\ \pm 0.066 \end{matrix}$	0.545 ± 0.048	0.523 ± 0.040	0.519 ± 0.049	0.526 ± 0.042
	BAcc	$\begin{matrix} 0.026 \\ \pm 0.023 \end{matrix}$	0.029 ± 0.023	0.032 ± 0.028	0.031 ± 0.034	0.030 ± 0.027	0.027 ± 0.020	0.029 ± 0.022	0.024 ± 0.025	0.024 ± 0.023	0.044 ± 0.028	$\begin{matrix} 0.045 \\ \pm 0.029 \end{matrix}$	0.027 ± 0.025	0.040 ± 0.032	0.038 ± 0.027	0.031 ± 0.025	0.031 ± 0.026	0.032 ± 0.022
	Acc.1	$\begin{matrix} 0.026 \\ \pm 0.023 \end{matrix}$	0.029 ± 0.023	0.032 ± 0.028	0.031 ± 0.034	0.030 ± 0.027	0.033 ± 0.032	0.035 ± 0.032	0.022 ± 0.027	0.026 ± 0.031	$\begin{matrix} 0.048 \\ \pm 0.043 \end{matrix}$	0.042 ± 0.037	0.026 ± 0.034	0.042 ± 0.043	0.041 ± 0.035	0.040 ± 0.039	0.031 ± 0.033	0.041 ± 0.035
	Acc.2	$\begin{matrix} 0.055 \\ \pm 0.033 \end{matrix}$	0.055 ± 0.032	0.057 ± 0.034	0.061 ± 0.044	0.061 ± 0.039	0.066 ± 0.049	0.063 ± 0.043	0.044 ± 0.040	0.051 ± 0.044	$\begin{matrix} 0.085 \\ \pm 0.051 \end{matrix}$	0.076 ± 0.056	0.049 ± 0.041	0.068 ± 0.057	0.079 ± 0.058	0.075 ± 0.043	0.064 ± 0.045	0.068 ± 0.043
Subject30_sync	κ	$\begin{matrix} 0.005 \\ \pm 0.028 \end{matrix}$	0.021 ± 0.042	0.010 ± 0.056	$\begin{matrix} 0.067 \\ \pm 0.034 \end{matrix}$	0.021 ± 0.033	0.005 ± 0.028	0.005 ± 0.033	0.031 ± 0.033	0.015 ± 0.023	0.026 ± 0.031	0.005 ± 0.021	0.021 ± 0.028	0.046 ± 0.011	0.031 ± 0.038	0.005 ± 0.033	0.000 ± 0.018	0.015 ± 0.029

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject31_sync	AUC	0.593 ±0.044	0.570 ±0.065	0.559 ±0.046	0.621 ± 0.044	0.581 ±0.042	0.553 ±0.033	0.535 ±0.045	0.565 ±0.059	0.526 ±0.024	0.593 ±0.083	0.578 ±0.060	0.538 ±0.024	<div>0.643 ± 0.028</div>	0.586 ±0.050	0.515 ±0.050	0.518 ±0.019	0.541 ±0.039
		0.030 ±0.027	0.045 ±0.041	0.035 ±0.055	<div>0.090 ± 0.034</div>	0.045 ±0.033	0.030 ±0.027	0.030 ±0.033	0.055 ±0.033	0.040 ±0.022	0.050 ±0.031	0.030 ±0.021	0.045 ±0.027	0.070 ± 0.011	0.055 ±0.037	0.030 ±0.033	0.025 ±0.018	0.040 ±0.029
	BAcc	0.030 ±0.027	0.045 ±0.041	0.035 ±0.055	<div>0.090 ± 0.034</div>	0.045 ±0.033	0.037 ±0.039	0.028 ±0.039	0.062 ± 0.080	0.034 ±0.020	0.041 ±0.039	0.028 ±0.030	0.047 ±0.038	0.062 ± 0.029	0.062 ± 0.049	0.056 ±0.070	0.025 ±0.024	0.044 ±0.040
		0.070 ±0.033	0.070 ±0.065	0.060 ±0.045	0.105 ± 0.033	0.095 ±0.045	0.081 ±0.023	0.075 ±0.064	0.078 ±0.089	0.087 ±0.014	0.069 ±0.048	0.056 ±0.039	0.087 ±0.053	<div>0.109 ± 0.033</div>	0.103 ±0.060	0.097 ±0.068	0.047 ±0.043	0.075 ±0.040
	κ	0.021 ±0.021	-0.021 ±0.011	0.036 ±0.034	0.051 ±0.054	0.036 ±0.023	0.031 ±0.011	0.036 ±0.029	0.036 ±0.029	0.031 ±0.038	0.041 ±0.023	-0.005 ±0.011	0.046 ±0.033	<div>0.067 ± 0.047</div>	0.051 ±0.026	-0.005 ±0.028	0.056 ±0.033	0.062 ± 0.023
		0.599 ±0.041	0.532 ±0.049	0.607 ±0.028	0.636 ± 0.024	0.569 ±0.032	0.574 ±0.047	0.540 ±0.038	0.605 ±0.031	0.532 ±0.036	0.625 ±0.043	0.529 ±0.028	0.575 ±0.023	<div>0.675 ± 0.023</div>	0.592 ±0.032	0.525 ±0.034	0.585 ±0.054	0.611 ±0.072
	BAcc	0.045 ±0.021	0.005 ±0.011	0.060 ±0.034	0.075 ±0.053	0.060 ±0.022	0.055 ±0.011	0.060 ±0.029	0.060 ±0.029	0.055 ±0.037	0.065 ±0.022	0.020 ±0.011	0.070 ±0.033	<div>0.090 ± 0.045</div>	0.075 ±0.025	0.020 ±0.027	0.080 ±0.033	0.085 ± 0.022
		0.045 ±0.021	0.005 ±0.011	0.060 ±0.034	0.075 ±0.053	0.060 ±0.022	0.091 ±0.039	0.037 ±0.018	0.066 ±0.049	0.053 ±0.046	0.097 ±0.061	0.031 ±0.029	0.053 ±0.036	0.113 ± 0.037	0.084 ±0.046	0.013 ±0.017	0.106 ±0.039	<div>0.128 ± 0.034</div>
	Acc.1	0.085 ±0.042	0.035 ±0.029	0.125 ±0.047	0.125 ±0.068	0.090 ±0.029	0.125 ±0.037	0.081 ±0.039	0.091 ±0.052	0.062 ±0.053	<div>0.163 ± 0.059</div>	0.066 ±0.030	0.069 ±0.032	0.153 ±0.064	0.131 ±0.083	0.028 ±0.020	0.150 ±0.049	0.156 ± 0.053
		0.085 ±0.042	0.035 ±0.029	0.125 ±0.047	0.125 ±0.068	0.090 ±0.029	0.125 ±0.037	0.081 ±0.039	0.091 ±0.052	0.062 ±0.053	<div>0.163 ± 0.059</div>	0.066 ±0.030	0.069 ±0.032	0.153 ±0.064	0.131 ±0.083	0.028 ±0.020	0.150 ±0.049	0.156 ± 0.053
Subject32_sync	κ	0.308 ±0.063	0.026 ±0.036	0.062 ±0.064	<div>0.421 ± 0.117</div>	0.169 ±0.059	0.169 ±0.064	0.082 ±0.021	0.072 ±0.061	-0.005 ±0.021	0.051 ±0.048	0.068 ±0.026	0.029 ±0.027	0.390 ± 0.053	0.144 ±0.069	0.005 ±0.011	0.133 ±0.028	0.046 ±0.028
		0.943 ± 0.022	0.617 ±0.044	0.679 ±0.077	<div>0.949 ± 0.022</div>	0.780 ±0.043	0.790 ±0.036	0.750 ±0.053	0.642 ±0.036	0.516 ±0.026	0.645 ±0.009	0.728 ±0.028	0.580 ±0.041	0.928 ±0.018	0.739 ±0.052	0.595 ±0.050	0.745 ±0.050	0.663 ±0.036
	BAcc	0.325 ±0.061	0.050 ±0.035	0.085 ±0.063	<div>0.435 ± 0.114</div>	0.190 ±0.058	0.190 ±0.063	0.105 ±0.021	0.095 ±0.060	0.020 ±0.021	0.075 ±0.047	0.092 ±0.026	0.054 ±0.027	0.405 ± 0.051	0.165 ±0.068	0.030 ±0.011	0.155 ±0.027	0.070 ±0.027
		0.325 ±0.061	0.050 ±0.035	0.085 ±0.063	0.435 ± 0.114	0.190 ±0.058	0.194 ±0.067	0.084 ±0.018	0.078 ±0.051	0.013 ±0.013	0.084 ±0.053	0.081 ±0.039	0.047 ±0.031	<div>0.441 ± 0.046</div>	0.141 ±0.056	0.028 ±0.028	0.163 ±0.055	0.053 ±0.034
	Acc.1	0.515 ±0.063	0.085 ±0.052	0.160 ±0.076	<div>0.640 ± 0.140</div>	0.265 ±0.091	0.319 ±0.057	0.188 ±0.089	0.138 ±0.057	0.078 ±0.049	0.147 ±0.087	0.159 ±0.055	0.076 ±0.035	0.619 ± 0.063	0.222 ±0.065	0.075 ±0.043	0.247 ±0.084	0.109 ±0.019
		0.515 ±0.063	0.085 ±0.052	0.160 ±0.076	<div>0.640 ± 0.140</div>	0.265 ±0.091	0.319 ±0.057	0.188 ±0.089	0.138 ±0.057	0.078 ±0.049	0.147 ±0.087	0.159 ±0.055	0.076 ±0.035	0.619 ± 0.063	0.222 ±0.065	0.075 ±0.043	0.247 ±0.084	0.109 ±0.019
Subject33_sync	AUC	0.062 ±0.053	0.031 ±0.049	0.036 ±0.034	0.062 ±0.034	0.000 ±0.026	0.026 ±0.018	0.021 ±0.021	0.046 ±0.042	0.000 ±0.031	0.051 ±0.044	0.005 ±0.042	0.036 ±0.039	0.067 ± 0.067	0.051 ±0.041	0.026 ±0.041	<div>0.097 ± 0.058</div>	0.021 ±0.028
		<div>0.713 ± 0.022</div>	0.671 ±0.018	0.683 ±0.029	0.700 ± 0.029	0.622 ±0.034	0.589 ±0.049	0.559 ±0.027	0.609 ±0.055	0.499 ±0.012	0.609 ±0.066	0.615 ±0.045	0.539 ±0.056	0.668 ±0.015	0.601 ±0.045	0.603 ±0.046	0.650 ±0.060	0.641 ±0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
Subject34_sync	BAcc	0.085 ±0.052	0.055 ±0.048	0.060 ±0.034	0.085 ±0.034	0.025 ±0.025	0.050 ±0.018	0.045 ±0.021	0.070 ±0.041	0.025 ±0.031	0.075 ±0.043	0.030 ±0.041	0.060 ±0.038	0.090 ± 0.065	0.075 ±0.040	0.050 ±0.040	0.120 ± 0.057	0.045 ±0.027
	Acc.1	0.085 ± 0.052	0.055 ±0.048	0.060 ±0.034	0.085 ± 0.034	0.025 ±0.025	0.031 ±0.011	0.047 ±0.046	0.072 ±0.048	0.016 ±0.019	0.084 ±0.077	0.019 ±0.026	0.066 ±0.047	0.084 ±0.059	0.084 ±0.060	0.069 ±0.042	0.094 ± 0.053	0.037 ±0.028
	Acc.2	0.155 ± 0.084	0.110 ±0.034	0.115 ±0.034	0.135 ±0.045	0.085 ±0.052	0.072 ±0.038	0.103 ±0.059	0.113 ±0.053	0.037 ±0.024	0.134 ±0.081	0.075 ±0.065	0.091 ±0.045	0.109 ±0.074	0.147 ±0.053	0.109 ±0.040	0.150 ± 0.063	0.106 ±0.058
	κ	0.036 ±0.053	0.026 ±0.026	0.056 ±0.046	0.123 ± 0.021	0.036 ±0.043	-0.010 ±0.014	0.021 ±0.021	0.041 ±0.043	-0.010 ±0.023	0.046 ±0.033	0.015 ±0.039	0.010 ±0.014	0.164 ± 0.039	0.026 ±0.018	-0.005 ±0.021	0.041 ±0.034	0.021 ±0.021
	AUC	0.565 ±0.057	0.546 ±0.073	0.617 ±0.039	0.768 ± 0.035	0.610 ±0.045	0.518 ±0.052	0.537 ±0.030	0.576 ±0.048	0.502 ±0.050	0.635 ±0.047	0.566 ±0.039	0.566 ±0.041	0.774 ± 0.025	0.566 ±0.014	0.477 ±0.053	0.560 ±0.059	0.526 ±0.024
	BAcc	0.060 ±0.052	0.050 ±0.025	0.080 ±0.045	0.145 ± 0.021	0.060 ±0.042	0.015 ±0.014	0.045 ±0.021	0.065 ±0.042	0.015 ±0.022	0.070 ±0.033	0.040 ±0.038	0.035 ±0.014	0.185 ± 0.038	0.050 ±0.018	0.020 ±0.021	0.065 ±0.034	0.045 ±0.021
	Acc.1	0.060 ±0.052	0.050 ±0.025	0.080 ±0.045	0.145 ± 0.021	0.060 ±0.042	0.009 ±0.009	0.047 ±0.037	0.069 ±0.063	0.009 ±0.014	0.091 ±0.051	0.044 ±0.043	0.022 ±0.009	0.219 ± 0.029	0.059 ±0.034	0.013 ±0.013	0.050 ±0.026	0.037 ±0.018
	Acc.2	0.115 ±0.029	0.070 ±0.033	0.120 ±0.041	0.205 ± 0.048	0.110 ±0.060	0.047 ±0.022	0.062 ±0.040	0.103 ±0.057	0.031 ±0.033	0.150 ±0.061	0.081 ±0.050	0.062 ±0.029	0.284 ± 0.085	0.100 ±0.053	0.028 ±0.026	0.116 ±0.053	0.072 ±0.024
	κ	0.046 ±0.033	0.067 ± 0.043	0.056 ±0.011	0.092 ± 0.039	0.046 ±0.011	0.046 ±0.028	0.015 ±0.023	0.046 ±0.056	0.021 ±0.021	0.051 ±0.075	0.021 ±0.033	0.015 ±0.039	0.051 ±0.060	0.067 ± 0.023	0.051 ±0.036	0.062 ±0.023	0.031 ±0.033
	AUC	0.677 ±0.062	0.685 ±0.047	0.656 ±0.035	0.707 ± 0.054	0.665 ±0.043	0.568 ±0.036	0.558 ±0.041	0.624 ±0.039	0.540 ±0.044	0.666 ±0.021	0.600 ±0.028	0.567 ±0.044	0.702 ± 0.028	0.601 ±0.053	0.591 ±0.038	0.613 ±0.024	0.611 ±0.070
Subject35_sync	BAcc	0.070 ±0.033	0.090 ± 0.042	0.080 ±0.011	0.115 ± 0.038	0.070 ±0.011	0.070 ±0.027	0.040 ±0.022	0.070 ±0.054	0.045 ±0.021	0.075 ±0.073	0.045 ±0.033	0.040 ±0.038	0.075 ±0.059	0.090 ± 0.022	0.075 ±0.035	0.085 ±0.022	0.055 ±0.033
	Acc.1	0.070 ±0.033	0.090 ±0.042	0.080 ±0.011	0.115 ± 0.038	0.070 ±0.011	0.100 ± 0.034	0.034 ±0.034	0.081 ±0.061	0.056 ±0.026	0.075 ±0.068	0.066 ±0.055	0.034 ±0.043	0.075 ±0.075	0.084 ±0.036	0.084 ±0.053	0.081 ±0.020	0.062 ±0.040
	Acc.2	0.120 ±0.033	0.175 ±0.056	0.135 ±0.072	0.200 ± 0.050	0.125 ±0.047	0.181 ± 0.048	0.066 ±0.040	0.128 ±0.049	0.087 ±0.051	0.144 ±0.087	0.138 ±0.075	0.066 ±0.037	0.166 ±0.069	0.178 ±0.054	0.116 ±0.051	0.122 ±0.052	0.087 ±0.054
	κ	0.074 ±0.148	0.015 ±0.043	0.041 ±0.085	0.132 ± 0.205	0.016 ±0.038	0.058 ±0.115	0.042 ±0.094	0.028 ±0.048	0.008 ±0.036	0.012 ±0.031	0.014 ±0.031	0.038 ±0.089	0.086 ±0.152	0.092 ± 0.166	0.006 ±0.023	0.045 ±0.095	0.007 ±0.025
	AUC	0.669 ±0.136	0.583 ±0.079	0.601 ±0.105	0.703 ± 0.136	0.585 ±0.082	0.608 ±0.129	0.562 ±0.115	0.581 ±0.067	0.530 ±0.043	0.534 ±0.056	0.574 ±0.066	0.585 ±0.116	0.704 ± 0.117	0.620 ±0.134	0.531 ±0.057	0.590 ±0.106	0.526 ±0.057
	BAcc	0.097 ±0.144	0.039 ±0.042	0.065 ±0.083	0.154 ± 0.199	0.041 ±0.037	0.081 ±0.112	0.066 ±0.091	0.052 ±0.046	0.033 ±0.035	0.037 ±0.030	0.039 ±0.031	0.062 ±0.087	0.109 ±0.148	0.114 ± 0.162	0.031 ±0.023	0.069 ±0.093	0.031 ±0.025

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
Subject4_sync	Acc.1	0.097	0.039	0.065	0.154	0.041	0.095	0.064	0.047	0.033	0.033	0.039	0.064	0.111	0.102	0.034	0.053	0.026
		± 0.144	± 0.042	± 0.083	± 0.199	± 0.037	± 0.126	± 0.094	± 0.043	± 0.043	± 0.032	± 0.044	± 0.089	± 0.157	± 0.168	± 0.040	± 0.079	± 0.027
	Acc.2	0.167	0.077	0.119	0.224	0.071	0.158	0.093	0.079	0.064	0.067	0.064	0.102	0.173	0.162	0.075	0.101	0.055
		± 0.206	± 0.058	± 0.120	± 0.246	± 0.046	± 0.197	± 0.126	± 0.057	± 0.055	± 0.046	± 0.052	± 0.105	± 0.205	± 0.210	± 0.050	± 0.124	± 0.041
	κ	0.000	0.000	0.010	-0.005	0.005	0.021	0.000	0.000	0.000	0.015	0.028	0.000	0.026	0.010	0.015	0.010	-0.010
		± 0.018	± 0.018	± 0.023	± 0.011	± 0.021	± 0.033	± 0.026	± 0.031	± 0.026	± 0.029	± 0.024	± 0.030	± 0.060	± 0.014	± 0.029	± 0.050	± 0.014
Subject5_sync	AUC	0.501	0.526	0.532	0.562	0.531	0.532	0.532	0.509	0.506	0.563	0.594	0.511	0.567	0.502	0.494	0.541	0.494
		± 0.012	± 0.046	± 0.024	± 0.019	± 0.056	± 0.051	± 0.053	± 0.050	± 0.033	± 0.007	± 0.017	± 0.052	± 0.016	± 0.057	± 0.049	± 0.065	± 0.017
	BAcc	0.025	0.025	0.035	0.020	0.030	0.045	0.025	0.025	0.025	0.040	0.053	0.025	0.050	0.035	0.040	0.035	0.015
		± 0.018	± 0.018	± 0.022	± 0.011	± 0.021	± 0.033	± 0.025	± 0.031	± 0.025	± 0.029	± 0.023	± 0.029	± 0.059	± 0.014	± 0.029	± 0.049	± 0.014
	Acc.1	0.025	0.025	0.035	0.020	0.030	0.037	0.034	0.016	0.025	0.044	0.059	0.022	0.041	0.050	0.044	0.031	0.009
		± 0.018	± 0.018	± 0.022	± 0.011	± 0.021	± 0.036	± 0.040	± 0.019	± 0.032	± 0.036	± 0.033	± 0.025	± 0.042	± 0.032	± 0.036	± 0.044	± 0.009
Subject6_sync	Acc.2	0.040	0.055	0.060	0.070	0.080	0.062	0.072	0.072	0.062	0.091	0.120	0.031	0.062	0.062	0.075	0.066	0.047
		± 0.029	± 0.033	± 0.038	± 0.041	± 0.041	± 0.059	± 0.030	± 0.032	± 0.043	± 0.053	± 0.062	± 0.024	± 0.047	± 0.025	± 0.062	± 0.053	± 0.037
	κ	0.472	0.062	0.236	0.621	0.103	0.354	0.221	0.087	0.015	0.021	0.026	0.221	0.477	0.554	0.010	0.277	0.067
		± 0.153	± 0.039	± 0.076	± 0.071	± 0.087	± 0.121	± 0.082	± 0.074	± 0.039	± 0.028	± 0.036	± 0.062	± 0.047	± 0.111	± 0.023	± 0.147	± 0.050
	AUC	0.940	0.679	0.838	0.978	0.717	0.877	0.847	0.704	0.593	0.611	0.668	0.839	0.951	0.945	0.547	0.856	0.601
		± 0.050	± 0.053	± 0.047	± 0.016	± 0.051	± 0.068	± 0.053	± 0.086	± 0.033	± 0.033	± 0.009	± 0.013	± 0.014	± 0.028	± 0.027	± 0.030	± 0.022
Subject4_sync	BAcc	0.485	0.085	0.255	0.630	0.125	0.370	0.240	0.110	0.040	0.045	0.050	0.240	0.490	0.565	0.035	0.295	0.090
		± 0.150	± 0.038	± 0.074	± 0.069	± 0.085	± 0.118	± 0.080	± 0.072	± 0.038	± 0.027	± 0.035	± 0.060	± 0.045	± 0.108	± 0.022	± 0.143	± 0.049
	Acc.1	0.485	0.085	0.255	0.630	0.125	0.344	0.244	0.106	0.034	0.056	0.059	0.281	0.503	0.569	0.031	0.281	0.113
		± 0.150	± 0.038	± 0.074	± 0.069	± 0.085	± 0.142	± 0.085	± 0.100	± 0.034	± 0.034	± 0.043	± 0.049	± 0.083	± 0.041	± 0.029	± 0.097	± 0.043
	Acc.2	0.615	0.145	0.360	0.835	0.175	0.494	0.428	0.184	0.053	0.094	0.153	0.412	0.678	0.747	0.116	0.469	0.144
		± 0.168	± 0.051	± 0.128	± 0.084	± 0.085	± 0.167	± 0.054	± 0.089	± 0.042	± 0.025	± 0.043	± 0.053	± 0.087	± 0.078	± 0.036	± 0.124	± 0.043
Subject6_sync	κ	0.092	0.026	0.072	0.436	0.067	0.082	0.056	0.036	0.000	0.072	0.005	0.036	0.256	0.128	0.026	0.138	0.010
		± 0.108	± 0.018	± 0.021	± 0.057	± 0.029	± 0.028	± 0.042	± 0.034	± 0.031	± 0.021	± 0.021	± 0.039	± 0.048	± 0.036	± 0.018	± 0.074	± 0.023
	AUC	0.711	0.595	0.627	0.957	0.603	0.689	0.650	0.588	0.486	0.612	0.651	0.617	0.888	0.692	0.518	0.732	0.599
		± 0.131	± 0.094	± 0.065	± 0.013	± 0.035	± 0.090	± 0.064	± 0.039	± 0.038	± 0.049	± 0.045	± 0.073	± 0.033	± 0.051	± 0.074	± 0.069	± 0.021
	BAcc	0.115	0.050	0.095	0.450	0.090	0.105	0.080	0.060	0.025	0.095	0.030	0.060	0.275	0.150	0.050	0.160	0.035
		± 0.105	± 0.018	± 0.021	± 0.056	± 0.029	± 0.027	± 0.041	± 0.034	± 0.031	± 0.021	± 0.021	± 0.038	± 0.047	± 0.035	± 0.018	± 0.072	± 0.022
Subject6_sync	Acc.1	0.115	0.050	0.095	0.450	0.090	0.122	0.116	0.075	0.025	0.078	0.037	0.056	0.275	0.131	0.050	0.175	0.022
		± 0.105	± 0.018	± 0.021	± 0.056	± 0.029	± 0.066	± 0.084	± 0.060	± 0.039	± 0.037	± 0.032	± 0.053	± 0.014	± 0.053	± 0.020	± 0.074	± 0.014

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
	Acc.2	0.180 ±0.170	0.075 ±0.040	0.170 ±0.045	0.685 ± 0.068	0.125 ±0.064	0.206 ±0.096	0.169 ±0.088	0.116 ±0.084	0.050 ±0.034	0.128 ±0.076	0.109 ±0.071	0.150 ±0.085	0.441 ± 0.101	0.219 ±0.109	0.091 ±0.034	0.284 ±0.110	0.047 ±0.019
Subject7_sync	κ	0.046 ±0.049	0.010 ±0.023	0.056 ±0.028	0.082 ±0.033	0.041 ±0.034	0.041 ±0.056	0.026 ±0.048	0.005 ±0.028	0.005 ±0.033	0.031 ±0.021	0.021 ±0.028	0.056 ±0.046	0.144 ± 0.053	0.097 ± 0.064	0.021 ±0.028	0.072 ±0.053	0.036 ±0.029
	AUC	0.688 ±0.017	0.624 ±0.057	0.626 ±0.054	0.770 ± 0.030	0.649 ±0.039	0.569 ±0.052	0.595 ±0.033	0.559 ±0.053	0.523 ±0.010	0.631 ±0.021	0.616 ±0.030	0.582 ±0.063	0.799 ± 0.037	0.626 ±0.033	0.558 ±0.061	0.621 ±0.067	0.621 ±0.051
	BAcc	0.070 ±0.048	0.035 ±0.022	0.080 ±0.027	0.105 ±0.033	0.065 ±0.034	0.065 ±0.055	0.050 ±0.047	0.030 ±0.027	0.030 ±0.033	0.055 ±0.021	0.045 ±0.027	0.080 ±0.045	0.165 ± 0.052	0.120 ± 0.062	0.045 ±0.027	0.095 ±0.051	0.060 ±0.029
	Acc.1	0.070 ±0.048	0.035 ±0.022	0.080 ±0.027	0.105 ± 0.033	0.065 ±0.034	0.097 ±0.085	0.059 ±0.051	0.028 ±0.037	0.028 ±0.039	0.053 ±0.038	0.037 ±0.034	0.078 ±0.088	0.178 ± 0.066	0.103 ±0.056	0.037 ±0.028	0.078 ±0.047	0.056 ±0.038
	Acc.2	0.105 ±0.045	0.095 ±0.060	0.120 ±0.041	0.175 ±0.040	0.120 ±0.048	0.131 ±0.066	0.122 ±0.084	0.056 ±0.059	0.044 ±0.036	0.116 ±0.026	0.087 ±0.036	0.097 ±0.091	0.328 ± 0.094	0.212 ± 0.024	0.069 ±0.053	0.203 ±0.071	0.084 ±0.045
	κ	0.015 ±0.039	0.005 ±0.033	0.015 ±0.023	0.185 ± 0.066	0.031 ±0.028	0.015 ±0.029	0.010 ±0.039	0.010 ±0.023	-0.015 ±0.014	0.010 ±0.039	0.005 ±0.028	0.005 ±0.028	0.221 ± 0.056	0.056 ±0.042	0.036 ±0.029	0.026 ±0.031	0.021 ±0.033
Subject8_sync	AUC	0.616 ±0.025	0.555 ±0.041	0.587 ±0.018	0.810 ± 0.023	0.579 ±0.078	0.562 ±0.059	0.569 ±0.037	0.558 ±0.052	0.549 ±0.090	0.573 ±0.045	0.540 ±0.030	0.575 ±0.063	0.824 ± 0.016	0.544 ±0.010	0.566 ±0.054	0.539 ±0.046	0.626 ±0.024
	BAcc	0.040 ±0.038	0.030 ±0.033	0.040 ±0.022	0.205 ± 0.065	0.055 ±0.027	0.040 ±0.029	0.035 ±0.038	0.035 ±0.022	0.010 ±0.014	0.035 ±0.038	0.030 ±0.027	0.030 ±0.027	0.240 ± 0.055	0.080 ±0.041	0.060 ±0.029	0.050 ±0.031	0.045 ±0.033
	Acc.1	0.040 ±0.038	0.030 ±0.033	0.040 ±0.022	0.205 ± 0.065	0.055 ±0.027	0.053 ±0.050	0.041 ±0.059	0.050 ±0.034	0.006 ±0.009	0.031 ±0.040	0.056 ±0.055	0.028 ±0.026	0.300 ± 0.089	0.078 ±0.043	0.075 ±0.056	0.059 ±0.053	0.037 ±0.024
	Acc.2	0.085 ±0.068	0.055 ±0.041	0.075 ±0.050	0.320 ± 0.054	0.070 ±0.033	0.091 ±0.061	0.078 ±0.101	0.106 ±0.050	0.034 ±0.030	0.094 ±0.076	0.078 ±0.063	0.037 ±0.036	0.375 ± 0.068	0.125 ±0.047	0.087 ±0.056	0.087 ±0.048	0.069 ±0.036
	κ	0.026 ±0.048	0.005 ±0.011	0.031 ±0.028	0.113 ± 0.074	0.072 ±0.056	0.005 ±0.021	0.031 ±0.021	0.031 ±0.042	-0.005 ±0.028	0.056 ±0.084	0.005 ±0.033	0.010 ±0.029	0.062 ±0.050	0.056 ±0.028	0.026 ±0.060	0.077 ± 0.063	0.041 ±0.014
	AUC	0.663 ±0.029	0.644 ±0.051	0.634 ±0.012	0.733 ± 0.017	0.659 ±0.028	0.566 ±0.056	0.548 ±0.059	0.602 ±0.081	0.543 ±0.080	0.589 ±0.041	0.506 ±0.038	0.545 ±0.043	0.706 ± 0.041	0.622 ±0.029	0.530 ±0.045	0.638 ±0.052	0.560 ±0.024
Subject9_sync	BAcc	0.050 ±0.047	0.030 ±0.011	0.055 ±0.027	0.135 ± 0.072	0.095 ±0.054	0.030 ±0.021	0.055 ±0.021	0.055 ±0.041	0.020 ±0.027	0.080 ±0.082	0.030 ±0.033	0.035 ±0.029	0.085 ±0.049	0.080 ±0.027	0.050 ±0.059	0.100 ± 0.061	0.065 ±0.014
	Acc.1	0.050 ±0.047	0.030 ±0.011	0.055 ±0.027	0.135 ± 0.072	0.095 ±0.054	0.037 ±0.050	0.044 ±0.013	0.044 ±0.046	0.031 ±0.043	0.097 ±0.117	0.037 ±0.045	0.041 ±0.042	0.100 ± 0.053	0.087 ±0.034	0.050 ±0.056	0.100 ± 0.061	0.078 ±0.043
	Acc.2	0.105 ±0.069	0.070 ±0.048	0.100 ±0.035	0.200 ± 0.079	0.140 ±0.049	0.125 ±0.076	0.078 ±0.040	0.091 ±0.047	0.084 ±0.070	0.144 ±0.107	0.059 ±0.034	0.081 ±0.039	0.191 ± 0.034	0.119 ±0.024	0.081 ±0.059	0.163 ±0.069	0.116 ±0.044
	κ	0.026 ±0.048	0.005 ±0.011	0.031 ±0.028	0.113 ± 0.074	0.072 ±0.056	0.005 ±0.021	0.031 ±0.021	0.031 ±0.042	-0.005 ±0.028	0.056 ±0.084	0.005 ±0.033	0.010 ±0.029	0.062 ±0.050	0.056 ±0.028	0.026 ±0.060	0.077 ± 0.063	0.041 ±0.014
	AUC	0.663 ±0.029	0.644 ±0.051	0.634 ±0.012	0.733 ± 0.017	0.659 ±0.028	0.566 ±0.056	0.548 ±0.059	0.602 ±0.081	0.543 ±0.080	0.589 ±0.041	0.506 ±0.038	0.545 ±0.043	0.706 ± 0.041	0.622 ±0.029	0.530 ±0.045	0.638 ±0.052	0.560 ±0.024
	BAcc	0.050 ±0.047	0.030 ±0.011	0.055 ±0.027	0.135 ± 0.072	0.095 ±0.054	0.030 ±0.021	0.055 ±0.021	0.055 ±0.041	0.020 ±0.027	0.080 ±0.082	0.030 ±0.033	0.035 ±0.029	0.085 ±0.049	0.080 ±0.027	0.050 ±0.059	0.100 ± 0.061	0.065 ±0.014

Per-Subject Zero-Shot Transfer

Table 57: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.008	0.547	0.033	0.033	0.064
DeepConvnet	± 0.008	± 0.022	± 0.007	± 0.007	± 0.011
	0.006	0.529	0.030	0.030	0.061
EEGNet	± 0.003	± 0.009	± 0.003	± 0.003	± 0.004
	0.009	0.537	0.033	0.033	0.066
Conformer	± 0.004	± 0.011	± 0.004	± 0.004	± 0.005
	0.014	0.567	0.039	0.039	0.075
CTNet	± 0.012	± 0.034	± 0.012	± 0.012	± 0.020
	0.007	0.529	0.032	0.032	0.062
SSVEPDNN	± 0.003	± 0.008	± 0.003	± 0.003	± 0.004
	0.008	0.526	0.033	0.035	0.066
BIOT (f)	± 0.007	± 0.016	± 0.007	± 0.012	± 0.018
	0.003	0.512	0.028	0.028	0.056
BIOT (l)	± 0.004	± 0.011	± 0.004	± 0.006	± 0.010
	0.007	0.523	0.032	0.032	0.061
BENDR (f)	± 0.003	± 0.008	± 0.003	± 0.004	± 0.006
	0.001	0.507	0.026	0.026	0.051
BENDR (l)	± 0.003	± 0.003	± 0.002	± 0.003	± 0.004
	0.010	0.537	0.034	0.038	0.071
CBraMod (f)	± 0.005	± 0.015	± 0.005	± 0.008	± 0.012
	0.009	0.548	0.034	0.041	0.078
CBraMod (l)	± 0.007	± 0.031	± 0.007	± 0.013	± 0.019
	0.004	0.517	0.029	0.029	0.058
EEGPT (f)	± 0.003	± 0.011	± 0.003	± 0.004	± 0.007
	0.020	0.599	0.045	0.047	0.088
EEGPT (l)	± 0.010	± 0.036	± 0.010	± 0.015	± 0.024
	0.010	0.530	0.035	0.036	0.068
LaBraM (f)	± 0.008	± 0.017	± 0.008	± 0.010	± 0.017
	0.001	0.508	0.026	0.028	0.054
LaBraM (l)	± 0.002	± 0.006	± 0.002	± 0.007	± 0.011
	0.006	0.524	0.031	0.034	0.066
STEEGformer-s (f)	± 0.005	± 0.012	± 0.005	± 0.011	± 0.019
	0.002	0.527	0.027	0.029	0.057
STEEGformer-s (l)	± 0.002	± 0.013	± 0.002	± 0.009	± 0.015

Table 58: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject10_sync	κ	0.007 ± 0.014	0.006 ± 0.015	0.010 ± 0.015	0.006 ± 0.014	0.012 ± 0.016	0.004 ± 0.012	-0.002 ± 0.011	0.003 ± 0.014	0.004 ± 0.012	0.012 ± 0.013	0.013 ± 0.013	0.001 ± 0.011	0.012 ± 0.017	0.009 ± 0.015	0.001 ± 0.013	0.009 ± 0.013	0.002 ± 0.015
	AUC	0.548 ± 0.041	0.532 ± 0.034	0.544 ± 0.035	0.536 ± 0.037	0.529 ± 0.033	0.517 ± 0.023	0.506 ± 0.020	0.511 ± 0.029	0.507 ± 0.026	0.539 ± 0.024	0.560 ± 0.032	0.505 ± 0.022	0.576 ± 0.043	0.540 ± 0.026	0.505 ± 0.023	0.525 ± 0.027	0.536 ± 0.032
	BAcc	0.032 ± 0.014	0.031 ± 0.015	0.035 ± 0.015	0.031 ± 0.014	0.037 ± 0.016	0.029 ± 0.012	0.023 ± 0.011	0.028 ± 0.014	0.029 ± 0.012	0.037 ± 0.013	0.038 ± 0.013	0.026 ± 0.010	0.037 ± 0.017	0.034 ± 0.014	0.026 ± 0.012	0.034 ± 0.012	0.027 ± 0.014
	Acc.1	0.032 ± 0.014	0.031 ± 0.015	0.035 ± 0.015	0.031 ± 0.014	0.037 ± 0.016	0.032 ± 0.015	0.020 ± 0.012	0.027 ± 0.015	0.030 ± 0.013	0.037 ± 0.016	0.056 ± 0.028	0.026 ± 0.013	0.034 ± 0.018	0.038 ± 0.017	0.033 ± 0.018	0.035 ± 0.019	0.025 ± 0.014
	Acc.2	0.064 ± 0.018	0.061 ± 0.019	0.066 ± 0.024	0.060 ± 0.018	0.067 ± 0.022	0.059 ± 0.017	0.046 ± 0.016	0.052 ± 0.021	0.052 ± 0.018	0.069 ± 0.024	0.096 ± 0.033	0.047 ± 0.017	0.067 ± 0.023	0.072 ± 0.026	0.062 ± 0.024	0.063 ± 0.029	0.051 ± 0.017
Subject11_sync	κ	0.008 ± 0.013	0.005 ± 0.012	0.006 ± 0.014	0.003 ± 0.012	0.005 ± 0.015	0.003 ± 0.011	0.004 ± 0.012	0.006 ± 0.011	0.001 ± 0.013	0.014 ± 0.013	0.006 ± 0.012	0.004 ± 0.009	0.008 ± 0.012	0.003 ± 0.011	0.001 ± 0.009	0.001 ± 0.011	0.001 ± 0.008
	AUC	0.535 ± 0.041	0.524 ± 0.041	0.534 ± 0.038	0.528 ± 0.043	0.525 ± 0.034	0.516 ± 0.020	0.510 ± 0.019	0.520 ± 0.031	0.504 ± 0.022	0.548 ± 0.023	0.564 ± 0.028	0.516 ± 0.020	0.538 ± 0.026	0.518 ± 0.018	0.505 ± 0.019	0.507 ± 0.017	0.514 ± 0.023
	BAcc	0.032 ± 0.012	0.030 ± 0.012	0.031 ± 0.014	0.028 ± 0.012	0.030 ± 0.015	0.028 ± 0.010	0.029 ± 0.012	0.031 ± 0.010	0.026 ± 0.013	0.039 ± 0.013	0.031 ± 0.012	0.029 ± 0.009	0.033 ± 0.012	0.028 ± 0.011	0.026 ± 0.009	0.026 ± 0.011	0.026 ± 0.008
	Acc.1	0.032 ± 0.012	0.030 ± 0.012	0.031 ± 0.014	0.028 ± 0.012	0.030 ± 0.015	0.031 ± 0.013	0.028 ± 0.014	0.029 ± 0.014	0.024 ± 0.015	0.040 ± 0.016	0.033 ± 0.017	0.026 ± 0.009	0.028 ± 0.013	0.030 ± 0.015	0.031 ± 0.013	0.029 ± 0.018	0.026 ± 0.014
	Acc.2	0.064 ± 0.022	0.060 ± 0.020	0.064 ± 0.022	0.057 ± 0.017	0.057 ± 0.016	0.054 ± 0.018	0.055 ± 0.017	0.052 ± 0.017	0.046 ± 0.020	0.073 ± 0.022	0.071 ± 0.022	0.053 ± 0.016	0.057 ± 0.019	0.058 ± 0.020	0.059 ± 0.019	0.059 ± 0.019	0.056 ± 0.018
Subject12_sync	κ	0.004 ± 0.012	0.005 ± 0.015	0.009 ± 0.014	0.005 ± 0.012	0.004 ± 0.010	0.001 ± 0.011	0.002 ± 0.013	0.007 ± 0.014	0.003 ± 0.012	0.012 ± 0.014	0.012 ± 0.012	-0.001 ± 0.008	0.013 ± 0.014	0.010 ± 0.014	-0.000 ± 0.010	0.002 ± 0.009	0.001 ± 0.010
	AUC	0.535 ± 0.042	0.531 ± 0.043	0.541 ± 0.038	0.530 ± 0.042	0.527 ± 0.039	0.511 ± 0.019	0.500 ± 0.020	0.516 ± 0.029	0.502 ± 0.020	0.542 ± 0.035	0.550 ± 0.030	0.505 ± 0.016	0.559 ± 0.032	0.524 ± 0.029	0.500 ± 0.017	0.518 ± 0.022	0.503 ± 0.022
	BAcc	0.029 ± 0.012	0.030 ± 0.015	0.034 ± 0.014	0.030 ± 0.011	0.029 ± 0.009	0.026 ± 0.010	0.027 ± 0.012	0.031 ± 0.013	0.028 ± 0.011	0.037 ± 0.014	0.037 ± 0.012	0.024 ± 0.008	0.038 ± 0.014	0.035 ± 0.014	0.025 ± 0.010	0.027 ± 0.009	0.026 ± 0.010
	Acc.1	0.029 ± 0.012	0.030 ± 0.015	0.034 ± 0.014	0.030 ± 0.011	0.029 ± 0.009	0.025 ± 0.014	0.024 ± 0.012	0.036 ± 0.018	0.026 ± 0.013	0.041 ± 0.023	0.044 ± 0.017	0.022 ± 0.009	0.032 ± 0.013	0.035 ± 0.019	0.023 ± 0.011	0.023 ± 0.013	0.026 ± 0.016
	Acc.2	0.059 ± 0.016	0.060 ± 0.020	0.064 ± 0.020	0.059 ± 0.015	0.060 ± 0.016	0.053 ± 0.017	0.045 ± 0.016	0.065 ± 0.023	0.052 ± 0.021	0.078 ± 0.033	0.082 ± 0.027	0.049 ± 0.013	0.065 ± 0.020	0.064 ± 0.027	0.047 ± 0.018	0.047 ± 0.018	0.054 ± 0.017

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject13_sync	κ	0.009 ± 0.012	0.007 ± 0.015	0.006 ± 0.015	0.015 ± 0.022	0.005 ± 0.016	0.007 ± 0.014	0.003 ± 0.012	0.008 ± 0.013	0.006 ± 0.013	0.017 ± 0.017	0.002 ± 0.011	0.004 ± 0.011	0.041 ± 0.044	0.008 ± 0.011	0.004 ± 0.010	0.013 ± 0.014	0.002 ± 0.009
	AUC	0.549 ± 0.035	0.530 ± 0.035	0.545 ± 0.033	0.595 ± 0.077	0.530 ± 0.034	0.526 ± 0.027	0.507 ± 0.020	0.531 ± 0.033	0.513 ± 0.025	0.552 ± 0.032	0.542 ± 0.027	0.520 ± 0.024	0.655 ± 0.092	0.543 ± 0.033	0.506 ± 0.024	0.536 ± 0.028	0.545 ± 0.036
	BAcc	0.034 ± 0.012	0.032 ± 0.015	0.031 ± 0.015	0.040 ± 0.021	0.029 ± 0.016	0.032 ± 0.014	0.028 ± 0.011	0.032 ± 0.013	0.031 ± 0.013	0.041 ± 0.016	0.027 ± 0.010	0.029 ± 0.011	0.065 ± 0.043	0.033 ± 0.011	0.029 ± 0.010	0.038 ± 0.013	0.027 ± 0.009
	Acc.1	0.034 ± 0.012	0.032 ± 0.015	0.031 ± 0.015	0.040 ± 0.021	0.029 ± 0.016	0.027 ± 0.014	0.023 ± 0.011	0.034 ± 0.017	0.030 ± 0.016	0.060 ± 0.026	0.028 ± 0.014	0.028 ± 0.016	0.070 ± 0.060	0.023 ± 0.010	0.020 ± 0.009	0.049 ± 0.017	0.020 ± 0.009
	Acc.2	0.066 ± 0.019	0.061 ± 0.018	0.064 ± 0.023	0.085 ± 0.043	0.060 ± 0.019	0.054 ± 0.018	0.045 ± 0.016	0.065 ± 0.029	0.057 ± 0.019	0.100 ± 0.040	0.053 ± 0.017	0.054 ± 0.020	0.118 ± 0.083	0.046 ± 0.019	0.037 ± 0.009	0.088 ± 0.027	0.045 ± 0.018
Subject14_sync	κ	0.007 ± 0.016	0.010 ± 0.013	0.010 ± 0.015	0.023 ± 0.036	0.016 ± 0.015	0.010 ± 0.014	0.005 ± 0.011	0.014 ± 0.014	0.001 ± 0.011	0.014 ± 0.014	0.019 ± 0.017	0.006 ± 0.013	0.044 ± 0.038	0.020 ± 0.020	0.002 ± 0.010	0.010 ± 0.013	0.005 ± 0.012
	AUC	0.558 ± 0.050	0.540 ± 0.048	0.556 ± 0.043	0.607 ± 0.088	0.545 ± 0.046	0.534 ± 0.027	0.514 ± 0.020	0.534 ± 0.027	0.509 ± 0.024	0.549 ± 0.031	0.578 ± 0.033	0.526 ± 0.023	0.658 ± 0.086	0.545 ± 0.037	0.516 ± 0.024	0.533 ± 0.028	0.545 ± 0.032
	BAcc	0.032 ± 0.016	0.035 ± 0.013	0.035 ± 0.014	0.048 ± 0.035	0.040 ± 0.015	0.034 ± 0.014	0.029 ± 0.011	0.039 ± 0.014	0.026 ± 0.010	0.038 ± 0.014	0.043 ± 0.016	0.031 ± 0.012	0.068 ± 0.037	0.045 ± 0.019	0.027 ± 0.010	0.035 ± 0.013	0.030 ± 0.011
	Acc.1	0.032 ± 0.016	0.035 ± 0.013	0.035 ± 0.014	0.048 ± 0.035	0.040 ± 0.015	0.042 ± 0.025	0.032 ± 0.016	0.039 ± 0.020	0.027 ± 0.017	0.047 ± 0.015	0.069 ± 0.027	0.031 ± 0.017	0.069 ± 0.042	0.048 ± 0.026	0.034 ± 0.016	0.041 ± 0.019	0.041 ± 0.020
	Acc.2	0.066 ± 0.021	0.063 ± 0.023	0.074 ± 0.024	0.092 ± 0.052	0.071 ± 0.023	0.077 ± 0.033	0.065 ± 0.016	0.070 ± 0.025	0.052 ± 0.027	0.090 ± 0.021	0.124 ± 0.034	0.060 ± 0.023	0.121 ± 0.071	0.091 ± 0.043	0.066 ± 0.026	0.078 ± 0.028	0.080 ± 0.027
Subject15_sync	κ	0.009 ± 0.014	0.008 ± 0.015	0.007 ± 0.015	0.010 ± 0.015	0.006 ± 0.013	0.008 ± 0.010	0.002 ± 0.011	0.008 ± 0.014	-0.000 ± 0.010	0.003 ± 0.011	0.006 ± 0.010	0.003 ± 0.011	0.024 ± 0.019	0.001 ± 0.011	-0.000 ± 0.013	0.002 ± 0.010	0.004 ± 0.009
	AUC	0.537 ± 0.043	0.531 ± 0.041	0.536 ± 0.033	0.549 ± 0.050	0.531 ± 0.047	0.522 ± 0.024	0.502 ± 0.018	0.533 ± 0.032	0.502 ± 0.024	0.532 ± 0.023	0.526 ± 0.021	0.508 ± 0.020	0.599 ± 0.057	0.505 ± 0.019	0.504 ± 0.017	0.516 ± 0.025	0.517 ± 0.018
	BAcc	0.034 ± 0.014	0.033 ± 0.014	0.032 ± 0.014	0.035 ± 0.014	0.030 ± 0.013	0.032 ± 0.010	0.027 ± 0.011	0.033 ± 0.014	0.025 ± 0.010	0.028 ± 0.011	0.031 ± 0.009	0.028 ± 0.011	0.049 ± 0.018	0.026 ± 0.011	0.025 ± 0.013	0.027 ± 0.010	0.029 ± 0.008
	Acc.1	0.034 ± 0.014	0.033 ± 0.014	0.032 ± 0.014	0.035 ± 0.014	0.030 ± 0.013	0.031 ± 0.014	0.027 ± 0.014	0.030 ± 0.014	0.023 ± 0.011	0.030 ± 0.015	0.032 ± 0.016	0.028 ± 0.013	0.044 ± 0.018	0.030 ± 0.015	0.024 ± 0.015	0.023 ± 0.012	0.024 ± 0.011
	Acc.2	0.063 ± 0.017	0.063 ± 0.023	0.069 ± 0.022	0.065 ± 0.021	0.062 ± 0.018	0.060 ± 0.025	0.054 ± 0.023	0.059 ± 0.027	0.048 ± 0.018	0.063 ± 0.022	0.064 ± 0.025	0.053 ± 0.020	0.082 ± 0.023	0.054 ± 0.022	0.050 ± 0.018	0.045 ± 0.019	0.049 ± 0.016
Subject16_sync	κ	0.006 ± 0.014	0.006 ± 0.014	0.011 ± 0.013	0.008 ± 0.012	0.005 ± 0.012	0.008 ± 0.015	-0.000 ± 0.012	0.008 ± 0.016	0.003 ± 0.009	0.013 ± 0.013	0.010 ± 0.015	0.002 ± 0.012	0.016 ± 0.016	0.007 ± 0.012	0.000 ± 0.011	0.007 ± 0.012	0.001 ± 0.011

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject17_sync	AUC	0.542 ±0.042	0.528 ±0.043	0.540 ±0.038	0.560 ± 0.053	0.538 ±0.044	0.519 ±0.021	0.503 ±0.019	0.530 ±0.030	0.502 ±0.025	0.550 ±0.032	0.556 ±0.031	0.509 ±0.022	0.596 ± 0.050	0.528 ±0.029	0.503 ±0.024	0.523 ±0.026	0.517 ±0.021
		0.031 ±0.013	0.031 ±0.014	0.036 ±0.013	0.033 ±0.011	0.030 ±0.012	0.032 ±0.015	0.025 ±0.012	0.033 ±0.016	0.028 ±0.009	0.038 ± 0.013	0.034 ±0.014	0.027 ±0.012	0.041 ± 0.016	0.032 ±0.011	0.025 ±0.011	0.032 ±0.012	0.026 ±0.010
	BAcc	0.031 ±0.013	0.031 ±0.014	0.036 ±0.013	0.033 ±0.011	0.030 ±0.012	0.033 ±0.014	0.026 ±0.017	0.031 ±0.017	0.025 ±0.011	0.039 ± 0.018	0.038 ±0.021	0.027 ±0.012	0.041 ± 0.018	0.034 ±0.018	0.029 ±0.015	0.039 ±0.020	0.027 ±0.018
		0.062 ±0.018	0.061 ±0.020	0.069 ±0.021	0.064 ±0.019	0.065 ±0.020	0.065 ±0.024	0.049 ±0.020	0.065 ±0.028	0.050 ±0.018	0.072 ±0.030	0.076 ± 0.030	0.054 ±0.014	0.082 ± 0.029	0.063 ±0.028	0.060 ±0.023	0.069 ±0.025	0.049 ±0.021
	Acc.1	0.006 ±0.014	0.004 ±0.014	0.005 ±0.016	0.009 ± 0.019	0.008 ±0.015	0.008 ±0.014	0.000 ±0.010	0.003 ±0.013	0.003 ±0.013	0.006 ±0.011	0.008 ±0.015	0.005 ±0.010	0.016 ± 0.033	0.003 ±0.013	-0.001 ±0.008	-0.000 ±0.011	0.000 ±0.011
		0.531 ±0.048	0.525 ±0.042	0.526 ±0.038	0.565 ± 0.058	0.529 ±0.048	0.531 ±0.027	0.518 ±0.026	0.517 ±0.028	0.503 ±0.022	0.516 ±0.029	0.538 ±0.033	0.507 ±0.022	0.577 ± 0.089	0.526 ±0.024	0.503 ±0.024	0.517 ±0.027	0.512 ±0.019
	BAcc	0.031 ±0.013	0.029 ±0.014	0.030 ±0.016	0.033 ± 0.018	0.032 ±0.015	0.033 ±0.014	0.025 ±0.010	0.028 ±0.013	0.028 ±0.013	0.031 ±0.011	0.033 ±0.014	0.030 ±0.010	0.041 ± 0.032	0.028 ±0.013	0.024 ±0.007	0.025 ±0.011	0.025 ±0.011
		0.031 ±0.013	0.029 ±0.014	0.030 ±0.016	0.033 ±0.018	0.032 ±0.015	0.030 ±0.015	0.025 ±0.011	0.027 ±0.015	0.028 ±0.016	0.030 ±0.014	0.040 ± 0.018	0.028 ±0.012	0.040 ± 0.031	0.034 ±0.019	0.025 ±0.011	0.029 ±0.018	0.026 ±0.015
	Acc.2	0.061 ±0.022	0.056 ±0.019	0.061 ±0.021	0.069 ±0.026	0.065 ±0.023	0.057 ±0.021	0.050 ±0.018	0.052 ±0.023	0.057 ±0.020	0.051 ±0.021	0.076 ± 0.027	0.054 ±0.018	0.081 ± 0.061	0.067 ±0.029	0.048 ±0.016	0.062 ±0.026	0.054 ±0.025
	κ	0.011 ±0.016	0.008 ±0.015	0.005 ±0.013	0.012 ±0.020	0.012 ±0.013	0.022 ± 0.027	0.007 ±0.014	0.008 ±0.015	-0.002 ±0.010	0.019 ±0.015	0.019 ±0.017	0.003 ±0.010	0.026 ± 0.026	0.011 ±0.013	0.003 ±0.009	0.007 ±0.010	0.001 ±0.010
		0.571 ±0.050	0.537 ±0.042	0.547 ±0.042	0.597 ± 0.065	0.531 ±0.046	0.560 ±0.039	0.526 ±0.027	0.520 ±0.031	0.503 ±0.021	0.549 ±0.032	0.595 ±0.038	0.516 ±0.020	0.637 ± 0.055	0.535 ±0.024	0.516 ±0.021	0.526 ±0.025	0.537 ±0.026
Subject18_sync	BAcc	0.035 ±0.016	0.033 ±0.015	0.030 ±0.012	0.036 ±0.020	0.036 ±0.013	0.047 ± 0.026	0.032 ±0.013	0.033 ±0.014	0.023 ±0.009	0.044 ±0.014	0.043 ±0.016	0.028 ±0.010	0.050 ± 0.025	0.036 ±0.013	0.028 ±0.008	0.031 ±0.009	0.026 ±0.010
		0.035 ±0.016	0.033 ±0.015	0.030 ±0.012	0.036 ±0.020	0.036 ±0.013	0.054 ±0.037	0.032 ±0.017	0.033 ±0.017	0.022 ±0.012	0.055 ±0.020	0.072 ± 0.028	0.030 ±0.012	0.063 ± 0.035	0.045 ±0.025	0.027 ±0.013	0.037 ±0.016	0.035 ±0.016
	Acc.1	0.069 ±0.023	0.066 ±0.022	0.064 ±0.023	0.078 ±0.036	0.067 ±0.018	0.092 ±0.055	0.059 ±0.023	0.064 ±0.025	0.044 ±0.016	0.092 ±0.029	0.122 ± 0.037	0.060 ±0.018	0.114 ± 0.047	0.088 ±0.039	0.054 ±0.018	0.067 ±0.019	0.067 ±0.021
		0.007 ± 0.009	0.004 ±0.013	0.006 ±0.016	0.006 ± 0.012	0.005 ±0.012	0.003 ±0.009	0.002 ±0.013	0.003 ±0.013	0.002 ±0.009	0.005 ±0.011	0.004 ±0.009	0.003 ±0.011	0.001 ±0.012	0.007 ± 0.011	-0.000 ±0.007	0.004 ±0.014	0.002 ±0.009
	AUC	0.537 ± 0.041	0.523 ±0.053	0.531 ±0.040	0.537 ±0.035	0.522 ±0.043	0.516 ±0.020	0.507 ±0.019	0.510 ±0.030	0.506 ±0.026	0.520 ±0.027	0.520 ±0.030	0.508 ±0.021	0.545 ± 0.045	0.510 ±0.017	0.504 ±0.020	0.516 ±0.030	0.536 ±0.031

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	BAcc	± 0.008	± 0.013	± 0.016	± 0.012	± 0.012	± 0.009	± 0.012	± 0.012	± 0.009	± 0.010	± 0.009	± 0.011	± 0.011	± 0.011	± 0.007	± 0.014	± 0.009
	Acc.1	± 0.008	± 0.013	± 0.016	± 0.012	± 0.012	± 0.024	± 0.021	± 0.016	± 0.012	± 0.015	± 0.016	± 0.014	± 0.019	± 0.021	± 0.016	± 0.023	± 0.021
	Acc.2	0.061	0.058	0.061	0.060	0.060	0.099	0.074	0.052	0.050	0.057	0.072	0.060	0.078	0.078	0.074	0.108	0.088
		± 0.017	± 0.020	± 0.025	± 0.015	± 0.015	± 0.038	± 0.024	± 0.023	± 0.019	± 0.023	± 0.024	± 0.021	± 0.025	± 0.031	± 0.024	± 0.030	± 0.032
Subject1_sync	κ	0.009	0.004	0.009	0.006	0.001	-0.000	0.001	0.004	0.002	0.012	0.013	0.005	0.014	0.011	-0.000	0.006	0.003
	AUC	± 0.014	± 0.015	± 0.016	± 0.013	± 0.014	± 0.010	± 0.014	± 0.013	± 0.010	± 0.015	± 0.012	± 0.010	± 0.010	± 0.008	± 0.013	± 0.010	± 0.007
		0.548	0.521	0.525	0.551	0.514	0.509	0.512	0.505	0.511	0.537	0.564	0.504	0.529	0.507	0.520	0.528	0.528
	BAcc	± 0.052	± 0.045	± 0.040	± 0.049	± 0.041	± 0.023	± 0.016	± 0.025	± 0.020	± 0.024	± 0.026	± 0.017	± 0.017	± 0.018	± 0.033	± 0.024	± 0.027
		0.034	0.029	0.034	0.031	0.026	0.025	0.026	0.029	0.027	0.037	0.037	0.029	0.039	0.036	0.025	0.031	0.028
	Acc.1	± 0.013	± 0.014	± 0.015	± 0.012	± 0.014	± 0.010	± 0.014	± 0.013	± 0.010	± 0.015	± 0.012	± 0.009	± 0.010	± 0.008	± 0.013	± 0.010	± 0.007
		0.034	0.029	0.034	0.031	0.026	0.020	0.023	0.026	0.027	0.035	0.041	0.027	0.030	0.035	0.025	0.029	0.025
	Acc.2	± 0.013	± 0.014	± 0.015	± 0.012	± 0.014	± 0.012	± 0.014	± 0.013	± 0.014	± 0.015	± 0.017	± 0.009	± 0.010	± 0.010	± 0.016	± 0.013	± 0.016
Subject20_sync	κ	0.064	0.057	0.065	0.061	0.055	0.048	0.045	0.050	0.052	0.065	0.083	0.050	0.060	0.062	0.051	0.056	0.050
	AUC	± 0.022	± 0.018	± 0.022	± 0.019	± 0.014	± 0.020	± 0.015	± 0.019	± 0.013	± 0.022	± 0.019	± 0.015	± 0.020	± 0.022	± 0.020	± 0.023	± 0.021
		0.010	0.008	0.007	0.026	0.014	0.015	0.004	0.012	-0.001	0.013	0.009	0.002	0.024	0.018	0.001	0.006	0.005
	BAcc	± 0.014	± 0.016	± 0.017	± 0.034	± 0.020	± 0.019	± 0.014	± 0.020	± 0.010	± 0.016	± 0.013	± 0.017	± 0.035	± 0.018	± 0.010	± 0.012	± 0.010
		0.555	0.540	0.539	0.605	0.548	0.549	0.517	0.534	0.507	0.544	0.553	0.518	0.626	0.536	0.511	0.525	0.548
	Acc.1	± 0.049	± 0.052	± 0.038	± 0.084	± 0.057	± 0.034	± 0.022	± 0.030	± 0.020	± 0.034	± 0.039	± 0.025	± 0.081	± 0.035	± 0.021	± 0.030	± 0.033
		0.035	0.033	0.032	0.050	0.039	0.040	0.029	0.037	0.024	0.037	0.034	0.027	0.048	0.043	0.026	0.031	0.030
	Acc.2	± 0.014	± 0.016	± 0.016	± 0.033	± 0.019	± 0.018	± 0.014	± 0.019	± 0.010	± 0.016	± 0.012	± 0.016	± 0.034	± 0.018	± 0.010	± 0.012	± 0.009
Subject21_sync	κ	0.035	0.033	0.032	0.050	0.039	0.067	0.042	0.038	0.024	0.051	0.050	0.038	0.081	0.062	0.037	0.050	0.050
	AUC	± 0.014	± 0.016	± 0.016	± 0.033	± 0.019	± 0.032	± 0.024	± 0.023	± 0.014	± 0.023	± 0.023	± 0.025	± 0.057	± 0.035	± 0.019	± 0.024	± 0.019
		0.064	0.066	0.064	0.093	0.069	0.114	0.081	0.073	0.049	0.088	0.098	0.075	0.150	0.112	0.074	0.094	0.095
	BAcc	± 0.022	± 0.021	± 0.022	± 0.052	± 0.030	± 0.038	± 0.035	± 0.033	± 0.020	± 0.031	± 0.028	± 0.028	± 0.072	± 0.063	± 0.029	± 0.039	± 0.028
		0.007	0.004	0.007	0.026	0.006	0.007	0.004	0.002	-0.000	0.006	-0.003	0.003	0.028	0.000	0.001	0.010	0.005
	Acc.1	± 0.010	± 0.013	± 0.015	± 0.025	± 0.014	± 0.012	± 0.012	± 0.015	± 0.011	± 0.016	± 0.008	± 0.011	± 0.028	± 0.007	± 0.005	± 0.012	± 0.008
		0.546	0.524	0.540	0.605	0.523	0.526	0.516	0.519	0.512	0.522	0.499	0.512	0.619	0.504	0.498	0.536	0.536
	Acc.2	± 0.044	± 0.038	± 0.036	± 0.079	± 0.043	± 0.026	± 0.023	± 0.030	± 0.019	± 0.027	± 0.027	± 0.022	± 0.083	± 0.019	± 0.023	± 0.025	± 0.032
	AUC	0.032	0.029	0.032	0.050	0.031	0.032	0.029	0.027	0.025	0.031	0.022	0.028	0.053	0.025	0.026	0.035	0.030
		± 0.010	± 0.013	± 0.015	± 0.025	± 0.014	± 0.012	± 0.011	± 0.015	± 0.011	± 0.016	± 0.007	± 0.011	± 0.028	± 0.006	± 0.005	± 0.011	± 0.008

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject22_sync	Acc.1	0.032 ±0.010	0.029 ±0.013	0.032 ±0.015	0.050 ± 0.025	0.031 ±0.014	0.032 ±0.018	0.033 ±0.021	0.025 ±0.014	0.023 ±0.012	0.029 ±0.018	0.027 ±0.011	0.025 ±0.013	0.059 ± 0.032	0.017 ±0.005	0.017 ±0.005	0.038 ±0.016	0.038 ±0.017
		0.062 ±0.019	0.060 ±0.019	0.063 ±0.020	0.098 ± 0.042	0.057 ±0.017	0.059 ±0.027	0.061 ±0.029	0.055 ±0.019	0.049 ±0.020	0.058 ±0.021	0.060 ±0.016	0.057 ±0.019	0.110 ± 0.057	0.035 ±0.007	0.033 ±0.009	0.070 ±0.022	0.061 ±0.020
	κ	0.010 ±0.016	0.004 ±0.015	0.007 ±0.013	0.035 ± 0.040	0.007 ±0.018	0.019 ±0.022	0.007 ±0.013	0.006 ±0.015	0.004 ±0.013	0.008 ±0.017	0.010 ±0.013	0.006 ±0.013	0.026 ± 0.038	0.011 ±0.019	0.001 ±0.012	0.007 ±0.010	0.004 ±0.011
		0.542 ±0.041	0.522 ±0.043	0.538 ±0.039	0.626 ± 0.095	0.532 ±0.038	0.555 ±0.041	0.538 ±0.040	0.532 ±0.028	0.504 ±0.022	0.522 ±0.027	0.537 ±0.039	0.520 ±0.026	0.605 ± 0.089	0.544 ±0.035	0.517 ±0.031	0.529 ±0.030	0.545 ±0.033
	BAcc	0.035 ±0.015	0.029 ±0.014	0.032 ±0.013	0.059 ± 0.039	0.032 ±0.018	0.044 ±0.021	0.031 ±0.013	0.031 ±0.015	0.029 ±0.012	0.033 ±0.016	0.034 ±0.013	0.031 ±0.013	0.050 ± 0.037	0.035 ±0.019	0.026 ±0.012	0.032 ±0.010	0.029 ±0.010
		0.035 ±0.015	0.029 ±0.014	0.032 ±0.013	0.059 ± 0.039	0.032 ±0.018	0.048 ± 0.029	0.032 ±0.020	0.034 ±0.020	0.030 ±0.013	0.040 ±0.021	0.043 ±0.020	0.031 ±0.017	0.045 ±0.034	0.032 ±0.024	0.022 ±0.011	0.027 ±0.012	0.026 ±0.017
Subject23_sync	Acc.1	0.065 ±0.020	0.055 ±0.019	0.067 ±0.021	0.108 ± 0.067	0.063 ±0.021	0.089 ± 0.042	0.065 ±0.036	0.066 ±0.029	0.054 ±0.019	0.075 ±0.026	0.082 ±0.033	0.061 ±0.027	0.088 ±0.060	0.064 ±0.034	0.050 ±0.020	0.050 ±0.017	0.052 ±0.027
		0.009 ±0.015	0.003 ±0.014	0.010 ±0.018	0.005 ±0.012	0.008 ±0.013	0.000 ±0.010	0.003 ±0.010	0.009 ±0.016	-0.003 ±0.010	0.008 ±0.013	0.010 ±0.012	0.002 ±0.014	0.014 ± 0.017	0.010 ± 0.013	0.003 ±0.013	0.010 ±0.013	0.004 ±0.010
	AUC	0.540 ±0.042	0.528 ±0.043	0.536 ±0.037	0.536 ±0.042	0.531 ±0.040	0.510 ±0.019	0.505 ±0.017	0.527 ±0.029	0.506 ±0.024	0.539 ±0.028	0.557 ± 0.038	0.504 ±0.022	0.580 ± 0.048	0.538 ±0.029	0.502 ±0.020	0.527 ±0.026	0.521 ±0.026
		0.034 ±0.014	0.028 ±0.014	0.035 ±0.017	0.030 ±0.012	0.033 ±0.013	0.025 ±0.010	0.028 ±0.009	0.034 ±0.016	0.022 ±0.010	0.033 ±0.013	0.034 ±0.012	0.027 ±0.014	0.039 ± 0.017	0.035 ± 0.013	0.028 ±0.012	0.034 ±0.013	0.029 ±0.010
	Acc.2	0.034 ±0.014	0.028 ±0.014	0.035 ±0.017	0.030 ±0.012	0.033 ±0.013	0.026 ±0.016	0.027 ±0.013	0.037 ±0.017	0.023 ±0.012	0.039 ±0.019	0.039 ± 0.018	0.029 ±0.019	0.040 ± 0.018	0.033 ±0.015	0.028 ±0.019	0.027 ±0.011	0.022 ±0.012
		0.061 ±0.020	0.058 ±0.019	0.065 ±0.023	0.061 ±0.020	0.059 ±0.020	0.049 ±0.018	0.050 ±0.018	0.070 ±0.027	0.050 ±0.019	0.073 ±0.031	0.081 ± 0.032	0.053 ±0.020	0.078 ± 0.030	0.061 ±0.019	0.055 ±0.023	0.051 ±0.016	0.041 ±0.013
Subject24_sync	κ	0.008 ±0.013	0.006 ±0.014	0.008 ±0.014	0.011 ±0.018	0.010 ±0.013	0.011 ±0.017	0.006 ±0.013	0.009 ±0.012	-0.002 ±0.013	0.012 ±0.011	0.017 ± 0.018	0.005 ±0.014	0.026 ± 0.017	0.016 ±0.018	-0.001 ±0.012	0.007 ±0.013	0.005 ±0.011
		0.545 ±0.043	0.528 ±0.037	0.535 ±0.031	0.553 ±0.038	0.534 ±0.041	0.528 ±0.027	0.517 ±0.021	0.521 ±0.034	0.504 ±0.021	0.545 ±0.024	0.572 ± 0.028	0.519 ±0.025	0.634 ± 0.056	0.537 ±0.029	0.504 ±0.021	0.521 ±0.024	0.535 ±0.024
	BAcc	0.032 ±0.012	0.031 ±0.013	0.033 ±0.014	0.035 ±0.018	0.035 ±0.013	0.036 ±0.016	0.031 ±0.013	0.034 ±0.011	0.023 ±0.012	0.036 ±0.011	0.042 ± 0.017	0.030 ±0.013	0.050 ± 0.017	0.041 ±0.017	0.024 ±0.011	0.032 ±0.012	0.029 ±0.011
		0.032 ±0.012	0.031 ±0.013	0.033 ±0.014	0.035 ±0.018	0.035 ±0.013	0.035 ±0.024	0.038 ±0.018	0.037 ±0.016	0.026 ±0.016	0.045 ±0.019	0.074 ± 0.034	0.030 ±0.016	0.055 ±0.022	0.059 ± 0.032	0.030 ±0.014	0.054 ±0.018	0.046 ±0.019
	Acc.1	0.032 ±0.012	0.031 ±0.013	0.033 ±0.014	0.035 ±0.018	0.035 ±0.013	0.035 ±0.024	0.038 ±0.018	0.037 ±0.016	0.026 ±0.016	0.045 ±0.019	0.074 ± 0.034	0.030 ±0.016	0.055 ±0.022	0.059 ± 0.032	0.030 ±0.014	0.054 ±0.018	0.046 ±0.019
		0.032 ±0.012	0.031 ±0.013	0.033 ±0.014	0.035 ±0.018	0.035 ±0.013	0.035 ±0.024	0.038 ±0.018	0.037 ±0.016	0.026 ±0.016	0.045 ±0.019	0.074 ± 0.034	0.030 ±0.016	0.055 ±0.022	0.059 ± 0.032	0.030 ±0.014	0.054 ±0.018	0.046 ±0.019

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.065 ±0.018	0.063 ±0.019	0.064 ±0.021	0.071 ±0.022	0.064 ±0.020	0.089 ±0.030	0.069 ±0.026	0.072 ±0.026	0.053 ±0.018	0.081 ±0.028	0.125 ± 0.052	0.060 ±0.023	0.110 ± 0.039	0.099 ±0.048	0.063 ±0.023	0.103 ±0.028	0.085 ±0.026
Subject25_sync	κ	0.001 ±0.009	-0.004 ±0.010	0.002 ±0.013	0.002 ±0.009	0.008 ±0.014	0.004 ±0.011	0.002 ±0.013	0.004 ±0.010	0.002 ±0.010	0.014 ± 0.011	0.023 ± 0.018	0.011 ±0.012	0.010 ±0.012	0.007 ±0.013	0.000 ±0.010	0.002 ±0.010	0.001 ±0.008
	AUC	0.516 ±0.022	0.510 ±0.024	0.506 ±0.023	0.512 ±0.020	0.518 ±0.024	0.511 ±0.020	0.506 ±0.021	0.511 ±0.023	0.508 ±0.022	0.548 ±0.031	0.592 ± 0.039	0.546 ±0.027	0.609 ± 0.033	0.531 ±0.024	0.513 ±0.023	0.505 ±0.020	0.518 ±0.025
	BAcc	0.026 ±0.009	0.021 ±0.009	0.027 ±0.013	0.027 ±0.009	0.033 ±0.014	0.029 ±0.010	0.027 ±0.013	0.029 ±0.009	0.027 ±0.010	0.039 ± 0.011	0.048 ± 0.017	0.035 ±0.012	0.035 ±0.012	0.032 ±0.013	0.025 ±0.010	0.027 ±0.010	0.026 ±0.007
	Acc.1	0.026 ±0.009	0.021 ±0.009	0.027 ±0.013	0.027 ±0.009	0.033 ± 0.014	0.022 ±0.011	0.023 ±0.012	0.029 ±0.015	0.024 ±0.011	0.032 ±0.012	0.045 ± 0.022	0.029 ±0.014	0.029 ±0.013	0.027 ±0.015	0.017 ±0.008	0.020 ±0.013	0.018 ±0.007
	Acc.2	0.051 ±0.010	0.050 ±0.013	0.055 ±0.016	0.052 ±0.010	0.062 ±0.017	0.049 ±0.017	0.045 ±0.015	0.054 ±0.016	0.045 ±0.018	0.065 ± 0.018	0.088 ± 0.033	0.059 ±0.022	0.063 ±0.021	0.055 ±0.021	0.032 ±0.010	0.040 ±0.013	0.038 ±0.011
Subject26_sync	κ	0.004 ±0.013	0.010 ±0.015	0.008 ±0.010	0.021 ± 0.025	0.007 ±0.014	0.002 ±0.011	-0.000 ±0.011	0.008 ±0.015	0.001 ±0.013	0.009 ±0.017	0.016 ±0.015	0.001 ±0.009	0.018 ± 0.019	0.010 ±0.015	0.002 ±0.009	0.005 ±0.010	0.003 ±0.010
	AUC	0.555 ±0.047	0.545 ±0.046	0.540 ±0.038	0.592 ± 0.065	0.530 ±0.038	0.520 ±0.025	0.517 ±0.021	0.524 ±0.032	0.505 ±0.027	0.538 ±0.025	0.582 ±0.033	0.513 ±0.024	0.611 ± 0.058	0.535 ±0.032	0.505 ±0.022	0.531 ±0.024	0.528 ±0.025
	BAcc	0.029 ±0.013	0.035 ±0.015	0.033 ±0.010	0.045 ± 0.025	0.032 ±0.014	0.026 ±0.011	0.025 ±0.011	0.033 ±0.014	0.026 ±0.013	0.034 ±0.016	0.041 ±0.015	0.026 ±0.009	0.043 ± 0.019	0.035 ±0.015	0.027 ±0.008	0.030 ±0.009	0.028 ±0.010
	Acc.1	0.029 ±0.013	0.035 ±0.015	0.033 ±0.010	0.045 ± 0.025	0.032 ±0.014	0.019 ±0.010	0.019 ±0.012	0.031 ±0.019	0.026 ±0.017	0.035 ±0.018	0.043 ±0.017	0.031 ±0.017	0.050 ± 0.023	0.029 ±0.016	0.026 ±0.013	0.022 ±0.007	0.021 ±0.011
	Acc.2	0.060 ±0.018	0.066 ±0.021	0.065 ±0.018	0.083 ± 0.036	0.062 ±0.020	0.041 ±0.017	0.049 ±0.021	0.066 ±0.030	0.054 ±0.021	0.067 ±0.025	0.080 ±0.024	0.059 ±0.021	0.090 ± 0.030	0.063 ±0.023	0.051 ±0.018	0.044 ±0.014	0.043 ±0.016
Subject27_sync	κ	0.003 ±0.012	0.005 ±0.015	0.010 ±0.014	0.008 ±0.014	0.007 ±0.013	0.006 ±0.010	0.002 ±0.013	0.009 ±0.014	0.001 ±0.010	0.013 ±0.015	0.014 ± 0.012	0.002 ±0.012	0.018 ± 0.017	0.009 ±0.015	-0.000 ±0.009	-0.003 ±0.010	-0.002 ±0.008
	AUC	0.539 ±0.043	0.537 ±0.042	0.542 ±0.039	0.553 ±0.050	0.538 ±0.038	0.511 ±0.017	0.503 ±0.015	0.527 ±0.032	0.507 ±0.020	0.554 ±0.025	0.577 ± 0.034	0.518 ±0.016	0.606 ± 0.052	0.534 ±0.029	0.498 ±0.025	0.507 ±0.021	0.497 ±0.021
	BAcc	0.028 ±0.011	0.030 ±0.015	0.035 ±0.013	0.033 ±0.014	0.031 ±0.013	0.031 ±0.010	0.027 ±0.012	0.034 ±0.014	0.026 ±0.010	0.037 ±0.014	0.039 ± 0.012	0.027 ±0.011	0.042 ± 0.017	0.033 ±0.014	0.025 ±0.009	0.022 ±0.010	0.023 ±0.008
	Acc.1	0.028 ±0.011	0.030 ±0.015	0.035 ±0.013	0.033 ±0.014	0.031 ±0.013	0.031 ±0.014	0.028 ±0.015	0.039 ± 0.018	0.027 ±0.012	0.043 ± 0.021	0.037 ±0.017	0.024 ±0.011	0.039 ±0.022	0.035 ±0.020	0.021 ±0.011	0.020 ±0.009	0.029 ±0.015
	Acc.2	0.059 ±0.018	0.061 ±0.023	0.066 ±0.020	0.066 ±0.027	0.063 ±0.020	0.059 ±0.021	0.051 ±0.019	0.070 ±0.027	0.055 ±0.020	0.080 ± 0.026	0.072 ±0.030	0.049 ±0.017	0.080 ± 0.031	0.070 ±0.030	0.045 ±0.019	0.040 ±0.015	0.055 ±0.029

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject28_sync	κ	0.005 ± 0.011	0.003 ± 0.012	0.010 ± 0.016	0.004 ± 0.011	0.005 ± 0.011	0.005 ± 0.011	-0.001 ± 0.011	0.004 ± 0.013	-0.002 ± 0.011	0.005 ± 0.013	-0.000 ± 0.008	-0.001 ± 0.010	0.010 ± 0.016	0.005 ± 0.011	0.003 ± 0.011	0.003 ± 0.011	0.002 ± 0.009
	AUC	0.540 ± 0.050	0.531 ± 0.044	0.545 ± 0.051	0.546 ± 0.058	0.527 ± 0.048	0.515 ± 0.021	0.505 ± 0.021	0.516 ± 0.033	0.507 ± 0.020	0.520 ± 0.024	0.510 ± 0.018	0.509 ± 0.021	0.561 ± 0.044	0.518 ± 0.023	0.505 ± 0.015	0.511 ± 0.018	0.531 ± 0.032
	BAcc	0.030 ± 0.011	0.028 ± 0.012	0.034 ± 0.015	0.029 ± 0.010	0.030 ± 0.011	0.030 ± 0.011	0.024 ± 0.011	0.029 ± 0.012	0.023 ± 0.010	0.029 ± 0.012	0.025 ± 0.008	0.024 ± 0.010	0.034 ± 0.015	0.029 ± 0.011	0.028 ± 0.010	0.028 ± 0.011	0.027 ± 0.008
	Acc.1	0.030 ± 0.011	0.028 ± 0.012	0.034 ± 0.015	0.029 ± 0.010	0.030 ± 0.011	0.030 ± 0.017	0.026 ± 0.015	0.026 ± 0.013	0.022 ± 0.011	0.034 ± 0.015	0.032 ± 0.013	0.026 ± 0.016	0.040 ± 0.022	0.045 ± 0.019	0.025 ± 0.014	0.040 ± 0.017	0.025 ± 0.014
	Acc.2	0.064 ± 0.021	0.057 ± 0.020	0.066 ± 0.026	0.059 ± 0.021	0.059 ± 0.020	0.063 ± 0.027	0.052 ± 0.020	0.058 ± 0.021	0.050 ± 0.019	0.070 ± 0.024	0.069 ± 0.016	0.056 ± 0.022	0.075 ± 0.026	0.085 ± 0.028	0.046 ± 0.017	0.074 ± 0.026	0.051 ± 0.019
Subject29_sync	κ	0.004 ± 0.008	0.004 ± 0.015	0.007 ± 0.015	0.002 ± 0.008	0.002 ± 0.012	0.004 ± 0.011	0.001 ± 0.010	0.004 ± 0.014	0.003 ± 0.010	0.012 ± 0.015	0.017 ± 0.015	0.003 ± 0.012	0.018 ± 0.015	0.007 ± 0.012	0.000 ± 0.009	0.003 ± 0.012	-0.001 ± 0.009
	AUC	0.515 ± 0.015	0.509 ± 0.022	0.526 ± 0.033	0.514 ± 0.016	0.512 ± 0.020	0.508 ± 0.018	0.501 ± 0.018	0.512 ± 0.023	0.504 ± 0.025	0.543 ± 0.018	0.585 ± 0.041	0.515 ± 0.021	0.607 ± 0.040	0.530 ± 0.021	0.510 ± 0.023	0.518 ± 0.028	0.511 ± 0.024
	BAcc	0.029 ± 0.008	0.029 ± 0.014	0.032 ± 0.015	0.027 ± 0.008	0.027 ± 0.011	0.029 ± 0.011	0.026 ± 0.009	0.029 ± 0.014	0.028 ± 0.010	0.036 ± 0.014	0.041 ± 0.015	0.028 ± 0.012	0.043 ± 0.015	0.031 ± 0.012	0.025 ± 0.009	0.028 ± 0.012	0.024 ± 0.009
	Acc.1	0.029 ± 0.008	0.029 ± 0.014	0.032 ± 0.015	0.027 ± 0.008	0.027 ± 0.011	0.027 ± 0.012	0.027 ± 0.014	0.029 ± 0.014	0.028 ± 0.012	0.041 ± 0.018	0.042 ± 0.020	0.029 ± 0.015	0.049 ± 0.022	0.035 ± 0.018	0.033 ± 0.019	0.028 ± 0.017	0.019 ± 0.011
	Acc.2	0.053 ± 0.013	0.059 ± 0.018	0.061 ± 0.019	0.052 ± 0.012	0.055 ± 0.014	0.053 ± 0.017	0.055 ± 0.019	0.058 ± 0.028	0.051 ± 0.018	0.075 ± 0.025	0.084 ± 0.029	0.057 ± 0.024	0.090 ± 0.025	0.071 ± 0.025	0.062 ± 0.023	0.059 ± 0.026	0.043 ± 0.018
Subject2_sync	κ	0.007 ± 0.012	0.007 ± 0.014	0.013 ± 0.012	0.010 ± 0.012	0.007 ± 0.013	0.009 ± 0.015	0.001 ± 0.011	0.006 ± 0.014	0.001 ± 0.011	0.014 ± 0.016	0.023 ± 0.017	0.001 ± 0.009	0.017 ± 0.013	0.013 ± 0.017	0.005 ± 0.012	0.008 ± 0.012	0.002 ± 0.008
	AUC	0.554 ± 0.035	0.538 ± 0.030	0.547 ± 0.029	0.560 ± 0.035	0.528 ± 0.030	0.520 ± 0.017	0.502 ± 0.021	0.521 ± 0.021	0.506 ± 0.019	0.555 ± 0.025	0.587 ± 0.026	0.512 ± 0.024	0.590 ± 0.033	0.542 ± 0.022	0.509 ± 0.024	0.510 ± 0.017	0.530 ± 0.030
	BAcc	0.031 ± 0.011	0.032 ± 0.014	0.037 ± 0.012	0.035 ± 0.011	0.032 ± 0.013	0.034 ± 0.014	0.026 ± 0.011	0.031 ± 0.014	0.026 ± 0.011	0.039 ± 0.015	0.048 ± 0.017	0.026 ± 0.008	0.041 ± 0.013	0.037 ± 0.016	0.030 ± 0.011	0.033 ± 0.012	0.027 ± 0.008
	Acc.1	0.031 ± 0.011	0.032 ± 0.014	0.037 ± 0.012	0.035 ± 0.011	0.032 ± 0.013	0.033 ± 0.021	0.024 ± 0.013	0.031 ± 0.015	0.028 ± 0.014	0.046 ± 0.022	0.051 ± 0.023	0.028 ± 0.014	0.044 ± 0.016	0.043 ± 0.025	0.036 ± 0.020	0.037 ± 0.018	0.029 ± 0.018
	Acc.2	0.061 ± 0.012	0.064 ± 0.020	0.070 ± 0.017	0.066 ± 0.019	0.063 ± 0.019	0.055 ± 0.022	0.045 ± 0.018	0.060 ± 0.023	0.052 ± 0.017	0.083 ± 0.028	0.087 ± 0.028	0.053 ± 0.019	0.078 ± 0.019	0.079 ± 0.030	0.069 ± 0.026	0.062 ± 0.025	0.056 ± 0.024
Subject30_sync	κ	0.007 ± 0.014	0.006 ± 0.014	0.005 ± 0.016	0.006 ± 0.010	0.005 ± 0.013	0.002 ± 0.010	0.004 ± 0.011	0.004 ± 0.014	0.000 ± 0.011	0.012 ± 0.014	0.008 ± 0.011	0.002 ± 0.011	0.013 ± 0.017	0.006 ± 0.011	0.003 ± 0.010	0.004 ± 0.010	0.001 ± 0.012

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject31_sync	AUC	0.528 ±0.039	0.525 ±0.045	0.532 ±0.034	0.535 ±0.043	0.523 ±0.037	0.517 ±0.021	0.505 ±0.018	0.524 ±0.031	0.506 ±0.021	0.544 ±0.027	0.563 ± 0.037	0.510 ±0.021	0.605 ± 0.045	0.535 ±0.032	0.498 ±0.022	0.515 ±0.025	0.516 ±0.024
		0.032 ±0.014	0.031 ±0.014	0.030 ±0.016	0.030 ±0.010	0.030 ±0.013	0.027 ±0.010	0.029 ±0.010	0.029 ±0.013	0.025 ±0.011	0.037 ± 0.014	0.033 ±0.010	0.026 ±0.011	0.037 ± 0.017	0.031 ±0.011	0.028 ±0.009	0.029 ±0.010	0.026 ±0.012
	BAcc	0.032 ±0.014	0.031 ±0.014	0.030 ±0.016	0.030 ±0.010	0.030 ±0.013	0.026 ±0.012	0.025 ±0.011	0.031 ±0.021	0.023 ±0.011	0.041 ± 0.021	0.030 ±0.014	0.027 ±0.013	0.031 ±0.016	0.036 ±0.017	0.040 ± 0.017	0.026 ±0.015	0.023 ±0.015
		0.059 ±0.019	0.062 ±0.023	0.062 ±0.020	0.060 ±0.019	0.059 ±0.018	0.058 ±0.022	0.049 ±0.016	0.060 ±0.026	0.046 ±0.018	0.077 ± 0.032	0.060 ±0.018	0.053 ±0.021	0.063 ±0.024	0.066 ±0.028	0.067 ± 0.022	0.048 ±0.021	0.042 ±0.018
	κ	0.004 ±0.012	0.006 ±0.014	0.007 ±0.014	0.006 ±0.013	0.009 ±0.015	0.005 ±0.013	0.001 ±0.010	0.005 ±0.014	0.002 ±0.013	0.012 ± 0.015	0.003 ±0.009	0.005 ±0.013	0.018 ± 0.020	0.009 ±0.011	-0.001 ±0.010	0.006 ±0.009	0.005 ±0.011
		0.535 ±0.037	0.521 ±0.031	0.525 ±0.033	0.538 ±0.042	0.521 ±0.034	0.519 ±0.026	0.509 ±0.015	0.522 ±0.024	0.510 ±0.024	0.556 ± 0.035	0.515 ±0.020	0.521 ±0.025	0.600 ± 0.050	0.526 ±0.027	0.506 ±0.021	0.522 ±0.021	0.534 ±0.035
	BAcc	0.029 ±0.011	0.031 ±0.013	0.032 ±0.014	0.031 ±0.013	0.034 ±0.015	0.030 ±0.013	0.026 ±0.010	0.030 ±0.013	0.026 ±0.013	0.037 ± 0.015	0.028 ±0.009	0.030 ±0.013	0.042 ± 0.020	0.034 ±0.011	0.024 ±0.010	0.031 ±0.009	0.029 ±0.010
		0.029 ±0.011	0.031 ±0.013	0.032 ±0.014	0.031 ±0.013	0.034 ±0.015	0.030 ±0.017	0.026 ±0.011	0.030 ±0.016	0.027 ±0.017	0.035 ± 0.017	0.021 ±0.010	0.030 ±0.013	0.047 ± 0.027	0.026 ±0.011	0.016 ±0.007	0.033 ±0.014	0.027 ±0.011
	Acc.2	0.059 ±0.020	0.059 ±0.017	0.065 ±0.022	0.059 ±0.017	0.061 ±0.022	0.062 ±0.022	0.054 ±0.018	0.055 ±0.022	0.055 ±0.023	0.068 ± 0.021	0.044 ±0.014	0.057 ±0.024	0.082 ± 0.037	0.053 ±0.018	0.034 ±0.008	0.062 ±0.019	0.054 ±0.018
		0.014 ±0.019	0.008 ±0.015	0.006 ±0.020	0.022 ± 0.035	0.009 ±0.017	0.012 ±0.015	0.006 ±0.014	0.007 ±0.015	-0.001 ±0.013	0.008 ±0.013	0.003 ±0.011	0.003 ±0.013	0.023 ± 0.038	0.011 ±0.013	0.000 ±0.008	0.008 ±0.013	0.001 ±0.008
		0.590 ±0.066	0.531 ±0.043	0.535 ±0.046	0.596 ± 0.075	0.536 ±0.048	0.545 ±0.037	0.537 ±0.037	0.524 ±0.024	0.503 ±0.023	0.531 ±0.034	0.532 ±0.036	0.518 ±0.027	0.597 ± 0.073	0.535 ±0.033	0.518 ±0.025	0.533 ±0.030	0.541 ±0.030
Subject32_sync	BAcc	0.038 ±0.018	0.033 ±0.015	0.031 ±0.019	0.047 ± 0.034	0.034 ±0.016	0.036 ±0.015	0.031 ±0.014	0.031 ±0.014	0.024 ±0.013	0.032 ±0.013	0.028 ±0.011	0.028 ±0.012	0.047 ± 0.037	0.035 ±0.013	0.025 ±0.008	0.033 ±0.012	0.026 ±0.008
		0.038 ±0.018	0.033 ±0.015	0.031 ±0.019	0.047 ± 0.034	0.034 ±0.016	0.033 ±0.019	0.027 ±0.017	0.028 ±0.017	0.024 ±0.014	0.029 ±0.015	0.034 ±0.018	0.030 ±0.014	0.047 ± 0.043	0.032 ±0.017	0.021 ±0.010	0.029 ±0.020	0.020 ±0.010
	Acc.1	0.073 ±0.030	0.064 ±0.024	0.064 ±0.030	0.087 ± 0.046	0.066 ±0.027	0.064 ±0.033	0.054 ±0.023	0.057 ±0.025	0.051 ±0.021	0.057 ±0.021	0.070 ±0.025	0.056 ±0.022	0.090 ± 0.067	0.057 ±0.026	0.047 ±0.017	0.055 ±0.029	0.042 ±0.017
		0.010 ± 0.014	0.004 ±0.014	0.007 ±0.013	0.009 ± 0.015	0.007 ±0.016	0.003 ±0.010	-0.002 ±0.013	0.006 ±0.016	-0.001 ±0.011	-0.002 ±0.012	-0.003 ±0.011	0.004 ±0.014	0.004 ±0.017	0.004 ±0.011	0.003 ±0.009	0.001 ±0.007	0.002 ±0.006
	AUC	0.549 ± 0.055	0.538 ±0.048	0.537 ±0.039	0.546 ± 0.058	0.530 ±0.057	0.516 ±0.021	0.503 ±0.021	0.522 ±0.036	0.506 ±0.019	0.499 ±0.031	0.489 ±0.030	0.514 ±0.024	0.504 ±0.055	0.498 ±0.024	0.517 ±0.024	0.518 ±0.026	0.540 ±0.033

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (i)	BIOT (i)	BENDR (f)	BENDR (i)	CBraMod (f)	CBraMod (i)	EEGPT (f)	EEGPT (i)	LaBraM (f)	LaBraM (i)	STEEGformer-s (i)	STEEGformer-s (i)
	BAcc	$\begin{matrix} 0.034 \\ \pm 0.014 \end{matrix}$	± 0.029	± 0.032	$\pm \mathbf{0.034}$	± 0.032	± 0.028	± 0.023	± 0.031	± 0.024	± 0.023	± 0.022	± 0.029	± 0.029	± 0.029	± 0.028	± 0.026	± 0.027
	Acc.1	$\begin{matrix} 0.034 \\ \pm 0.014 \end{matrix}$	± 0.029	± 0.032	± 0.034	± 0.032	± 0.036	± 0.031	± 0.033	± 0.024	± 0.026	± 0.025	± 0.033	± 0.034	± 0.028	± 0.021	$\pm \mathbf{0.051}$	$\begin{matrix} 0.053 \\ \pm 0.019 \end{matrix}$
	Acc.2	$\begin{matrix} 0.064 \\ \pm 0.016 \end{matrix}$	± 0.060	± 0.067	± 0.061	± 0.060	± 0.073	± 0.063	± 0.063	± 0.053	± 0.056	± 0.056	± 0.064	± 0.064	± 0.050	± 0.044	$\pm \mathbf{0.094}$	$\begin{matrix} 0.097 \\ \pm 0.027 \end{matrix}$
			± 0.020	± 0.018	± 0.019	± 0.025	± 0.030	± 0.021	± 0.029	± 0.020	± 0.022	± 0.023	± 0.027	± 0.035	± 0.030	± 0.017	$\pm \mathbf{0.022}$	
Subject34_sync	κ	$\begin{matrix} 0.004 \\ \pm 0.012 \end{matrix}$	± 0.003	± 0.006	$\pm \mathbf{0.019}$	± 0.005	± 0.003	± -0.002	± 0.009	± 0.005	± 0.004	± -0.001	± 0.003	$\begin{matrix} 0.039 \\ \pm 0.039 \end{matrix}$	± 0.010	± -0.000	± 0.002	± 0.001
	AUC	$\begin{matrix} 0.523 \\ \pm 0.035 \end{matrix}$	± 0.521	± 0.524	$\pm \mathbf{0.599}$	± 0.529	± 0.518	± 0.504	± 0.519	± 0.509	± 0.524	± 0.514	± 0.522	$\begin{matrix} 0.642 \\ \pm 0.087 \end{matrix}$	± 0.518	± 0.508	± 0.516	± 0.519
	BAcc	$\begin{matrix} 0.029 \\ \pm 0.011 \end{matrix}$	± 0.028	± 0.030	$\pm \mathbf{0.043}$	± 0.030	± 0.028	± 0.024	± 0.033	± 0.030	± 0.029	± 0.024	± 0.028	$\begin{matrix} 0.063 \\ \pm 0.038 \end{matrix}$	± 0.035	± 0.025	± 0.027	± 0.026
	Acc.1	$\begin{matrix} 0.029 \\ \pm 0.011 \end{matrix}$	± 0.028	± 0.030	$\pm \mathbf{0.043}$	± 0.030	± 0.030	± 0.025	± 0.035	± 0.030	± 0.042	± 0.028	± 0.035	$\begin{matrix} 0.085 \\ \pm 0.049 \end{matrix}$	± 0.041	± 0.041	± 0.026	± 0.027
	Acc.2	$\begin{matrix} 0.056 \\ \pm 0.016 \end{matrix}$	± 0.056	± 0.061	$\pm \mathbf{0.089}$	± 0.061	± 0.062	± 0.060	± 0.062	± 0.059	± 0.078	± 0.054	± 0.066	$\begin{matrix} 0.150 \\ \pm 0.076 \end{matrix}$	± 0.078	± 0.079	± 0.056	± 0.060
			± 0.020	± 0.013	$\pm \mathbf{0.044}$	± 0.019	± 0.022	± 0.022	± 0.022	± 0.021	± 0.028	± 0.019	± 0.025		± 0.026	± 0.025	± 0.019	± 0.019
	κ	$\begin{matrix} 0.008 \\ \pm 0.013 \end{matrix}$	± 0.005	± 0.005	± 0.007	± 0.006	± 0.005	± 0.004	$\begin{matrix} 0.009 \\ \pm 0.011 \end{matrix}$	± -0.003	± 0.007	± 0.002	± 0.004	$\pm \mathbf{0.009}$	± 0.003	± 0.003	± 0.006	± 0.003
	AUC	$\begin{matrix} 0.539 \\ \pm 0.049 \end{matrix}$	± 0.526	± 0.529	$\begin{matrix} 0.547 \\ \pm 0.061 \end{matrix}$	± 0.529	± 0.522	± 0.511	± 0.523	± 0.503	± 0.515	± 0.496	± 0.514	$\pm \mathbf{0.539}$	± 0.510	± 0.515	± 0.523	± 0.525
Subject35_sync	BAcc	$\begin{matrix} 0.032 \\ \pm 0.013 \end{matrix}$	± 0.030	± 0.030	± 0.032	± 0.031	± 0.030	± 0.029	$\begin{matrix} 0.034 \\ \pm 0.011 \end{matrix}$	± 0.022	± 0.032	± 0.027	± 0.029	$\pm \mathbf{0.034}$	± 0.028	± 0.028	± 0.031	± 0.028
	Acc.1	$\begin{matrix} 0.032 \\ \pm 0.013 \end{matrix}$	± 0.030	± 0.030	$\pm \mathbf{0.032}$	± 0.031	± 0.032	± 0.028	± 0.029	± 0.022	± 0.028	± 0.025	± 0.030	± 0.028	± 0.025	± 0.026	± 0.031	± 0.027
	Acc.2	$\begin{matrix} 0.060 \\ \pm 0.021 \end{matrix}$	± 0.061	$\pm \mathbf{0.063}$	$\begin{matrix} 0.066 \\ \pm 0.026 \end{matrix}$	± 0.062	± 0.060	± 0.058	± 0.055	± 0.046	± 0.047	± 0.051	± 0.058	± 0.057	± 0.048	± 0.050	± 0.056	± 0.051
			± 0.025	$\pm \mathbf{0.024}$	± 0.026	± 0.022	± 0.024	± 0.022	± 0.020	± 0.020	± 0.018	± 0.022	± 0.020	± 0.034	± 0.023	± 0.020	± 0.024	± 0.019
Subject3_sync	κ	$\begin{matrix} \mathbf{0.042} \\ \pm \mathbf{0.096} \end{matrix}$	± 0.008	± 0.018	$\begin{matrix} 0.053 \\ \pm 0.117 \end{matrix}$	± 0.005	± 0.032	± 0.011	± 0.005	± -0.001	± 0.007	± 0.010	± 0.010	± 0.028	± 0.034	± 0.007	± 0.019	± 0.006
	AUC	$\begin{matrix} 0.615 \\ \pm 0.115 \end{matrix}$	± 0.537	± 0.549	$\pm \mathbf{0.628}$	± 0.528	± 0.568	± 0.531	± 0.528	± 0.511	± 0.527	± 0.553	± 0.546	$\begin{matrix} 0.637 \\ \pm 0.094 \end{matrix}$	± 0.569	± 0.518	± 0.556	± 0.525
	BAcc	$\begin{matrix} \mathbf{0.066} \\ \pm \mathbf{0.093} \end{matrix}$	± 0.033	± 0.043	$\begin{matrix} 0.076 \\ \pm 0.114 \end{matrix}$	± 0.030	± 0.057	± 0.036	± 0.030	± 0.024	± 0.031	± 0.034	± 0.035	± 0.053	± 0.059	± 0.032	± 0.044	± 0.031
			± 0.018	± 0.035	± 0.114	± 0.015	± 0.070	± 0.040	± 0.019	± 0.012	± 0.015	± 0.017	± 0.032	± 0.069	± 0.076	± 0.009	± 0.041	± 0.010

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject4_sync	Acc.1	0.066 ± 0.093	0.033 ± 0.018	0.043 ± 0.035	$\begin{matrix} 0.076 \\ \pm 0.114 \end{matrix}$	0.030 ± 0.015	0.058 ± 0.067	0.036 ± 0.043	0.030 ± 0.018	0.021 ± 0.015	0.032 ± 0.019	0.034 ± 0.023	0.034 ± 0.031	0.046 ± 0.070	0.047 ± 0.070	0.035 ± 0.015	0.036 ± 0.042	0.029 ± 0.017
	Acc.2	0.113 ± 0.127	0.066 ± 0.024	0.078 ± 0.053	$\begin{matrix} 0.133 \\ \pm 0.145 \end{matrix}$	0.061 ± 0.023	0.093 ± 0.090	0.066 ± 0.058	0.061 ± 0.028	0.051 ± 0.026	0.062 ± 0.024	0.065 ± 0.031	0.073 ± 0.049	0.096 ± 0.110	0.082 ± 0.100	0.059 ± 0.020	0.068 ± 0.056	0.056 ± 0.023
	κ	0.003 ± 0.011	0.002 ± 0.013	0.007 ± 0.014	0.002 ± 0.012	0.001 ± 0.012	0.008 ± 0.013	0.002 ± 0.011	0.006 ± 0.012	-0.000 ± 0.012	0.006 ± 0.011	0.014 ± 0.012	0.003 ± 0.012	$\begin{matrix} 0.018 \\ \pm 0.017 \end{matrix}$	0.002 ± 0.009	0.002 ± 0.010	0.001 ± 0.007	0.004 ± 0.005
	AUC	0.520 ± 0.031	0.524 ± 0.029	0.529 ± 0.026	0.517 ± 0.031	0.513 ± 0.025	0.524 ± 0.027	0.505 ± 0.021	0.516 ± 0.025	0.503 ± 0.021	0.553 ± 0.021	0.570 ± 0.034	0.510 ± 0.021	$\begin{matrix} 0.600 \\ \pm 0.043 \end{matrix}$	0.519 ± 0.025	0.508 ± 0.020	0.514 ± 0.023	0.520 ± 0.021
	BAcc	0.028 ± 0.011	0.027 ± 0.012	0.032 ± 0.013	0.027 ± 0.012	0.026 ± 0.011	0.033 ± 0.012	0.027 ± 0.011	0.031 ± 0.012	0.025 ± 0.012	0.030 ± 0.011	0.039 ± 0.012	0.028 ± 0.012	$\begin{matrix} 0.043 \\ \pm 0.017 \end{matrix}$	0.027 ± 0.009	0.026 ± 0.010	0.026 ± 0.007	0.029 ± 0.005
	Acc.1	0.028 ± 0.011	0.027 ± 0.012	0.032 ± 0.013	0.027 ± 0.012	0.026 ± 0.011	0.030 ± 0.015	0.027 ± 0.013	0.033 ± 0.020	0.023 ± 0.012	0.032 ± 0.013	$\begin{matrix} 0.050 \\ \pm 0.022 \end{matrix}$	0.033 ± 0.015	0.039 ± 0.017	0.026 ± 0.015	0.021 ± 0.011	0.022 ± 0.009	0.027 ± 0.008
Subject5_sync	Acc.2	0.054 ± 0.014	0.060 ± 0.021	0.062 ± 0.016	0.057 ± 0.015	0.055 ± 0.016	0.057 ± 0.021	0.056 ± 0.023	0.066 ± 0.030	0.044 ± 0.014	0.075 ± 0.031	$\begin{matrix} 0.092 \\ \pm 0.033 \end{matrix}$	0.063 ± 0.020	0.075 ± 0.028	0.050 ± 0.023	0.046 ± 0.020	0.049 ± 0.013	0.047 ± 0.011
	κ	0.031 ± 0.066	0.007 ± 0.015	0.023 ± 0.040	$\begin{matrix} 0.044 \\ \pm 0.098 \end{matrix}$	0.005 ± 0.016	0.022 ± 0.044	0.016 ± 0.038	0.010 ± 0.017	0.008 ± 0.012	0.009 ± 0.014	0.009 ± 0.019	0.014 ± 0.035	0.030 ± 0.070	0.037 ± 0.083	0.002 ± 0.011	0.018 ± 0.038	0.000 ± 0.010
	AUC	0.608 ± 0.097	0.538 ± 0.047	0.562 ± 0.063	$\begin{matrix} 0.631 \\ \pm 0.116 \end{matrix}$	0.534 ± 0.049	0.555 ± 0.064	0.534 ± 0.058	0.536 ± 0.041	0.513 ± 0.025	0.528 ± 0.031	0.546 ± 0.036	0.546 ± 0.056	0.621 ± 0.096	0.569 ± 0.084	0.512 ± 0.018	0.554 ± 0.058	0.522 ± 0.029
	BAcc	0.055 ± 0.064	0.032 ± 0.014	0.047 ± 0.039	$\begin{matrix} 0.068 \\ \pm 0.096 \end{matrix}$	0.030 ± 0.016	0.046 ± 0.043	0.040 ± 0.037	0.034 ± 0.016	0.032 ± 0.012	0.034 ± 0.013	0.034 ± 0.018	0.038 ± 0.034	0.055 ± 0.068	0.061 ± 0.081	0.027 ± 0.011	0.042 ± 0.037	0.025 ± 0.010
	Acc.1	0.055 ± 0.064	0.032 ± 0.014	0.047 ± 0.039	$\begin{matrix} 0.068 \\ \pm 0.096 \end{matrix}$	0.030 ± 0.016	0.045 ± 0.047	0.034 ± 0.039	0.033 ± 0.020	0.031 ± 0.013	0.032 ± 0.014	0.033 ± 0.024	0.038 ± 0.032	0.052 ± 0.072	0.061 ± 0.086	0.028 ± 0.014	0.046 ± 0.042	0.019 ± 0.011
	Acc.2	0.095 ± 0.095	0.059 ± 0.022	0.085 ± 0.057	$\begin{matrix} 0.119 \\ \pm 0.124 \end{matrix}$	0.064 ± 0.027	0.083 ± 0.067	0.063 ± 0.061	0.063 ± 0.033	0.056 ± 0.019	0.063 ± 0.023	0.063 ± 0.032	0.071 ± 0.047	0.096 ± 0.092	0.097 ± 0.109	0.051 ± 0.021	0.086 ± 0.059	0.041 ± 0.017
Subject6_sync	κ	0.013 ± 0.014	0.012 ± 0.013	0.014 ± 0.015	0.029 ± 0.042	0.014 ± 0.013	0.015 ± 0.018	0.008 ± 0.014	0.014 ± 0.016	0.003 ± 0.013	0.017 ± 0.013	0.018 ± 0.015	0.008 ± 0.017	$\begin{matrix} 0.031 \\ \pm 0.050 \end{matrix}$	0.023 ± 0.025	0.002 ± 0.008	0.016 ± 0.014	0.004 ± 0.009
	AUC	0.576 ± 0.054	0.554 ± 0.050	0.561 ± 0.049	0.614 ± 0.088	0.549 ± 0.051	0.543 ± 0.037	0.528 ± 0.036	0.540 ± 0.043	0.504 ± 0.015	0.572 ± 0.035	0.592 ± 0.035	0.534 ± 0.033	$\begin{matrix} 0.621 \\ \pm 0.095 \end{matrix}$	0.562 ± 0.048	0.511 ± 0.018	0.555 ± 0.048	0.540 ± 0.032
	BAcc	0.038 ± 0.013	0.037 ± 0.013	0.039 ± 0.015	0.053 ± 0.041	0.039 ± 0.013	0.039 ± 0.017	0.033 ± 0.013	0.039 ± 0.015	0.028 ± 0.012	0.042 ± 0.013	0.043 ± 0.014	0.033 ± 0.016	$\begin{matrix} 0.056 \\ \pm 0.048 \end{matrix}$	0.048 ± 0.025	0.026 ± 0.008	0.041 ± 0.014	0.029 ± 0.009
	Acc.1	0.038 ± 0.013	0.037 ± 0.013	0.039 ± 0.015	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.039 ± 0.013	0.053 ± 0.025	0.048 ± 0.021	0.038 ± 0.019	0.025 ± 0.014	0.041 ± 0.015	0.041 ± 0.019	0.034 ± 0.017	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.049 ± 0.031	0.032 ± 0.013	0.058 ± 0.031	0.032 ± 0.012
	Acc.2	0.038 ± 0.013	0.037 ± 0.013	0.039 ± 0.015	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.039 ± 0.013	0.053 ± 0.025	0.048 ± 0.021	0.038 ± 0.019	0.025 ± 0.014	0.041 ± 0.015	0.041 ± 0.019	0.034 ± 0.017	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.049 ± 0.031	0.032 ± 0.013	0.058 ± 0.031	0.032 ± 0.012
	Acc.2	0.038 ± 0.013	0.037 ± 0.013	0.039 ± 0.015	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.039 ± 0.013	0.053 ± 0.025	0.048 ± 0.021	0.038 ± 0.019	0.025 ± 0.014	0.041 ± 0.015	0.041 ± 0.019	0.034 ± 0.017	$\begin{matrix} 0.060 \\ \pm 0.054 \end{matrix}$	0.049 ± 0.031	0.032 ± 0.013	0.058 ± 0.031	0.032 ± 0.012

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.073 ±0.024	0.068 ±0.020	0.071 ±0.024	0.101 ±0.061	0.070 ±0.023	0.099 ±0.037	0.083 ±0.028	0.070 ±0.026	0.050 ±0.023	0.079 ±0.031	0.079 ±0.025	0.068 ±0.030	0.109 ± 0.084	0.092 ±0.048	0.057 ±0.017	0.115 ± 0.058	0.060 ±0.018
Subject7_sync	κ	0.006 ±0.013	0.007 ±0.015	0.009 ±0.015	0.012 ±0.017	0.010 ±0.017	0.002 ±0.010	-0.001 ±0.009	0.004 ±0.013	0.005 ±0.013	0.013 ± 0.011	0.011 ±0.013	0.002 ±0.012	0.025 ± 0.027	0.010 ±0.016	0.002 ±0.009	0.004 ±0.009	0.006 ±0.011
	AUC	0.551 ±0.057	0.529 ±0.050	0.544 ±0.047	0.579 ± 0.061	0.534 ±0.046	0.512 ±0.025	0.512 ±0.026	0.523 ±0.036	0.509 ±0.020	0.541 ±0.033	0.577 ±0.036	0.515 ±0.026	0.626 ± 0.064	0.533 ±0.029	0.522 ±0.027	0.521 ±0.021	0.546 ±0.034
	BAcc	0.031 ±0.013	0.032 ±0.015	0.034 ±0.014	0.037 ±0.017	0.034 ±0.017	0.027 ±0.010	0.024 ±0.009	0.029 ±0.013	0.030 ±0.012	0.038 ± 0.011	0.036 ±0.013	0.027 ±0.012	0.049 ± 0.026	0.034 ±0.016	0.027 ±0.009	0.029 ±0.009	0.031 ±0.011
	Acc.1	0.031 ±0.013	0.032 ±0.015	0.034 ±0.014	0.037 ±0.017	0.034 ±0.017	0.019 ±0.008	0.017 ±0.007	0.025 ±0.014	0.029 ±0.015	0.036 ±0.014	0.024 ± 0.021	0.024 ±0.014	0.037 ± 0.021	0.032 ±0.024	0.029 ±0.017	0.030 ±0.016	0.025 ±0.013
	Acc.2	0.059 ±0.018	0.061 ±0.022	0.068 ±0.025	0.072 ±0.024	0.067 ±0.023	0.042 ±0.014	0.039 ±0.013	0.055 ±0.022	0.058 ±0.021	0.072 ± 0.026	0.088 ± 0.032	0.049 ±0.019	0.067 ±0.035	0.061 ±0.038	0.059 ±0.027	0.060 ±0.029	0.045 ±0.016
Subject8_sync	κ	0.000 ±0.010	0.003 ±0.012	0.008 ±0.014	0.029 ± 0.037	0.007 ±0.013	0.005 ±0.014	0.002 ±0.011	0.009 ±0.016	0.001 ±0.009	0.003 ±0.012	0.008 ±0.011	0.005 ±0.013	0.040 ± 0.047	0.007 ±0.014	-0.001 ±0.012	0.001 ±0.011	-0.000 ±0.008
	AUC	0.525 ±0.032	0.520 ±0.045	0.521 ±0.032	0.595 ± 0.088	0.525 ±0.034	0.519 ±0.028	0.511 ±0.019	0.523 ±0.031	0.510 ±0.022	0.520 ±0.028	0.522 ±0.025	0.526 ±0.026	0.652 ± 0.086	0.522 ±0.022	0.505 ±0.021	0.516 ±0.026	0.515 ±0.020
	BAcc	0.025 ±0.009	0.028 ±0.012	0.033 ±0.013	0.053 ± 0.036	0.032 ±0.013	0.030 ±0.013	0.027 ±0.011	0.034 ±0.015	0.026 ±0.009	0.028 ±0.012	0.033 ±0.011	0.030 ±0.013	0.064 ± 0.046	0.032 ±0.014	0.024 ±0.011	0.026 ±0.011	0.025 ±0.008
	Acc.1	0.025 ±0.009	0.028 ±0.012	0.033 ±0.013	0.053 ± 0.036	0.032 ±0.013	0.030 ±0.017	0.026 ±0.014	0.034 ±0.017	0.026 ±0.012	0.035 ±0.017	0.048 ±0.024	0.028 ±0.020	0.071 ± 0.066	0.037 ±0.017	0.026 ±0.015	0.023 ±0.013	0.037 ±0.018
	Acc.2	0.055 ±0.014	0.060 ±0.021	0.062 ±0.019	0.096 ± 0.060	0.062 ±0.020	0.059 ±0.025	0.057 ±0.022	0.068 ±0.026	0.047 ±0.017	0.067 ±0.025	0.083 ±0.034	0.061 ±0.027	0.124 ± 0.091	0.071 ±0.024	0.050 ±0.017	0.054 ±0.022	0.065 ±0.019
Subject9_sync	κ	0.005 ±0.011	0.004 ±0.014	0.008 ±0.017	0.014 ± 0.017	0.012 ±0.015	0.004 ±0.011	-0.000 ±0.010	0.009 ±0.018	-0.001 ±0.011	0.001 ±0.012	-0.002 ±0.010	0.007 ±0.013	0.012 ± 0.026	-0.002 ±0.008	-0.000 ±0.007	0.009 ±0.012	0.003 ±0.009
	AUC	0.534 ±0.040	0.530 ±0.044	0.536 ±0.044	0.566 ± 0.059	0.536 ±0.052	0.522 ±0.021	0.502 ±0.021	0.524 ±0.032	0.512 ±0.024	0.517 ±0.022	0.485 ±0.021	0.513 ±0.023	0.545 ± 0.080	0.500 ±0.018	0.505 ±0.017	0.527 ±0.029	0.515 ±0.026
	BAcc	0.030 ±0.011	0.029 ±0.014	0.033 ±0.016	0.038 ± 0.017	0.037 ±0.015	0.029 ±0.011	0.025 ±0.010	0.033 ±0.017	0.024 ±0.010	0.026 ±0.011	0.023 ±0.010	0.032 ±0.013	0.037 ± 0.025	0.023 ±0.008	0.025 ±0.007	0.034 ±0.012	0.028 ±0.009
	Acc.1	0.030 ±0.011	0.029 ±0.014	0.033 ±0.016	0.038 ±0.017	0.037 ±0.015	0.032 ±0.016	0.024 ±0.013	0.032 ±0.019	0.024 ±0.013	0.028 ±0.015	0.034 ±0.016	0.030 ±0.015	0.045 ± 0.028	0.025 ±0.007	0.035 ±0.013	0.036 ±0.015	0.039 ± 0.018
	Acc.2	0.062 ±0.018	0.062 ±0.026	0.065 ±0.024	0.073 ± 0.025	0.067 ±0.028	0.059 ±0.021	0.053 ±0.016	0.060 ±0.026	0.054 ±0.019	0.059 ±0.021	0.065 ±0.021	0.060 ±0.022	0.077 ± 0.041	0.049 ±0.014	0.061 ±0.014	0.069 ±0.018	0.067 ±0.024

F.2.2 ASYNCHRONOUS DECODING RESULTS

Within-Subject Evaluation

Table 59: Average ‘‘Self’’ Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.070	0.675	0.093	0.093	0.155
DeepConvnet	± 0.106	± 0.091	± 0.103	± 0.103	± 0.132
	0.030	0.619	0.054	0.054	0.102
EEGNet	± 0.021	± 0.056	± 0.020	± 0.020	± 0.035
	0.050	0.636	0.074	0.074	0.132
Conformer	± 0.053	± 0.071	± 0.052	± 0.052	± 0.074
	0.164	0.745	0.185	0.185	0.277
CTNet	± 0.176	± 0.130	± 0.171	± 0.171	± 0.219
	0.041	0.613	0.065	0.065	0.116
SSVEPDNN	± 0.031	± 0.055	± 0.030	± 0.030	± 0.044
	0.051	0.598	0.074	0.074	0.127
BIOT (f)	± 0.075	± 0.086	± 0.073	± 0.072	± 0.102
	0.030	0.579	0.055	0.055	0.099
BIOT (l)	± 0.054	± 0.081	± 0.053	± 0.053	± 0.079
	0.035	0.586	0.059	0.059	0.106
BENDR (f)	± 0.025	± 0.045	± 0.024	± 0.024	± 0.037
	0.007	0.528	0.032	0.032	0.061
BENDR (l)	± 0.006	± 0.020	± 0.005	± 0.006	± 0.009
	0.034	0.594	0.058	0.059	0.107
CBraMod (f)	± 0.025	± 0.045	± 0.025	± 0.024	± 0.037
	0.024	0.594	0.048	0.048	0.093
CBraMod (l)	± 0.018	± 0.048	± 0.017	± 0.018	± 0.032
	0.021	0.553	0.046	0.045	0.081
EEGPT (f)	± 0.041	± 0.063	± 0.040	± 0.040	± 0.058
	0.136	0.730	0.157	0.157	0.246
EEGPT (l)	± 0.136	± 0.124	± 0.133	± 0.133	± 0.177
	0.073	0.620	0.096	0.096	0.160
LaBraM (f)	± 0.097	± 0.080	± 0.095	± 0.094	± 0.117
	0.012	0.548	0.036	0.036	0.070
LaBraM (l)	± 0.009	± 0.030	± 0.009	± 0.009	± 0.015
	0.075	0.630	0.099	0.099	0.167
STEEGformer-s (f)	± 0.062	± 0.076	± 0.061	± 0.061	± 0.091
	0.023	0.589	0.048	0.047	0.088
STEEGformer-s (l)	± 0.016	± 0.048	± 0.016	± 0.015	± 0.024

Table 60: Per-Subject ‘‘Self’’ Performance (trained+tested on same subject)

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
Subject10_async	κ	0.052 ± 0.017	0.033 ± 0.020	0.027 ± 0.015	0.062 ± 0.014	0.022 ± 0.009	0.019 ± 0.007	0.007 ± 0.010	0.034 ± 0.010	0.005 ± 0.007	0.021 ± 0.010	0.022 ± 0.014	0.012 ± 0.012	0.033 ± 0.012	0.055 ± 0.021	0.010 ± 0.009	0.042 ± 0.023	0.015 ± 0.012
	AUC	0.666 ± 0.026	0.607 ± 0.016	0.623 ± 0.021	0.668 ± 0.030	0.585 ± 0.015	0.567 ± 0.017	0.549 ± 0.018	0.568 ± 0.009	0.521 ± 0.011	0.572 ± 0.016	0.586 ± 0.044	0.537 ± 0.013	0.617 ± 0.012	0.606 ± 0.027	0.542 ± 0.024	0.612 ± 0.039	0.592 ± 0.053
	BAcc	0.075 ± 0.016	0.057 ± 0.019	0.051 ± 0.015	0.085 ± 0.013	0.046 ± 0.009	0.043 ± 0.007	0.032 ± 0.010	0.059 ± 0.009	0.030 ± 0.007	0.046 ± 0.010	0.047 ± 0.013	0.037 ± 0.012	0.057 ± 0.012	0.078 ± 0.020	0.035 ± 0.009	0.066 ± 0.022	0.040 ± 0.011
	Acc.1	0.075 ± 0.016	0.057 ± 0.019	0.051 ± 0.015	0.085 ± 0.013	0.046 ± 0.009	0.043 ± 0.006	0.032 ± 0.011	0.058 ± 0.010	0.029 ± 0.007	0.045 ± 0.010	0.046 ± 0.014	0.037 ± 0.012	0.058 ± 0.012	0.078 ± 0.021	0.035 ± 0.009	0.068 ± 0.024	0.041 ± 0.010
	Acc.2	0.128 ± 0.035	0.095 ± 0.025	0.102 ± 0.017	0.140 ± 0.014	0.094 ± 0.019	0.079 ± 0.007	0.072 ± 0.022	0.106 ± 0.013	0.055 ± 0.012	0.094 ± 0.012	0.092 ± 0.023	0.077 ± 0.021	0.118 ± 0.020	0.146 ± 0.025	0.070 ± 0.013	0.130 ± 0.030	0.079 ± 0.023
Subject11_async	κ	0.024 ± 0.012	-0.001 ± 0.013	0.004 ± 0.008	0.007 ± 0.016	-0.004 ± 0.010	0.004 ± 0.013	-0.000 ± 0.007	0.007 ± 0.012	0.008 ± 0.006	0.020 ± 0.012	0.004 ± 0.014	0.005 ± 0.009	0.010 ± 0.020	0.010 ± 0.006	-0.002 ± 0.011	0.005 ± 0.018	0.011 ± 0.011
	AUC	0.588 ± 0.034	0.548 ± 0.017	0.513 ± 0.021	0.547 ± 0.045	0.527 ± 0.021	0.502 ± 0.031	0.506 ± 0.032	0.513 ± 0.022	0.504 ± 0.008	0.549 ± 0.030	0.544 ± 0.027	0.515 ± 0.023	0.528 ± 0.037	0.526 ± 0.019	0.515 ± 0.034	0.514 ± 0.030	0.533 ± 0.021
	BAcc	0.048 ± 0.012	0.024 ± 0.012	0.029 ± 0.008	0.032 ± 0.015	0.021 ± 0.010	0.029 ± 0.012	0.025 ± 0.007	0.031 ± 0.012	0.033 ± 0.006	0.045 ± 0.011	0.029 ± 0.014	0.030 ± 0.008	0.035 ± 0.020	0.035 ± 0.006	0.023 ± 0.010	0.030 ± 0.017	0.036 ± 0.011
	Acc.1	0.048 ± 0.012	0.024 ± 0.012	0.029 ± 0.008	0.032 ± 0.015	0.021 ± 0.010	0.029 ± 0.012	0.025 ± 0.007	0.032 ± 0.011	0.033 ± 0.006	0.044 ± 0.011	0.029 ± 0.014	0.029 ± 0.008	0.035 ± 0.021	0.035 ± 0.007	0.022 ± 0.010	0.029 ± 0.017	0.036 ± 0.010
	Acc.2	0.083 ± 0.023	0.064 ± 0.024	0.058 ± 0.017	0.066 ± 0.025	0.057 ± 0.016	0.054 ± 0.020	0.045 ± 0.007	0.057 ± 0.019	0.055 ± 0.005	0.080 ± 0.020	0.058 ± 0.022	0.050 ± 0.006	0.064 ± 0.024	0.067 ± 0.015	0.047 ± 0.010	0.061 ± 0.032	0.066 ± 0.017
Subject12_async	κ	0.015 ± 0.013	0.019 ± 0.004	0.007 ± 0.017	0.017 ± 0.037	0.001 ± 0.018	0.005 ± 0.009	-0.004 ± 0.008	0.014 ± 0.013	0.004 ± 0.007	0.013 ± 0.035	-0.000 ± 0.012	0.001 ± 0.006	0.020 ± 0.018	0.011 ± 0.021	-0.001 ± 0.005	0.007 ± 0.015	0.009 ± 0.020
	AUC	0.585 ± 0.030	0.550 ± 0.043	0.567 ± 0.022	0.571 ± 0.035	0.547 ± 0.018	0.512 ± 0.023	0.502 ± 0.031	0.553 ± 0.011	0.511 ± 0.020	0.553 ± 0.024	0.539 ± 0.030	0.513 ± 0.024	0.593 ± 0.032	0.534 ± 0.038	0.514 ± 0.027	0.520 ± 0.035	0.495 ± 0.034
	BAcc	0.040 ± 0.013	0.043 ± 0.004	0.032 ± 0.016	0.042 ± 0.036	0.026 ± 0.017	0.030 ± 0.009	0.021 ± 0.008	0.039 ± 0.012	0.029 ± 0.007	0.037 ± 0.034	0.025 ± 0.011	0.026 ± 0.006	0.045 ± 0.017	0.035 ± 0.020	0.024 ± 0.005	0.032 ± 0.014	0.034 ± 0.020
	Acc.1	0.040 ± 0.013	0.043 ± 0.004	0.032 ± 0.016	0.042 ± 0.036	0.026 ± 0.017	0.030 ± 0.008	0.021 ± 0.008	0.038 ± 0.012	0.029 ± 0.007	0.038 ± 0.035	0.025 ± 0.011	0.026 ± 0.005	0.044 ± 0.017	0.035 ± 0.020	0.023 ± 0.005	0.032 ± 0.014	0.034 ± 0.020
	Acc.2	0.074 ± 0.007	0.068 ± 0.004	0.068 ± 0.013	0.085 ± 0.050	0.062 ± 0.024	0.056 ± 0.009	0.048 ± 0.014	0.076 ± 0.014	0.053 ± 0.004	0.071 ± 0.050	0.050 ± 0.014	0.049 ± 0.011	0.084 ± 0.029	0.067 ± 0.029	0.053 ± 0.011	0.052 ± 0.021	0.064 ± 0.025

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject13_async	κ	0.092 ± 0.019	0.054 ± 0.017	0.097 ± 0.019	0.402 ± 0.106	0.062 ± 0.014	0.039 ± 0.014	0.014 ± 0.022	0.082 ± 0.013	0.018 ± 0.003	0.106 ± 0.032	0.007 ± 0.009	0.022 ± 0.010	0.411 ± 0.034	0.075 ± 0.015	0.018 ± 0.006	0.131 ± 0.035	0.065 ± 0.025
	AUC	0.738 ± 0.019	0.684 ± 0.026	0.743 ± 0.043	0.897 ± 0.056	0.666 ± 0.041	0.584 ± 0.020	0.561 ± 0.039	0.657 ± 0.024	0.570 ± 0.012	0.686 ± 0.050	0.541 ± 0.036	0.568 ± 0.020	0.923 ± 0.017	0.664 ± 0.035	0.555 ± 0.023	0.694 ± 0.070	0.673 ± 0.046
	BAcc	0.115 ± 0.018	0.078 ± 0.016	0.120 ± 0.019	0.417 ± 0.103	0.085 ± 0.014	0.063 ± 0.014	0.039 ± 0.021	0.105 ± 0.012	0.043 ± 0.003	0.129 ± 0.031	0.032 ± 0.009	0.047 ± 0.010	0.425 ± 0.033	0.098 ± 0.015	0.043 ± 0.006	0.153 ± 0.035	0.089 ± 0.024
	Acc.1	0.115 ± 0.018	0.078 ± 0.016	0.120 ± 0.019	0.417 ± 0.103	0.085 ± 0.014	0.063 ± 0.014	0.038 ± 0.021	0.106 ± 0.012	0.043 ± 0.003	0.128 ± 0.031	0.031 ± 0.009	0.048 ± 0.010	0.427 ± 0.031	0.098 ± 0.014	0.043 ± 0.006	0.153 ± 0.036	0.088 ± 0.023
	Acc.2	0.206 ± 0.017	0.151 ± 0.029	0.214 ± 0.044	0.557 ± 0.105	0.156 ± 0.019	0.113 ± 0.024	0.075 ± 0.021	0.173 ± 0.024	0.076 ± 0.010	0.193 ± 0.038	0.067 ± 0.025	0.082 ± 0.017	0.593 ± 0.038	0.191 ± 0.026	0.078 ± 0.012	0.270 ± 0.067	0.155 ± 0.035
Subject14_async	κ	0.055 ± 0.021	0.037 ± 0.021	0.049 ± 0.024	0.335 ± 0.060	0.047 ± 0.017	0.055 ± 0.034	0.020 ± 0.013	0.054 ± 0.028	0.014 ± 0.005	0.021 ± 0.021	0.028 ± 0.016	0.026 ± 0.007	0.307 ± 0.038	0.091 ± 0.043	0.012 ± 0.011	0.162 ± 0.065	0.028 ± 0.021
	AUC	0.719 ± 0.017	0.655 ± 0.018	0.685 ± 0.017	0.906 ± 0.012	0.646 ± 0.013	0.630 ± 0.029	0.567 ± 0.018	0.630 ± 0.018	0.552 ± 0.008	0.592 ± 0.030	0.638 ± 0.040	0.577 ± 0.023	0.902 ± 0.003	0.688 ± 0.046	0.582 ± 0.023	0.706 ± 0.068	0.667 ± 0.023
	BAcc	0.079 ± 0.021	0.061 ± 0.021	0.073 ± 0.023	0.352 ± 0.058	0.071 ± 0.016	0.079 ± 0.033	0.044 ± 0.013	0.078 ± 0.027	0.039 ± 0.005	0.045 ± 0.021	0.052 ± 0.015	0.050 ± 0.007	0.325 ± 0.037	0.114 ± 0.042	0.036 ± 0.011	0.183 ± 0.064	0.052 ± 0.021
	Acc.1	0.079 ± 0.021	0.061 ± 0.021	0.073 ± 0.023	0.352 ± 0.058	0.071 ± 0.016	0.078 ± 0.033	0.044 ± 0.012	0.078 ± 0.026	0.039 ± 0.005	0.045 ± 0.021	0.054 ± 0.016	0.049 ± 0.007	0.321 ± 0.037	0.114 ± 0.043	0.037 ± 0.012	0.185 ± 0.066	0.052 ± 0.020
	Acc.2	0.137 ± 0.042	0.113 ± 0.027	0.137 ± 0.029	0.493 ± 0.068	0.127 ± 0.019	0.134 ± 0.035	0.080 ± 0.019	0.133 ± 0.028	0.073 ± 0.008	0.093 ± 0.023	0.120 ± 0.023	0.090 ± 0.009	0.476 ± 0.046	0.212 ± 0.063	0.078 ± 0.017	0.296 ± 0.092	0.108 ± 0.028
Subject15_async	κ	0.014 ± 0.033	0.000 ± 0.008	0.013 ± 0.020	0.043 ± 0.025	0.019 ± 0.016	-0.004 ± 0.005	0.004 ± 0.008	0.025 ± 0.015	-0.000 ± 0.005	0.012 ± 0.019	0.027 ± 0.023	-0.001 ± 0.008	0.039 ± 0.010	0.015 ± 0.009	0.006 ± 0.008	0.019 ± 0.035	-0.000 ± 0.014
	AUC	0.581 ± 0.040	0.540 ± 0.022	0.562 ± 0.027	0.641 ± 0.033	0.584 ± 0.023	0.526 ± 0.026	0.507 ± 0.031	0.569 ± 0.028	0.510 ± 0.014	0.543 ± 0.047	0.557 ± 0.032	0.501 ± 0.016	0.656 ± 0.037	0.533 ± 0.020	0.539 ± 0.040	0.587 ± 0.031	0.540 ± 0.024
	BAcc	0.039 ± 0.032	0.025 ± 0.008	0.037 ± 0.020	0.067 ± 0.025	0.043 ± 0.015	0.021 ± 0.005	0.029 ± 0.007	0.050 ± 0.014	0.025 ± 0.005	0.037 ± 0.018	0.051 ± 0.022	0.024 ± 0.007	0.063 ± 0.009	0.040 ± 0.009	0.031 ± 0.008	0.044 ± 0.034	0.025 ± 0.014
	Acc.1	0.039 ± 0.032	0.025 ± 0.008	0.037 ± 0.020	0.067 ± 0.025	0.043 ± 0.015	0.021 ± 0.005	0.029 ± 0.007	0.049 ± 0.016	0.025 ± 0.005	0.036 ± 0.018	0.051 ± 0.021	0.024 ± 0.007	0.062 ± 0.010	0.041 ± 0.008	0.031 ± 0.008	0.043 ± 0.033	0.024 ± 0.014
	Acc.2	0.081 ± 0.041	0.046 ± 0.009	0.072 ± 0.023	0.113 ± 0.030	0.085 ± 0.019	0.046 ± 0.006	0.055 ± 0.015	0.090 ± 0.022	0.053 ± 0.011	0.074 ± 0.027	0.088 ± 0.024	0.047 ± 0.011	0.122 ± 0.022	0.072 ± 0.019	0.055 ± 0.014	0.093 ± 0.043	0.050 ± 0.014
Subject16_async	κ	0.044 ± 0.010	0.022 ± 0.015	0.038 ± 0.015	0.088 ± 0.039	0.028 ± 0.020	0.012 ± 0.012	0.012 ± 0.011	0.027 ± 0.018	0.002 ± 0.012	0.036 ± 0.005	0.021 ± 0.007	0.008 ± 0.011	0.054 ± 0.017	0.049 ± 0.014	0.002 ± 0.012	0.044 ± 0.040	0.011 ± 0.009

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(l)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject17_async	κ	0.631 ± 0.019	0.602 ± 0.019	0.603 ± 0.040	0.675 ± 0.041	0.609 ± 0.029	0.565 ± 0.024	0.549 ± 0.032	0.576 ± 0.024	0.524 ± 0.021	0.600 ± 0.034	0.581 ± 0.025	0.528 ± 0.018	0.624 ± 0.022	0.576 ± 0.022	0.509 ± 0.018	0.600 ± 0.035	0.558 ± 0.038
	BAcc	0.068 ± 0.009	0.047 ± 0.014	0.062 ± 0.014	0.111 ± 0.038	0.053 ± 0.020	0.036 ± 0.011	0.036 ± 0.011	0.051 ± 0.017	0.027 ± 0.012	0.060 ± 0.005	0.045 ± 0.007	0.033 ± 0.011	0.078 ± 0.016	0.073 ± 0.014	0.027 ± 0.011	0.068 ± 0.039	0.035 ± 0.009
	Acc.1	0.068 ± 0.009	0.047 ± 0.014	0.062 ± 0.014	0.111 ± 0.038	0.053 ± 0.020	0.036 ± 0.011	0.037 ± 0.010	0.052 ± 0.018	0.027 ± 0.012	0.061 ± 0.009	0.045 ± 0.007	0.033 ± 0.011	0.077 ± 0.017	0.073 ± 0.014	0.027 ± 0.012	0.069 ± 0.037	0.036 ± 0.009
	Acc.2	0.107 ± 0.010	0.091 ± 0.011	0.108 ± 0.026	0.169 ± 0.056	0.105 ± 0.029	0.070 ± 0.020	0.077 ± 0.020	0.094 ± 0.027	0.060 ± 0.019	0.119 ± 0.007	0.094 ± 0.012	0.059 ± 0.019	0.129 ± 0.019	0.113 ± 0.014	0.051 ± 0.020	0.117 ± 0.038	0.082 ± 0.021
	κ	0.039 ± 0.023	0.025 ± 0.014	0.024 ± 0.012	0.162 ± 0.046	0.059 ± 0.012	0.054 ± 0.035	0.021 ± 0.012	0.038 ± 0.016	0.008 ± 0.009	0.016 ± 0.012	0.020 ± 0.015	0.016 ± 0.006	0.153 ± 0.043	0.056 ± 0.015	0.011 ± 0.007	0.072 ± 0.030	0.015 ± 0.011
	AUC	0.650 ± 0.023	0.602 ± 0.019	0.575 ± 0.020	0.794 ± 0.035	0.623 ± 0.026	0.599 ± 0.055	0.588 ± 0.025	0.580 ± 0.022	0.519 ± 0.017	0.581 ± 0.017	0.566 ± 0.021	0.532 ± 0.020	0.798 ± 0.043	0.624 ± 0.020	0.568 ± 0.017	0.665 ± 0.037	0.565 ± 0.040
	BAcc	0.063 ± 0.022	0.049 ± 0.014	0.048 ± 0.011	0.183 ± 0.045	0.082 ± 0.012	0.078 ± 0.034	0.045 ± 0.011	0.062 ± 0.016	0.033 ± 0.008	0.041 ± 0.012	0.045 ± 0.015	0.040 ± 0.006	0.174 ± 0.042	0.080 ± 0.014	0.036 ± 0.007	0.095 ± 0.030	0.040 ± 0.010
	Acc.1	0.063 ± 0.022	0.049 ± 0.014	0.048 ± 0.011	0.183 ± 0.045	0.082 ± 0.012	0.078 ± 0.034	0.045 ± 0.011	0.062 ± 0.015	0.034 ± 0.009	0.041 ± 0.012	0.045 ± 0.015	0.040 ± 0.006	0.174 ± 0.041	0.080 ± 0.013	0.036 ± 0.007	0.095 ± 0.028	0.039 ± 0.010
	Acc.2	0.115 ± 0.025	0.099 ± 0.019	0.085 ± 0.012	0.295 ± 0.065	0.132 ± 0.019	0.131 ± 0.052	0.082 ± 0.026	0.098 ± 0.016	0.064 ± 0.018	0.090 ± 0.016	0.082 ± 0.020	0.069 ± 0.006	0.273 ± 0.057	0.142 ± 0.025	0.068 ± 0.008	0.155 ± 0.041	0.080 ± 0.022
	κ	0.117 ± 0.086	0.011 ± 0.023	0.026 ± 0.013	0.293 ± 0.067	0.068 ± 0.028	0.163 ± 0.052	0.048 ± 0.038	0.020 ± 0.011	0.005 ± 0.010	0.021 ± 0.024	0.037 ± 0.014	0.011 ± 0.007	0.088 ± 0.035	0.077 ± 0.034	0.013 ± 0.013	0.083 ± 0.032	0.026 ± 0.017
	AUC	0.772 ± 0.107	0.576 ± 0.024	0.603 ± 0.013	0.907 ± 0.023	0.649 ± 0.029	0.767 ± 0.049	0.636 ± 0.067	0.572 ± 0.020	0.515 ± 0.010	0.569 ± 0.043	0.623 ± 0.042	0.537 ± 0.015	0.729 ± 0.036	0.636 ± 0.055	0.536 ± 0.026	0.668 ± 0.050	0.625 ± 0.043
Subject18_async	BAcc	0.139 ± 0.084	0.036 ± 0.022	0.050 ± 0.013	0.310 ± 0.065	0.091 ± 0.028	0.184 ± 0.051	0.072 ± 0.037	0.045 ± 0.011	0.030 ± 0.010	0.045 ± 0.023	0.061 ± 0.014	0.036 ± 0.007	0.111 ± 0.034	0.100 ± 0.033	0.037 ± 0.013	0.106 ± 0.031	0.050 ± 0.017
	Acc.1	0.139 ± 0.084	0.036 ± 0.022	0.050 ± 0.013	0.310 ± 0.065	0.091 ± 0.028	0.183 ± 0.050	0.071 ± 0.037	0.044 ± 0.011	0.030 ± 0.010	0.045 ± 0.023	0.065 ± 0.015	0.036 ± 0.007	0.111 ± 0.034	0.103 ± 0.034	0.037 ± 0.013	0.107 ± 0.029	0.051 ± 0.017
	Acc.2	0.247 ± 0.131	0.077 ± 0.034	0.091 ± 0.022	0.474 ± 0.078	0.153 ± 0.033	0.294 ± 0.072	0.126 ± 0.048	0.090 ± 0.025	0.054 ± 0.017	0.087 ± 0.028	0.119 ± 0.035	0.064 ± 0.011	0.202 ± 0.045	0.173 ± 0.050	0.068 ± 0.019	0.197 ± 0.045	0.089 ± 0.014
	κ	0.046 ± 0.015	0.047 ± 0.026	0.062 ± 0.020	0.053 ± 0.026	0.023 ± 0.018	0.032 ± 0.011	0.022 ± 0.019	0.021 ± 0.013	0.005 ± 0.006	0.024 ± 0.023	0.012 ± 0.015	-0.004 ± 0.009	0.059 ± 0.021	0.073 ± 0.019	0.023 ± 0.011	0.101 ± 0.025	0.027 ± 0.021
	AUC	0.733 ± 0.022	0.682 ± 0.012	0.685 ± 0.029	0.746 ± 0.024	0.599 ± 0.021	0.590 ± 0.016	0.537 ± 0.026	0.575 ± 0.014	0.528 ± 0.013	0.609 ± 0.045	0.594 ± 0.012	0.503 ± 0.020	0.698 ± 0.020	0.654 ± 0.030	0.536 ± 0.014	0.685 ± 0.024	0.637 ± 0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1_async	BAcc	0.070 ±0.015	0.071 ±0.025	0.086 ±0.019	0.076 ±0.026	0.048 ±0.017	0.056 ±0.011	0.047 ±0.019	0.045 ±0.012	0.030 ±0.006	0.049 ±0.022	0.037 ±0.014	0.021 ±0.008	0.083 ±0.020	0.096 ± 0.018	0.047 ±0.011	0.123 ± 0.024	0.051 ±0.021
		0.070 ±0.015	0.071 ±0.025	0.086 ±0.019	0.076 ±0.026	0.048 ±0.017	0.057 ±0.013	0.047 ±0.019	0.045 ±0.012	0.031 ±0.006	0.049 ±0.021	0.037 ±0.015	0.022 ±0.008	0.082 ±0.021	0.095 ± 0.018	0.047 ±0.010	0.121 ± 0.023	0.050 ±0.021
	Acc.1	0.143 ±0.019	0.129 ±0.037	0.156 ±0.022	0.152 ±0.033	0.086 ±0.026	0.106 ±0.025	0.080 ±0.017	0.093 ±0.020	0.059 ±0.012	0.085 ±0.022	0.073 ±0.016	0.044 ±0.011	0.138 ±0.032	0.170 ± 0.023	0.075 ±0.016	0.222 ± 0.023	0.087 ±0.026
		0.143 ±0.019	0.129 ±0.037	0.156 ±0.022	0.152 ±0.033	0.086 ±0.026	0.106 ±0.025	0.080 ±0.017	0.093 ±0.020	0.059 ±0.012	0.085 ±0.022	0.073 ±0.016	0.044 ±0.011	0.138 ±0.032	0.170 ± 0.023	0.075 ±0.016	0.222 ± 0.023	0.087 ±0.026
	κ	0.009 ±0.018	0.011 ±0.013	0.011 ±0.012	0.012 ± 0.022	0.011 ±0.015	-0.002 ±0.011	0.001 ±0.011	0.007 ±0.013	0.003 ±0.008	0.008 ±0.016	0.008 ±0.014	0.003 ±0.009	0.014 ± 0.019	0.009 ±0.016	0.002 ±0.009	0.005 ±0.022	0.003 ±0.015
		0.562 ±0.049	0.554 ±0.033	0.549 ±0.033	0.583 ± 0.052	0.544 ±0.033	0.514 ±0.024	0.507 ±0.033	0.528 ±0.026	0.508 ±0.019	0.537 ±0.032	0.546 ±0.039	0.510 ±0.023	0.567 ± 0.039	0.534 ±0.037	0.509 ±0.030	0.524 ±0.041	0.529 ±0.046
	BAcc	0.034 ±0.017	0.036 ±0.013	0.036 ±0.012	0.037 ± 0.021	0.036 ±0.015	0.023 ±0.011	0.026 ±0.011	0.032 ±0.012	0.028 ±0.008	0.033 ±0.016	0.033 ±0.014	0.028 ±0.009	0.039 ± 0.018	0.034 ±0.015	0.026 ±0.009	0.030 ±0.021	0.027 ±0.015
		0.034 ±0.017	0.036 ±0.013	0.036 ±0.012	0.037 ± 0.021	0.036 ±0.015	0.023 ±0.011	0.026 ±0.011	0.032 ±0.013	0.028 ±0.008	0.033 ±0.016	0.034 ±0.014	0.028 ±0.009	0.038 ± 0.018	0.034 ±0.015	0.026 ±0.009	0.030 ±0.021	0.028 ±0.015
	Acc.1	0.066 ±0.026	0.071 ±0.018	0.070 ±0.019	0.072 ± 0.033	0.068 ±0.020	0.050 ±0.017	0.052 ±0.015	0.062 ±0.018	0.053 ±0.011	0.067 ±0.021	0.066 ±0.024	0.054 ±0.013	0.072 ± 0.023	0.066 ±0.026	0.053 ±0.015	0.063 ±0.035	0.055 ±0.017
		0.066 ±0.026	0.071 ±0.018	0.070 ±0.019	0.072 ± 0.033	0.068 ±0.020	0.050 ±0.017	0.052 ±0.015	0.062 ±0.018	0.053 ±0.011	0.067 ±0.021	0.066 ±0.024	0.054 ±0.013	0.072 ± 0.023	0.066 ±0.026	0.053 ±0.015	0.063 ±0.035	0.055 ±0.017
Subject20_async	κ	0.043 ±0.033	0.036 ±0.029	0.077 ±0.015	0.295 ± 0.050	0.057 ±0.021	0.055 ±0.013	0.030 ±0.016	0.060 ±0.019	0.009 ±0.009	0.037 ±0.028	0.064 ±0.022	0.031 ±0.013	0.252 ± 0.025	0.122 ±0.037	0.011 ±0.019	0.077 ±0.037	0.028 ±0.032
		0.688 ±0.026	0.638 ±0.025	0.705 ±0.017	0.870 ± 0.022	0.669 ±0.031	0.635 ±0.058	0.620 ±0.030	0.619 ±0.028	0.542 ±0.012	0.618 ±0.023	0.657 ±0.033	0.606 ±0.022	0.857 ± 0.024	0.685 ±0.026	0.555 ±0.046	0.662 ±0.030	0.623 ±0.040
	BAcc	0.067 ±0.032	0.060 ±0.028	0.100 ±0.015	0.313 ± 0.048	0.080 ±0.020	0.079 ±0.013	0.055 ±0.016	0.084 ±0.019	0.034 ±0.008	0.061 ±0.027	0.088 ±0.021	0.055 ±0.012	0.271 ± 0.025	0.144 ±0.036	0.035 ±0.019	0.100 ±0.036	0.052 ±0.031
		0.067 ±0.032	0.060 ±0.028	0.100 ±0.015	0.313 ± 0.048	0.080 ±0.020	0.079 ±0.014	0.055 ±0.016	0.083 ±0.018	0.034 ±0.008	0.063 ±0.028	0.088 ±0.023	0.055 ±0.012	0.269 ± 0.025	0.144 ±0.035	0.035 ±0.019	0.101 ±0.038	0.051 ±0.032
	Acc.1	0.122 ±0.033	0.126 ±0.052	0.202 ±0.035	0.472 ± 0.065	0.146 ±0.027	0.149 ±0.035	0.100 ±0.022	0.129 ±0.026	0.072 ±0.010	0.114 ±0.045	0.147 ±0.026	0.109 ±0.013	0.407 ± 0.033	0.230 ±0.049	0.068 ±0.019	0.177 ±0.046	0.099 ±0.040
		0.122 ±0.033	0.126 ±0.052	0.202 ±0.035	0.472 ± 0.065	0.146 ±0.027	0.149 ±0.035	0.100 ±0.022	0.129 ±0.026	0.072 ±0.010	0.114 ±0.045	0.147 ±0.026	0.109 ±0.013	0.407 ± 0.033	0.230 ±0.049	0.068 ±0.019	0.177 ±0.046	0.099 ±0.040
Subject21_async	κ	0.053 ±0.023	0.041 ±0.011	0.062 ±0.018	0.226 ± 0.043	0.050 ±0.027	0.031 ±0.026	0.021 ±0.008	0.030 ±0.012	0.008 ±0.013	0.096 ±0.012	0.010 ±0.024	0.012 ±0.010	0.252 ± 0.022	0.034 ±0.013	0.032 ±0.023	0.117 ±0.037	0.042 ±0.021
		0.688 ±0.026	0.665 ±0.030	0.675 ±0.014	0.865 ± 0.023	0.633 ±0.024	0.591 ±0.039	0.573 ±0.013	0.585 ±0.013	0.532 ±0.010	0.689 ±0.029	0.619 ±0.074	0.525 ±0.019	0.878 ± 0.008	0.582 ±0.018	0.619 ±0.023	0.668 ±0.062	0.624 ±0.048
	BAcc	0.077 ±0.022	0.065 ±0.010	0.085 ±0.017	0.245 ± 0.042	0.074 ±0.026	0.055 ±0.025	0.045 ±0.008	0.054 ±0.011	0.033 ±0.012	0.118 ±0.012	0.035 ±0.024	0.037 ±0.010	0.271 ± 0.022	0.059 ±0.012	0.056 ±0.023	0.139 ±0.036	0.066 ±0.021
		0.077 ±0.022	0.065 ±0.010	0.085 ±0.017	0.245 ± 0.042	0.074 ±0.026	0.055 ±0.025	0.045 ±0.008	0.054 ±0.011	0.033 ±0.012	0.118 ±0.012	0.035 ±0.024	0.037 ±0.010	0.271 ± 0.022	0.059 ±0.012	0.056 ±0.023	0.139 ±0.036	0.066 ±0.021

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject22_async	Acc.1	0.077 ±0.022	0.065 ±0.010	0.085 ±0.017	0.245 ± 0.042	0.074 ±0.026	0.055 ±0.025	0.044 ±0.008	0.054 ±0.011	0.033 ±0.013	0.118 ±0.012	0.035 ±0.023	0.037 ±0.010	<div>0.269 ± 0.022</div>	0.059 ±0.013	0.056 ±0.023	0.139 ±0.037	0.065 ±0.020
		0.143 ±0.035	0.125 ±0.008	0.144 ±0.017	0.395 ± 0.046	0.120 ±0.032	0.092 ±0.029	0.082 ±0.011	0.093 ±0.014	0.069 ±0.014	0.187 ±0.033	0.065 ±0.024	0.059 ±0.008	<div>0.412 ± 0.016</div>	0.107 ±0.021	0.103 ±0.017	0.226 ±0.052	0.112 ±0.034
	κ	0.072 ±0.026	0.048 ±0.030	0.049 ±0.015	<div>0.508 ± 0.036</div>	0.051 ±0.007	0.143 ±0.049	0.107 ±0.066	0.051 ±0.016	0.007 ±0.011	0.048 ±0.007	0.023 ±0.003	0.034 ±0.022	0.326 ± 0.037	0.105 ±0.043	0.017 ±0.002	0.130 ±0.040	0.024 ±0.027
		0.716 ±0.014	0.683 ±0.041	0.678 ±0.011	<div>0.955 ± 0.015</div>	0.676 ±0.016	0.697 ±0.082	0.714 ±0.093	0.626 ±0.033	0.553 ±0.016	0.613 ±0.026	0.637 ±0.017	0.607 ±0.034	0.917 ± 0.003	0.689 ±0.041	0.581 ±0.021	0.682 ±0.049	0.655 ±0.027
	BAcc	0.095 ±0.025	0.072 ±0.029	0.073 ±0.015	<div>0.520 ± 0.035</div>	0.075 ±0.007	0.164 ±0.047	0.129 ±0.064	0.075 ±0.016	0.032 ±0.011	0.072 ±0.007	0.047 ±0.003	0.058 ±0.021	0.343 ± 0.036	0.128 ±0.042	0.041 ±0.002	0.151 ±0.039	0.048 ±0.026
		0.095 ±0.025	0.072 ±0.029	0.073 ±0.015	<div>0.520 ± 0.035</div>	0.075 ±0.007	0.164 ±0.047	0.129 ±0.063	0.076 ±0.015	0.032 ±0.011	0.072 ±0.008	0.048 ±0.003	0.058 ±0.022	0.345 ± 0.037	0.127 ±0.042	0.041 ±0.003	0.152 ±0.039	0.048 ±0.026
Subject23_async	Acc.1	0.180 ±0.047	0.132 ±0.035	0.131 ±0.013	<div>0.681 ± 0.046</div>	0.152 ±0.015	0.250 ±0.081	0.210 ±0.096	0.144 ±0.012	0.066 ±0.017	0.121 ±0.011	0.097 ±0.023	0.113 ±0.035	0.521 ± 0.047	0.224 ±0.056	0.085 ±0.004	0.224 ±0.052	0.099 ±0.038
		0.030 ±0.027	0.016 ±0.008	0.024 ±0.013	0.033 ±0.028	0.024 ±0.012	0.026 ±0.021	0.002 ±0.013	0.009 ±0.015	0.009 ±0.009	0.008 ±0.012	0.023 ±0.013	0.003 ±0.006	0.034 ±0.007	0.039 ± 0.012	0.001 ±0.008	<div>0.053 ± 0.038</div>	0.035 ±0.018
	AUC	0.641 ± 0.024	0.607 ±0.013	0.604 ±0.017	<div>0.647 ± 0.028</div>	0.552 ±0.017	0.564 ±0.029	0.534 ±0.017	0.562 ±0.018	0.527 ±0.007	0.541 ±0.034	0.565 ±0.013	0.516 ±0.020	0.637 ±0.029	0.576 ±0.033	0.545 ±0.020	0.587 ±0.058	0.590 ±0.055
		0.055 ±0.026	0.041 ±0.008	0.048 ±0.013	0.057 ±0.027	0.049 ±0.012	0.050 ±0.021	0.027 ±0.013	0.034 ±0.015	0.034 ±0.009	0.033 ±0.011	0.048 ±0.012	0.028 ±0.005	0.059 ±0.007	0.063 ± 0.012	0.026 ±0.008	<div>0.076 ± 0.037</div>	0.059 ±0.017
	Acc.1	0.055 ±0.026	0.041 ±0.008	0.048 ±0.013	0.057 ±0.027	0.049 ±0.012	0.050 ±0.020	0.027 ±0.013	0.034 ±0.015	0.034 ±0.009	0.033 ±0.012	0.048 ±0.013	0.028 ±0.005	0.058 ±0.007	0.062 ± 0.012	0.026 ±0.008	<div>0.075 ± 0.037</div>	0.058 ±0.017
		0.102 ±0.028	0.083 ±0.019	0.099 ±0.021	0.107 ± 0.032	0.086 ±0.014	0.102 ±0.026	0.055 ±0.018	0.069 ±0.028	0.065 ±0.013	0.063 ±0.014	0.088 ±0.015	0.053 ±0.015	0.103 ±0.012	0.105 ±0.021	0.065 ±0.006	<div>0.135 ± 0.058</div>	0.099 ±0.023
Subject24_async	κ	0.014 ±0.022	0.001 ±0.013	0.027 ±0.017	<div>0.119 ± 0.041</div>	0.021 ±0.015	0.034 ±0.010	0.005 ±0.007	0.014 ±0.007	0.001 ±0.005	0.019 ±0.016	0.033 ±0.014	0.007 ±0.015	0.079 ± 0.032	0.046 ±0.015	0.007 ±0.006	0.072 ±0.031	0.040 ±0.031
		0.596 ±0.024	0.551 ±0.041	0.579 ±0.041	0.716 ± 0.047	0.557 ±0.017	0.597 ±0.020	0.550 ±0.044	0.542 ±0.030	0.509 ±0.020	0.562 ±0.018	0.585 ±0.025	0.532 ±0.020	<div>0.722 ± 0.034</div>	0.604 ±0.029	0.536 ±0.016	0.633 ±0.036	0.601 ±0.029
	BAcc	0.039 ±0.022	0.026 ±0.012	0.051 ±0.017	<div>0.141 ± 0.040</div>	0.045 ±0.014	0.058 ±0.009	0.030 ±0.007	0.039 ±0.007	0.026 ±0.005	0.044 ±0.015	0.057 ±0.014	0.032 ±0.014	0.102 ± 0.031	0.070 ±0.014	0.032 ±0.006	0.095 ±0.030	0.064 ±0.030
		0.039 ±0.022	0.026 ±0.012	0.051 ±0.017	<div>0.141 ± 0.040</div>	0.045 ±0.014	0.057 ±0.009	0.030 ±0.007	0.040 ±0.008	0.027 ±0.006	0.045 ±0.015	0.060 ±0.013	0.032 ±0.015	0.106 ± 0.034	0.072 ±0.016	0.032 ±0.005	0.098 ±0.031	0.064 ±0.030
	Acc.1	0.039 ±0.022	0.026 ±0.012	0.051 ±0.017	<div>0.141 ± 0.040</div>	0.045 ±0.014	0.057 ±0.009	0.030 ±0.007	0.040 ±0.008	0.027 ±0.006	0.045 ±0.015	0.060 ±0.013	0.032 ±0.015	0.106 ± 0.034	0.072 ±0.016	0.032 ±0.005	0.098 ±0.031	0.064 ±0.030
		0.039 ±0.022	0.026 ±0.012	0.051 ±0.017	<div>0.141 ± 0.040</div>	0.045 ±0.014	0.057 ±0.009	0.030 ±0.007	0.040 ±0.008	0.027 ±0.006	0.045 ±0.015	0.060 ±0.013	0.032 ±0.015	0.106 ± 0.034	0.072 ±0.016	0.032 ±0.005	0.098 ±0.031	0.064 ±0.030

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.076 ±0.034	0.053 ±0.026	0.090 ±0.030	0.220 ±0.048	0.082 ±0.018	0.106 ±0.024	0.066 ±0.012	0.073 ±0.019	0.047 ±0.008	0.092 ±0.014	0.110 ±0.007	0.062 ±0.019	0.187 ± 0.053	0.134 ±0.018	0.062 ±0.006	0.167 ±0.054	0.105 ±0.032
Subject25_async	κ	0.076 ±0.031	0.093 ±0.020	0.111 ±0.026	0.069 ±0.035	0.093 ±0.024	0.072 ±0.021	0.054 ±0.010	0.096 ±0.034	0.021 ±0.012	0.110 ±0.037	0.077 ±0.025	0.034 ±0.014	0.080 ±0.025	0.117 ± 0.029	0.029 ±0.013	0.139 ±0.028	0.047 ±0.022
	AUC	0.760 ±0.014	0.776 ±0.035	0.775 ± 0.023	0.742 ±0.023	0.724 ±0.028	0.660 ±0.031	0.677 ±0.037	0.671 ±0.025	0.574 ±0.017	0.729 ±0.019	0.722 ±0.025	0.637 ±0.015	0.774 ±0.038	0.694 ±0.037	0.618 ±0.055	0.723 ±0.033	0.678 ±0.037
	BAcc	0.099 ±0.030	0.115 ±0.020	0.133 ±0.025	0.092 ±0.034	0.115 ±0.024	0.095 ±0.020	0.078 ±0.010	0.119 ±0.033	0.045 ±0.012	0.132 ±0.036	0.100 ±0.024	0.058 ±0.014	0.103 ±0.024	0.140 ± 0.028	0.053 ±0.013	0.160 ±0.027	0.071 ±0.021
	Acc.1	0.099 ±0.030	0.115 ±0.020	0.133 ±0.025	0.092 ±0.034	0.115 ±0.024	0.094 ±0.020	0.078 ±0.008	0.120 ±0.034	0.045 ±0.012	0.132 ±0.036	0.104 ±0.026	0.057 ±0.014	0.104 ±0.024	0.141 ± 0.028	0.053 ±0.013	0.160 ±0.028	0.071 ±0.021
	Acc.2	0.173 ±0.026	0.207 ±0.033	0.238 ± 0.016	0.181 ±0.049	0.195 ±0.027	0.162 ±0.031	0.146 ±0.023	0.197 ±0.045	0.082 ±0.018	0.236 ±0.039	0.197 ±0.033	0.113 ±0.014	0.205 ±0.039	0.230 ±0.041	0.108 ±0.024	0.288 ±0.034	0.133 ±0.022
	κ	0.073 ±0.045	0.039 ±0.035	0.046 ±0.032	0.175 ±0.020	0.068 ±0.016	0.058 ±0.054	0.045 ±0.015	0.035 ±0.020	0.008 ±0.002	0.044 ±0.030	0.033 ±0.026	0.010 ±0.009	0.086 ± 0.031	0.069 ±0.033	0.014 ±0.010	0.079 ±0.014	0.005 ±0.013
Subject26_async	AUC	0.698 ±0.061	0.647 ±0.049	0.637 ±0.026	0.830 ±0.031	0.656 ±0.018	0.658 ±0.037	0.651 ±0.034	0.585 ±0.024	0.538 ±0.014	0.608 ±0.046	0.671 ±0.033	0.530 ±0.031	0.700 ± 0.041	0.655 ±0.024	0.536 ±0.023	0.656 ±0.012	0.563 ±0.035
	BAcc	0.096 ±0.044	0.063 ±0.034	0.070 ±0.031	0.196 ±0.020	0.091 ±0.016	0.082 ±0.053	0.069 ±0.015	0.059 ±0.019	0.033 ±0.002	0.068 ±0.029	0.057 ±0.025	0.035 ±0.009	0.109 ± 0.031	0.093 ±0.032	0.039 ±0.009	0.102 ±0.014	0.030 ±0.013
	Acc.1	0.096 ±0.044	0.063 ±0.034	0.070 ±0.031	0.196 ±0.020	0.091 ±0.016	0.081 ±0.052	0.069 ±0.014	0.059 ±0.019	0.033 ±0.002	0.069 ±0.031	0.057 ±0.026	0.034 ±0.009	0.108 ± 0.030	0.092 ±0.032	0.038 ±0.009	0.103 ±0.014	0.029 ±0.013
	Acc.2	0.157 ±0.058	0.115 ±0.040	0.135 ±0.031	0.319 ±0.042	0.163 ±0.031	0.136 ±0.068	0.131 ±0.026	0.098 ±0.027	0.065 ±0.004	0.117 ±0.042	0.115 ±0.033	0.062 ±0.016	0.176 ± 0.043	0.157 ±0.038	0.071 ±0.017	0.160 ±0.027	0.065 ±0.020
	κ	0.033 ±0.027	0.033 ±0.016	0.031 ±0.023	0.062 ± 0.024	0.029 ±0.028	0.006 ±0.010	-0.002 ±0.008	0.016 ±0.013	0.008 ±0.010	0.026 ±0.010	0.021 ±0.009	0.006 ±0.006	0.049 ±0.010	0.066 ±0.012	0.016 ±0.006	0.043 ±0.014	0.005 ±0.015
	AUC	0.641 ±0.027	0.619 ±0.022	0.614 ±0.013	0.675 ±0.040	0.562 ±0.041	0.527 ±0.034	0.510 ±0.021	0.584 ±0.015	0.525 ±0.018	0.591 ±0.023	0.592 ±0.023	0.529 ±0.018	0.658 ± 0.032	0.621 ±0.011	0.534 ±0.022	0.581 ±0.017	0.543 ±0.048
Subject27_async	BAcc	0.057 ±0.026	0.057 ±0.015	0.055 ±0.022	0.085 ± 0.024	0.054 ±0.028	0.031 ±0.010	0.023 ±0.008	0.040 ±0.013	0.033 ±0.010	0.050 ±0.009	0.045 ±0.009	0.031 ±0.006	0.073 ±0.010	0.090 ±0.012	0.040 ±0.006	0.067 ±0.014	0.030 ±0.014
	Acc.1	0.057 ±0.026	0.057 ±0.015	0.055 ±0.022	0.085 ± 0.024	0.054 ±0.028	0.031 ±0.009	0.022 ±0.007	0.040 ±0.012	0.033 ±0.009	0.050 ±0.009	0.044 ±0.009	0.031 ±0.006	0.073 ±0.011	0.091 ±0.012	0.040 ±0.006	0.068 ±0.013	0.030 ±0.014
	Acc.2	0.111 ±0.031	0.108 ±0.013	0.110 ±0.030	0.151 ± 0.037	0.099 ±0.037	0.065 ±0.012	0.048 ±0.017	0.079 ±0.011	0.059 ±0.008	0.106 ±0.026	0.085 ±0.012	0.062 ±0.009	0.129 ±0.020	0.155 ±0.006	0.077 ±0.012	0.124 ±0.016	0.048 ±0.016

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject28_async	κ	0.068 ± 0.020	0.031 ± 0.013	0.055 ± 0.018	0.024 ± 0.017	0.038 ± 0.015	0.025 ± 0.017	0.018 ± 0.018	0.024 ± 0.021	0.006 ± 0.004	0.041 ± 0.021	0.023 ± 0.026	0.006 ± 0.009	0.011 ± 0.007	0.023 ± 0.019	0.018 ± 0.016	0.021 ± 0.009	0.004 ± 0.027
	AUC	0.692 ± 0.034	0.633 ± 0.036	0.657 ± 0.036	0.643 ± 0.033	0.613 ± 0.024	0.549 ± 0.028	0.557 ± 0.035	0.574 ± 0.025	0.507 ± 0.013	0.577 ± 0.024	0.587 ± 0.034	0.517 ± 0.017	0.585 ± 0.010	0.548 ± 0.029	0.581 ± 0.044	0.569 ± 0.024	0.622 ± 0.040
	BAcc	0.091 ± 0.020	0.055 ± 0.013	0.078 ± 0.017	0.048 ± 0.016	0.062 ± 0.014	0.050 ± 0.016	0.043 ± 0.017	0.048 ± 0.020	0.030 ± 0.003	0.065 ± 0.021	0.047 ± 0.025	0.031 ± 0.008	0.035 ± 0.007	0.048 ± 0.019	0.043 ± 0.016	0.045 ± 0.008	0.029 ± 0.026
	Acc.1	0.091 ± 0.020	0.055 ± 0.013	0.078 ± 0.017	0.048 ± 0.016	0.062 ± 0.014	0.050 ± 0.017	0.042 ± 0.017	0.048 ± 0.020	0.031 ± 0.004	0.068 ± 0.021	0.048 ± 0.024	0.031 ± 0.009	0.035 ± 0.007	0.050 ± 0.021	0.045 ± 0.017	0.045 ± 0.008	0.029 ± 0.027
	Acc.2	0.152 ± 0.023	0.110 ± 0.020	0.130 ± 0.014	0.087 ± 0.029	0.111 ± 0.016	0.088 ± 0.024	0.083 ± 0.022	0.092 ± 0.025	0.064 ± 0.010	0.111 ± 0.012	0.089 ± 0.027	0.053 ± 0.012	0.070 ± 0.010	0.102 ± 0.011	0.095 ± 0.026	0.096 ± 0.022	0.070 ± 0.043
Subject29_async	κ	0.021 ± 0.017	0.016 ± 0.016	0.028 ± 0.025	0.019 ± 0.019	0.019 ± 0.017	0.005 ± 0.015	0.005 ± 0.010	0.014 ± 0.011	0.004 ± 0.010	0.029 ± 0.012	0.034 ± 0.014	-0.001 ± 0.004	0.036 ± 0.011	0.050 ± 0.026	0.009 ± 0.010	0.049 ± 0.013	0.019 ± 0.029
	AUC	0.569 ± 0.038	0.560 ± 0.022	0.577 ± 0.018	0.563 ± 0.034	0.546 ± 0.022	0.518 ± 0.039	0.511 ± 0.050	0.552 ± 0.012	0.502 ± 0.020	0.568 ± 0.022	0.573 ± 0.019	0.511 ± 0.020	0.615 ± 0.036	0.600 ± 0.034	0.549 ± 0.029	0.599 ± 0.063	0.553 ± 0.047
	BAcc	0.045 ± 0.017	0.040 ± 0.015	0.052 ± 0.025	0.043 ± 0.019	0.044 ± 0.016	0.030 ± 0.015	0.030 ± 0.010	0.038 ± 0.010	0.029 ± 0.010	0.054 ± 0.012	0.058 ± 0.014	0.024 ± 0.003	0.060 ± 0.011	0.074 ± 0.025	0.034 ± 0.009	0.073 ± 0.012	0.043 ± 0.029
	Acc.1	0.045 ± 0.017	0.040 ± 0.015	0.052 ± 0.025	0.043 ± 0.019	0.044 ± 0.016	0.030 ± 0.014	0.029 ± 0.010	0.038 ± 0.011	0.030 ± 0.011	0.054 ± 0.012	0.058 ± 0.013	0.025 ± 0.004	0.061 ± 0.011	0.074 ± 0.025	0.033 ± 0.008	0.075 ± 0.013	0.043 ± 0.028
	Acc.2	0.094 ± 0.030	0.085 ± 0.016	0.099 ± 0.026	0.084 ± 0.031	0.083 ± 0.025	0.059 ± 0.018	0.062 ± 0.029	0.076 ± 0.015	0.053 ± 0.012	0.093 ± 0.013	0.104 ± 0.022	0.055 ± 0.010	0.104 ± 0.016	0.125 ± 0.033	0.074 ± 0.016	0.123 ± 0.024	0.078 ± 0.032
Subject2_async	κ	0.013 ± 0.016	0.015 ± 0.014	0.016 ± 0.015	0.013 ± 0.020	0.009 ± 0.016	0.002 ± 0.014	0.004 ± 0.013	0.008 ± 0.010	0.004 ± 0.007	0.014 ± 0.016	0.012 ± 0.014	0.001 ± 0.009	0.009 ± 0.014	0.010 ± 0.015	0.001 ± 0.010	0.008 ± 0.020	0.006 ± 0.016
	AUC	0.578 ± 0.041	0.559 ± 0.031	0.555 ± 0.027	0.582 ± 0.044	0.540 ± 0.036	0.511 ± 0.035	0.517 ± 0.030	0.531 ± 0.029	0.508 ± 0.015	0.545 ± 0.035	0.548 ± 0.033	0.503 ± 0.019	0.549 ± 0.033	0.536 ± 0.029	0.509 ± 0.027	0.522 ± 0.042	0.526 ± 0.042
	BAcc	0.037 ± 0.016	0.040 ± 0.014	0.041 ± 0.015	0.037 ± 0.020	0.034 ± 0.015	0.027 ± 0.013	0.029 ± 0.013	0.033 ± 0.010	0.029 ± 0.007	0.038 ± 0.015	0.037 ± 0.014	0.026 ± 0.009	0.034 ± 0.014	0.035 ± 0.015	0.026 ± 0.010	0.033 ± 0.019	0.031 ± 0.016
	Acc.1	0.037 ± 0.016	0.040 ± 0.014	0.041 ± 0.015	0.037 ± 0.020	0.034 ± 0.015	0.027 ± 0.013	0.029 ± 0.013	0.033 ± 0.010	0.029 ± 0.007	0.038 ± 0.015	0.037 ± 0.014	0.026 ± 0.008	0.035 ± 0.014	0.035 ± 0.015	0.027 ± 0.010	0.033 ± 0.019	0.032 ± 0.016
	Acc.2	0.072 ± 0.023	0.075 ± 0.022	0.077 ± 0.019	0.071 ± 0.027	0.067 ± 0.026	0.057 ± 0.020	0.057 ± 0.017	0.063 ± 0.017	0.055 ± 0.009	0.071 ± 0.024	0.070 ± 0.020	0.051 ± 0.012	0.068 ± 0.022	0.071 ± 0.024	0.052 ± 0.015	0.062 ± 0.029	0.058 ± 0.020
Subject30_async	κ	0.031 ± 0.015	0.031 ± 0.019	0.030 ± 0.019	0.037 ± 0.012	0.029 ± 0.007	0.010 ± 0.011	-0.002 ± 0.008	0.027 ± 0.011	0.013 ± 0.009	0.026 ± 0.007	0.016 ± 0.017	0.007 ± 0.007	0.046 ± 0.016	0.024 ± 0.022	0.008 ± 0.012	0.027 ± 0.011	0.017 ± 0.019

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(j)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(l)	LaBraM ^(l)	STEEGformer-s ^(j)	STEEGformer-s ^(l)
Subject31_async	AUC	$\frac{0.640}{\pm 0.017}$	0.621 ± 0.014	0.619 ± 0.033	0.638 ± 0.025	0.597 ± 0.012	0.535 ± 0.022	0.500 ± 0.015	0.571 ± 0.007	0.546 ± 0.023	0.555 ± 0.041	0.571 ± 0.018	0.518 ± 0.017	0.625 ± 0.033	0.558 ± 0.039	0.511 ± 0.012	0.537 ± 0.019	0.541 ± 0.034
		0.055 ± 0.014	0.055 ± 0.019	0.055 ± 0.019	0.061 ± 0.012	0.054 ± 0.007	0.035 ± 0.010	0.023 ± 0.008	0.051 ± 0.010	0.037 ± 0.009	0.050 ± 0.007	0.040 ± 0.017	0.031 ± 0.007	$\frac{0.070}{\pm 0.015}$	0.049 ± 0.022	0.033 ± 0.011	0.051 ± 0.011	0.041 ± 0.018
	BAcc	0.055 ± 0.014	0.055 ± 0.019	0.055 ± 0.019	0.061 ± 0.012	0.054 ± 0.007	0.035 ± 0.011	0.023 ± 0.008	0.052 ± 0.011	0.037 ± 0.009	0.051 ± 0.005	0.040 ± 0.017	0.031 ± 0.007	$\frac{0.069}{\pm 0.016}$	0.048 ± 0.021	0.033 ± 0.011	0.052 ± 0.011	0.041 ± 0.018
		0.096 ± 0.019	0.098 ± 0.027	0.101 ± 0.026	0.102 ± 0.013	0.103 ± 0.013	0.061 ± 0.005	0.057 ± 0.012	0.091 ± 0.007	0.073 ± 0.009	0.083 ± 0.015	0.083 ± 0.021	0.059 ± 0.011	$\frac{0.127}{\pm 0.026}$	0.085 ± 0.029	0.059 ± 0.014	0.090 ± 0.014	0.082 ± 0.039
	κ	0.029 ± 0.013	0.012 ± 0.016	0.038 ± 0.015	0.056 ± 0.028	0.031 ± 0.026	0.018 ± 0.015	0.008 ± 0.005	0.034 ± 0.009	0.006 ± 0.009	0.056 ± 0.017	0.007 ± 0.008	0.018 ± 0.009	0.051 ± 0.019	0.048 ± 0.009	0.006 ± 0.006	$\frac{0.090}{\pm 0.015}$	0.039 ± 0.020
		0.644 ± 0.035	0.585 ± 0.023	0.641 ± 0.024	0.664 ± 0.039	0.602 ± 0.020	0.580 ± 0.029	0.548 ± 0.032	0.602 ± 0.017	0.541 ± 0.007	0.624 ± 0.022	0.528 ± 0.028	0.546 ± 0.014	$\frac{0.685}{\pm 0.036}$	0.600 ± 0.014	0.540 ± 0.018	0.631 ± 0.049	0.595 ± 0.049
	BAcc	0.053 ± 0.012	0.037 ± 0.016	0.062 ± 0.015	0.080 ± 0.028	0.055 ± 0.025	0.043 ± 0.014	0.033 ± 0.005	0.058 ± 0.008	0.030 ± 0.008	0.080 ± 0.017	0.031 ± 0.008	0.043 ± 0.009	0.075 ± 0.018	0.072 ± 0.008	0.030 ± 0.006	$\frac{0.113}{\pm 0.015}$	0.063 ± 0.019
		0.053 ± 0.012	0.037 ± 0.016	0.062 ± 0.015	0.080 ± 0.028	0.055 ± 0.025	0.044 ± 0.016	0.033 ± 0.006	0.058 ± 0.009	0.031 ± 0.009	0.083 ± 0.016	0.033 ± 0.009	0.042 ± 0.009	0.075 ± 0.019	0.076 ± 0.011	0.030 ± 0.006	$\frac{0.117}{\pm 0.013}$	0.066 ± 0.018
	Acc.1	0.093 ± 0.019	0.077 ± 0.014	0.128 ± 0.027	0.136 ± 0.030	0.099 ± 0.034	0.083 ± 0.019	0.071 ± 0.015	0.112 ± 0.020	0.062 ± 0.010	0.151 ± 0.016	0.058 ± 0.022	0.073 ± 0.006	0.142 ± 0.038	0.136 ± 0.010	0.057 ± 0.010	$\frac{0.171}{\pm 0.020}$	0.099 ± 0.024
		0.093 ± 0.019	0.077 ± 0.014	0.128 ± 0.027	0.136 ± 0.030	0.099 ± 0.034	0.083 ± 0.019	0.071 ± 0.015	0.112 ± 0.020	0.062 ± 0.010	0.151 ± 0.016	0.058 ± 0.022	0.073 ± 0.006	0.142 ± 0.038	0.136 ± 0.010	0.057 ± 0.010	$\frac{0.171}{\pm 0.020}$	0.099 ± 0.024
Subject32_async	κ	0.406 ± 0.060	0.033 ± 0.025	0.076 ± 0.062	$\frac{0.490}{\pm 0.120}$	0.153 ± 0.030	0.178 ± 0.055	0.119 ± 0.032	0.056 ± 0.012	0.007 ± 0.008	0.019 ± 0.012	0.070 ± 0.021	0.019 ± 0.010	0.379 ± 0.027	0.137 ± 0.033	0.026 ± 0.007	0.167 ± 0.054	0.041 ± 0.009
		0.955 ± 0.012	0.646 ± 0.047	0.691 ± 0.084	$\frac{0.961}{\pm 0.016}$	0.746 ± 0.021	0.780 ± 0.053	0.745 ± 0.037	0.631 ± 0.014	0.520 ± 0.018	0.593 ± 0.024	0.702 ± 0.014	0.566 ± 0.019	0.935 ± 0.006	0.725 ± 0.031	0.585 ± 0.018	0.756 ± 0.050	0.648 ± 0.029
	BAcc	0.421 ± 0.058	0.057 ± 0.024	0.099 ± 0.060	$\frac{0.503}{\pm 0.117}$	0.175 ± 0.029	0.198 ± 0.054	0.141 ± 0.031	0.080 ± 0.012	0.031 ± 0.008	0.044 ± 0.012	0.093 ± 0.021	0.044 ± 0.009	0.395 ± 0.027	0.158 ± 0.032	0.050 ± 0.007	0.188 ± 0.053	0.065 ± 0.009
		0.421 ± 0.058	0.057 ± 0.024	0.099 ± 0.060	$\frac{0.503}{\pm 0.117}$	0.175 ± 0.029	0.197 ± 0.054	0.140 ± 0.031	0.078 ± 0.012	0.031 ± 0.008	0.043 ± 0.011	0.093 ± 0.020	0.043 ± 0.009	0.393 ± 0.027	0.157 ± 0.033	0.049 ± 0.007	0.186 ± 0.054	0.064 ± 0.008
	Acc.1	0.607 ± 0.059	0.114 ± 0.041	0.176 ± 0.094	$\frac{0.718}{\pm 0.072}$	0.260 ± 0.026	0.319 ± 0.077	0.231 ± 0.046	0.140 ± 0.021	0.054 ± 0.010	0.089 ± 0.028	0.172 ± 0.030	0.079 ± 0.013	0.596 ± 0.022	0.257 ± 0.047	0.094 ± 0.004	0.297 ± 0.076	0.124 ± 0.022
		0.607 ± 0.059	0.114 ± 0.041	0.176 ± 0.094	$\frac{0.718}{\pm 0.072}$	0.260 ± 0.026	0.319 ± 0.077	0.231 ± 0.046	0.140 ± 0.021	0.054 ± 0.010	0.089 ± 0.028	0.172 ± 0.030	0.079 ± 0.013	0.596 ± 0.022	0.257 ± 0.047	0.094 ± 0.004	0.297 ± 0.076	0.124 ± 0.022
Subject33_async	κ	0.037 ± 0.019	0.022 ± 0.020	0.058 ± 0.014	0.056 ± 0.023	0.016 ± 0.017	0.019 ± 0.010	0.009 ± 0.018	0.033 ± 0.007	0.003 ± 0.007	0.033 ± 0.034	0.008 ± 0.021	0.014 ± 0.012	0.064 ± 0.015	0.059 ± 0.024	0.019 ± 0.012	$\frac{0.075}{\pm 0.025}$	0.023 ± 0.025
		$\frac{0.695}{\pm 0.022}$	0.633 ± 0.022	0.676 ± 0.029	0.686 ± 0.017	0.604 ± 0.041	0.545 ± 0.047	0.565 ± 0.034	0.585 ± 0.019	0.522 ± 0.015	0.631 ± 0.057	0.595 ± 0.028	0.544 ± 0.017	0.679 ± 0.011	0.619 ± 0.027	0.598 ± 0.014	0.643 ± 0.036	0.627 ± 0.019

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject34_async	BAcc	0.061 ±0.019	0.047 ±0.020	0.082 ±0.014	0.080 ±0.023	0.040 ±0.016	0.043 ±0.010	0.034 ±0.017	0.057 ±0.007	0.028 ±0.007	0.057 ±0.033	0.033 ±0.021	0.038 ±0.012	0.087 ± 0.014	0.083 ±0.023	0.043 ±0.011	0.098 ± 0.024	0.048 ±0.024
		0.061 ±0.019	0.047 ±0.020	0.082 ±0.014	0.080 ±0.023	0.040 ±0.016	0.043 ±0.010	0.033 ±0.017	0.058 ±0.006	0.028 ±0.007	0.056 ±0.033	0.033 ±0.020	0.038 ±0.012	0.087 ± 0.014	0.083 ±0.024	0.043 ±0.012	0.099 ± 0.023	0.047 ±0.023
	Acc.1	0.113 ±0.023	0.088 ±0.017	0.147 ±0.018	0.128 ±0.025	0.079 ±0.026	0.077 ±0.012	0.069 ±0.021	0.106 ±0.010	0.055 ±0.011	0.118 ±0.040	0.072 ±0.039	0.068 ±0.016	0.158 ± 0.025	0.150 ±0.031	0.079 ±0.017	0.175 ± 0.028	0.101 ±0.027
		0.113 ±0.023	0.088 ±0.017	0.147 ±0.018	0.128 ±0.025	0.079 ±0.026	0.077 ±0.012	0.069 ±0.021	0.106 ±0.010	0.055 ±0.011	0.118 ±0.040	0.072 ±0.039	0.068 ±0.016	0.158 ± 0.025	0.150 ±0.031	0.079 ±0.017	0.175 ± 0.028	0.101 ±0.027
	κ	0.048 ±0.035	0.021 ±0.017	0.039 ±0.010	0.151 ± 0.025	0.034 ±0.013	0.011 ±0.013	0.006 ±0.015	0.022 ±0.013	-0.000 ±0.009	0.041 ±0.007	0.018 ±0.018	0.022 ±0.012	0.178 ± 0.012	0.037 ±0.023	-0.002 ±0.008	0.029 ±0.033	0.021 ±0.021
		0.615 ±0.028	0.591 ±0.036	0.623 ±0.014	0.796 ± 0.027	0.583 ±0.024	0.541 ±0.048	0.541 ±0.016	0.566 ±0.028	0.526 ±0.013	0.616 ±0.033	0.560 ±0.011	0.562 ±0.013	0.805 ± 0.012	0.558 ±0.009	0.515 ±0.021	0.589 ±0.029	0.529 ±0.036
	BAcc	0.072 ±0.034	0.045 ±0.017	0.063 ±0.010	0.172 ± 0.025	0.059 ±0.013	0.036 ±0.012	0.031 ±0.014	0.047 ±0.013	0.025 ±0.008	0.065 ±0.007	0.043 ±0.018	0.046 ±0.012	0.198 ± 0.012	0.061 ±0.022	0.023 ±0.008	0.053 ±0.032	0.045 ±0.020
		0.072 ±0.034	0.045 ±0.017	0.063 ±0.010	0.172 ± 0.025	0.059 ±0.013	0.036 ±0.011	0.031 ±0.014	0.047 ±0.013	0.024 ±0.008	0.066 ±0.009	0.043 ±0.018	0.047 ±0.012	0.198 ± 0.010	0.061 ±0.024	0.023 ±0.007	0.052 ±0.031	0.045 ±0.020
	Acc.1	0.119 ±0.041	0.076 ±0.022	0.109 ±0.014	0.280 ± 0.026	0.109 ±0.022	0.074 ±0.019	0.061 ±0.013	0.096 ±0.024	0.054 ±0.012	0.112 ±0.017	0.078 ±0.016	0.087 ±0.010	0.306 ± 0.023	0.107 ±0.027	0.053 ±0.012	0.101 ±0.043	0.081 ±0.018
		0.119 ±0.041	0.076 ±0.022	0.109 ±0.014	0.280 ± 0.026	0.109 ±0.022	0.074 ±0.019	0.061 ±0.013	0.096 ±0.024	0.054 ±0.012	0.112 ±0.017	0.078 ±0.016	0.087 ±0.010	0.306 ± 0.023	0.107 ±0.027	0.053 ±0.012	0.101 ±0.043	0.081 ±0.018
Subject35_async	κ	0.043 ±0.021	0.053 ±0.026	0.042 ±0.016	0.062 ± 0.028	0.043 ±0.013	0.032 ±0.017	0.011 ±0.017	0.052 ±0.006	0.014 ±0.008	0.043 ±0.033	0.022 ±0.014	0.018 ±0.015	0.106 ± 0.040	0.044 ±0.016	0.028 ±0.015	0.042 ±0.021	0.012 ±0.020
		0.682 ±0.023	0.687 ±0.044	0.641 ±0.031	0.701 ± 0.049	0.659 ±0.024	0.588 ±0.034	0.545 ±0.033	0.620 ±0.013	0.554 ±0.020	0.641 ±0.016	0.614 ±0.037	0.559 ±0.023	0.741 ± 0.020	0.620 ±0.038	0.568 ±0.025	0.598 ±0.028	0.591 ±0.073
	BAcc	0.067 ±0.020	0.077 ±0.025	0.066 ±0.015	0.085 ± 0.027	0.067 ±0.013	0.056 ±0.017	0.035 ±0.017	0.076 ±0.006	0.039 ±0.008	0.067 ±0.032	0.047 ±0.013	0.043 ±0.015	0.128 ± 0.039	0.068 ±0.015	0.052 ±0.014	0.066 ±0.021	0.037 ±0.020
		0.067 ±0.020	0.077 ±0.025	0.066 ±0.015	0.085 ± 0.027	0.067 ±0.013	0.057 ±0.017	0.035 ±0.017	0.076 ±0.005	0.039 ±0.008	0.066 ±0.032	0.047 ±0.013	0.042 ±0.015	0.129 ± 0.039	0.069 ±0.014	0.052 ±0.015	0.066 ±0.020	0.039 ±0.021
	Acc.1	0.120 ±0.021	0.130 ±0.044	0.115 ±0.023	0.162 ± 0.046	0.132 ±0.015	0.108 ±0.033	0.066 ±0.025	0.139 ±0.025	0.070 ±0.018	0.125 ±0.043	0.098 ±0.023	0.072 ±0.017	0.216 ± 0.044	0.128 ±0.025	0.087 ±0.024	0.105 ±0.028	0.076 ±0.041
		0.120 ±0.021	0.130 ±0.044	0.115 ±0.023	0.162 ± 0.046	0.132 ±0.015	0.108 ±0.033	0.066 ±0.025	0.139 ±0.025	0.070 ±0.018	0.125 ±0.043	0.098 ±0.023	0.072 ±0.017	0.216 ± 0.044	0.128 ±0.025	0.087 ±0.024	0.105 ±0.028	0.076 ±0.041
Subject3_async	κ	0.102 ± 0.189	0.023 ±0.040	0.051 ±0.100	0.136 ± 0.237	0.025 ±0.042	0.074 ±0.133	0.048 ±0.100	0.031 ±0.035	0.007 ±0.009	0.006 ±0.019	0.012 ±0.018	0.038 ±0.070	0.098 ±0.168	0.091 ±0.168	0.006 ±0.012	0.053 ±0.093	0.004 ±0.016
		0.689 ±0.124	0.582 ±0.070	0.611 ±0.103	0.716 ± 0.121	0.574 ±0.062	0.616 ±0.127	0.574 ±0.125	0.580 ±0.063	0.533 ±0.020	0.533 ±0.049	0.559 ±0.051	0.588 ±0.106	0.715 ± 0.108	0.629 ±0.128	0.518 ±0.032	0.614 ±0.101	0.534 ±0.059
	AUC	0.125 ± 0.184	0.048 ±0.039	0.075 ±0.098	0.158 ± 0.231	0.049 ±0.041	0.097 ±0.130	0.072 ±0.098	0.055 ±0.034	0.032 ±0.009	0.031 ±0.019	0.037 ±0.018	0.062 ±0.069	0.120 ±0.163	0.113 ±0.163	0.031 ±0.012	0.077 ±0.090	0.028 ±0.015
	BAcc	0.125 ± 0.184	0.048 ±0.039	0.075 ±0.098	0.158 ± 0.231	0.049 ±0.041	0.097 ±0.130	0.072 ±0.098	0.055 ±0.034	0.032 ±0.009	0.031 ±0.019	0.037 ±0.018	0.062 ±0.069	0.120 ±0.163	0.113 ±0.163	0.031 ±0.012	0.077 ±0.090	0.028 ±0.015

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.1	0.125 ± 0.184	0.048 ± 0.039	0.075 ± 0.098	$\begin{matrix} 0.158 \\ \pm 0.231 \end{matrix}$	0.049 ± 0.041	0.097 ± 0.129	0.072 ± 0.097	0.056 ± 0.034	0.032 ± 0.009	0.031 ± 0.019	0.036 ± 0.018	0.062 ± 0.068	0.120 ± 0.164	0.113 ± 0.164	0.031 ± 0.012	0.076 ± 0.089	0.028 ± 0.015
	Acc.2	0.190 ± 0.234	0.087 ± 0.060	0.127 ± 0.135	$\begin{matrix} 0.231 \\ \pm 0.271 \end{matrix}$	0.087 ± 0.058	0.156 ± 0.177	0.122 ± 0.140	0.099 ± 0.051	0.063 ± 0.014	0.063 ± 0.031	0.068 ± 0.028	0.109 ± 0.100	0.185 ± 0.213	0.177 ± 0.211	0.059 ± 0.016	0.135 ± 0.134	0.058 ± 0.023
	κ	0.002 ± 0.009	0.005 ± 0.011	0.010 ± 0.010	0.020 ± 0.013	0.009 ± 0.016	0.018 ± 0.025	0.000 ± 0.012	0.008 ± 0.013	-0.000 ± 0.007	0.018 ± 0.027	0.017 ± 0.020	0.001 ± 0.007	0.010 ± 0.016	0.008 ± 0.004	0.007 ± 0.012	$\begin{matrix} 0.028 \\ \pm 0.038 \end{matrix}$	0.007 ± 0.018
Subject4_async	AUC	0.533 ± 0.031	0.528 ± 0.030	0.533 ± 0.030	0.566 ± 0.048	0.559 ± 0.032	0.556 ± 0.041	0.513 ± 0.045	0.507 ± 0.020	0.494 ± 0.005	0.538 ± 0.030	0.562 ± 0.015	0.504 ± 0.019	$\begin{matrix} 0.567 \\ \pm 0.030 \end{matrix}$	0.535 ± 0.026	0.508 ± 0.018	$\begin{matrix} 0.563 \\ \pm 0.062 \end{matrix}$	0.519 ± 0.015
	BAcc	0.027 ± 0.009	0.030 ± 0.011	0.035 ± 0.010	0.045 ± 0.012	0.034 ± 0.015	0.043 ± 0.024	0.025 ± 0.012	0.033 ± 0.013	0.025 ± 0.007	0.042 ± 0.027	0.042 ± 0.019	0.026 ± 0.007	0.035 ± 0.016	0.033 ± 0.003	0.031 ± 0.012	$\begin{matrix} 0.052 \\ \pm 0.037 \end{matrix}$	0.031 ± 0.017
	Acc.1	0.027 ± 0.009	0.030 ± 0.011	0.035 ± 0.010	0.045 ± 0.012	0.034 ± 0.015	0.043 ± 0.026	0.025 ± 0.012	0.034 ± 0.013	0.025 ± 0.007	0.043 ± 0.027	0.042 ± 0.019	0.026 ± 0.007	0.035 ± 0.015	0.034 ± 0.004	0.031 ± 0.012	$\begin{matrix} 0.052 \\ \pm 0.038 \end{matrix}$	0.031 ± 0.017
	Acc.2	0.055 ± 0.012	0.062 ± 0.017	0.061 ± 0.018	0.085 ± 0.019	0.066 ± 0.017	0.085 ± 0.040	0.053 ± 0.021	0.067 ± 0.019	0.049 ± 0.004	0.073 ± 0.039	0.078 ± 0.026	0.055 ± 0.007	0.073 ± 0.019	0.065 ± 0.010	0.058 ± 0.020	$\begin{matrix} 0.088 \\ \pm 0.056 \end{matrix}$	0.060 ± 0.026
	κ	0.550 ± 0.191	0.078 ± 0.043	0.324 ± 0.101	$\begin{matrix} 0.709 \\ \pm 0.090 \end{matrix}$	0.109 ± 0.029	0.407 ± 0.076	0.300 ± 0.046	0.115 ± 0.026	0.024 ± 0.011	0.021 ± 0.013	0.047 ± 0.031	0.248 ± 0.031	0.573 ± 0.041	0.598 ± 0.081	0.005 ± 0.006	0.321 ± 0.105	0.052 ± 0.037
	AUC	0.957 ± 0.046	0.728 ± 0.052	0.880 ± 0.048	$\begin{matrix} 0.987 \\ \pm 0.008 \end{matrix}$	0.732 ± 0.026	0.910 ± 0.037	0.893 ± 0.035	0.743 ± 0.031	0.578 ± 0.017	0.609 ± 0.030	0.675 ± 0.039	0.852 ± 0.021	0.968 ± 0.010	0.952 ± 0.020	0.555 ± 0.046	0.867 ± 0.040	0.613 ± 0.032
Subject5_async	BAcc	0.561 ± 0.186	0.101 ± 0.041	0.340 ± 0.098	$\begin{matrix} 0.716 \\ \pm 0.088 \end{matrix}$	0.131 ± 0.028	0.422 ± 0.074	0.317 ± 0.045	0.137 ± 0.025	0.049 ± 0.011	0.045 ± 0.012	0.071 ± 0.030	0.267 ± 0.030	0.584 ± 0.040	0.608 ± 0.079	0.030 ± 0.006	0.338 ± 0.103	0.075 ± 0.036
	Acc.1	0.561 ± 0.186	0.101 ± 0.041	0.340 ± 0.098	$\begin{matrix} 0.716 \\ \pm 0.088 \end{matrix}$	0.131 ± 0.028	0.419 ± 0.072	0.318 ± 0.047	0.137 ± 0.024	0.049 ± 0.010	0.046 ± 0.012	0.070 ± 0.031	0.265 ± 0.029	0.585 ± 0.041	0.606 ± 0.079	0.029 ± 0.006	0.338 ± 0.100	0.074 ± 0.035
	Acc.2	0.710 ± 0.216	0.190 ± 0.058	0.484 ± 0.127	$\begin{matrix} 0.885 \\ \pm 0.060 \end{matrix}$	0.214 ± 0.042	0.591 ± 0.097	0.489 ± 0.065	0.235 ± 0.036	0.083 ± 0.013	0.091 ± 0.025	0.140 ± 0.043	0.390 ± 0.046	0.746 ± 0.054	0.764 ± 0.052	0.065 ± 0.014	0.501 ± 0.106	0.115 ± 0.041
	κ	0.101 ± 0.120	0.063 ± 0.040	0.078 ± 0.045	$\begin{matrix} 0.541 \\ \pm 0.036 \end{matrix}$	0.053 ± 0.018	0.083 ± 0.034	0.060 ± 0.031	0.050 ± 0.024	0.003 ± 0.009	0.054 ± 0.019	0.027 ± 0.016	0.060 ± 0.038	0.283 ± 0.046	0.145 ± 0.036	0.019 ± 0.004	0.159 ± 0.091	0.028 ± 0.013
Subject6_async	AUC	0.755 ± 0.119	0.663 ± 0.085	0.692 ± 0.054	$\begin{matrix} 0.973 \\ \pm 0.004 \end{matrix}$	0.626 ± 0.010	0.695 ± 0.059	0.674 ± 0.034	0.598 ± 0.019	0.517 ± 0.016	0.599 ± 0.019	0.635 ± 0.020	0.639 ± 0.058	0.894 ± 0.018	0.714 ± 0.036	0.531 ± 0.027	0.762 ± 0.064	0.606 ± 0.046
	BAcc	0.124 ± 0.117	0.086 ± 0.039	0.101 ± 0.044	$\begin{matrix} 0.552 \\ \pm 0.035 \end{matrix}$	0.076 ± 0.018	0.106 ± 0.034	0.083 ± 0.030	0.074 ± 0.023	0.028 ± 0.009	0.078 ± 0.018	0.051 ± 0.015	0.083 ± 0.037	0.301 ± 0.045	0.166 ± 0.035	0.044 ± 0.004	0.180 ± 0.089	0.052 ± 0.013
	Acc.1	0.124 ± 0.117	0.086 ± 0.039	0.101 ± 0.044	$\begin{matrix} 0.552 \\ \pm 0.035 \end{matrix}$	0.076 ± 0.018	0.106 ± 0.033	0.083 ± 0.030	0.074 ± 0.023	0.028 ± 0.009	0.077 ± 0.018	0.051 ± 0.014	0.082 ± 0.037	0.298 ± 0.045	0.164 ± 0.035	0.043 ± 0.004	0.180 ± 0.088	0.051 ± 0.013
	Acc.2	0.124 ± 0.117	0.086 ± 0.039	0.101 ± 0.044	$\begin{matrix} 0.552 \\ \pm 0.035 \end{matrix}$	0.076 ± 0.018	0.106 ± 0.033	0.083 ± 0.030	0.074 ± 0.023	0.028 ± 0.009	0.077 ± 0.018	0.051 ± 0.014	0.082 ± 0.037	0.298 ± 0.045	0.164 ± 0.035	0.043 ± 0.004	0.180 ± 0.088	0.051 ± 0.013

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.228 ±0.198	0.158 ±0.064	0.185 ±0.060	0.754 ± 0.039	0.127 ±0.016	0.187 ±0.058	0.156 ±0.040	0.121 ±0.029	0.058 ±0.012	0.126 ±0.020	0.101 ±0.016	0.143 ±0.054	0.456 ± 0.058	0.255 ±0.041	0.076 ±0.006	0.294 ±0.108	0.082 ±0.026
Subject7_async	κ	0.033 ±0.019	0.031 ±0.017	0.047 ±0.023	0.129 ± 0.029	0.037 ±0.007	0.031 ±0.030	0.030 ±0.027	0.032 ±0.025	0.000 ±0.009	0.038 ±0.016	0.018 ±0.014	0.018 ±0.010	0.163 ± 0.039	0.075 ±0.034	0.015 ±0.014	0.071 ±0.024	0.038 ±0.021
	AUC	0.694 ±0.024	0.625 ±0.032	0.654 ±0.023	0.781 ± 0.035	0.617 ±0.023	0.576 ±0.047	0.601 ±0.038	0.594 ±0.027	0.514 ±0.013	0.621 ±0.027	0.579 ±0.006	0.538 ±0.015	0.799 ± 0.025	0.656 ±0.026	0.574 ±0.011	0.620 ±0.038	0.627 ±0.038
	BAcc	0.057 ±0.019	0.055 ±0.016	0.070 ±0.022	0.150 ± 0.028	0.061 ±0.007	0.055 ±0.030	0.054 ±0.027	0.056 ±0.024	0.025 ±0.008	0.062 ±0.015	0.043 ±0.014	0.043 ±0.010	0.184 ± 0.038	0.098 ±0.033	0.040 ±0.014	0.094 ±0.023	0.062 ±0.021
	Acc.1	0.057 ±0.019	0.055 ±0.016	0.070 ±0.022	0.150 ± 0.028	0.061 ±0.007	0.058 ±0.031	0.056 ±0.025	0.025 ±0.024	0.062 ±0.008	0.062 ±0.015	0.043 ±0.014	0.043 ±0.011	0.185 ± 0.039	0.098 ±0.034	0.040 ±0.014	0.096 ±0.025	0.062 ±0.020
	Acc.2	0.112 ±0.024	0.095 ±0.017	0.130 ±0.031	0.241 ± 0.031	0.110 ±0.015	0.099 ±0.038	0.104 ±0.031	0.110 ±0.038	0.053 ±0.015	0.121 ±0.024	0.073 ±0.015	0.072 ±0.022	0.297 ± 0.043	0.179 ±0.039	0.078 ±0.018	0.174 ±0.037	0.116 ±0.024
	κ	0.017 ±0.021	0.011 ±0.021	0.029 ±0.011	0.228 ± 0.049	0.033 ±0.018	0.029 ±0.026	0.014 ±0.029	0.030 ±0.024	0.005 ±0.010	0.025 ±0.026	0.031 ±0.030	0.026 ±0.007	0.276 ± 0.026	0.037 ±0.022	0.021 ±0.015	0.036 ±0.023	0.030 ±0.024
Subject8_async	AUC	0.616 ±0.026	0.593 ±0.028	0.594 ±0.034	0.846 ± 0.017	0.603 ±0.050	0.571 ±0.037	0.573 ±0.023	0.571 ±0.050	0.538 ±0.023	0.583 ±0.032	0.589 ±0.037	0.583 ±0.023	0.867 ± 0.025	0.566 ±0.032	0.566 ±0.038	0.548 ±0.036	0.618 ±0.034
	BAcc	0.041 ±0.021	0.036 ±0.020	0.054 ±0.010	0.247 ± 0.048	0.057 ±0.018	0.054 ±0.025	0.039 ±0.028	0.054 ±0.023	0.030 ±0.010	0.050 ±0.026	0.055 ±0.030	0.050 ±0.007	0.295 ± 0.026	0.061 ±0.021	0.045 ±0.015	0.060 ±0.022	0.054 ±0.023
	Acc.1	0.041 ±0.021	0.036 ±0.020	0.054 ±0.010	0.247 ± 0.048	0.057 ±0.018	0.053 ±0.025	0.039 ±0.028	0.054 ±0.024	0.030 ±0.010	0.050 ±0.026	0.054 ±0.029	0.050 ±0.007	0.296 ± 0.026	0.060 ±0.021	0.045 ±0.015	0.061 ±0.023	0.053 ±0.023
	Acc.2	0.087 ±0.028	0.075 ±0.020	0.103 ±0.014	0.372 ± 0.054	0.102 ±0.023	0.096 ±0.034	0.082 ±0.034	0.101 ±0.031	0.063 ±0.010	0.098 ±0.040	0.107 ±0.042	0.093 ±0.014	0.425 ± 0.054	0.111 ±0.017	0.077 ±0.031	0.099 ±0.017	0.096 ±0.023
	κ	0.039 ±0.032	0.024 ±0.019	0.044 ±0.012	0.115 ± 0.041	0.060 ±0.023	0.029 ±0.013	0.027 ±0.016	0.044 ±0.012	0.008 ±0.008	0.049 ±0.029	-0.000 ±0.016	0.010 ±0.005	0.120 ± 0.028	0.045 ±0.009	0.004 ±0.013	0.081 ±0.034	0.037 ±0.016
	AUC	0.666 ±0.037	0.645 ±0.029	0.642 ±0.026	0.749 ± 0.025	0.646 ±0.019	0.574 ±0.025	0.558 ±0.041	0.597 ±0.021	0.535 ±0.008	0.608 ±0.034	0.537 ±0.030	0.537 ±0.012	0.740 ± 0.006	0.600 ±0.014	0.533 ±0.015	0.656 ±0.034	0.589 ±0.048
Subject9_async	BAcc	0.063 ±0.031	0.048 ±0.018	0.068 ±0.012	0.137 ± 0.040	0.084 ±0.022	0.054 ±0.013	0.051 ±0.016	0.068 ±0.012	0.033 ±0.008	0.073 ±0.028	0.025 ±0.016	0.035 ±0.005	0.142 ± 0.027	0.069 ±0.009	0.029 ±0.013	0.104 ±0.033	0.061 ±0.015
	Acc.1	0.063 ±0.031	0.048 ±0.018	0.068 ±0.012	0.137 ± 0.040	0.084 ±0.022	0.054 ±0.014	0.051 ±0.015	0.068 ±0.012	0.033 ±0.008	0.071 ±0.027	0.024 ±0.016	0.034 ±0.005	0.142 ± 0.027	0.068 ±0.007	0.029 ±0.012	0.104 ±0.034	0.061 ±0.015
	Acc.2	0.118 ±0.050	0.095 ±0.036	0.125 ±0.019	0.218 ± 0.041	0.150 ±0.036	0.099 ±0.017	0.089 ±0.023	0.120 ±0.032	0.060 ±0.009	0.128 ±0.032	0.047 ±0.017	0.069 ±0.013	0.226 ± 0.031	0.131 ±0.023	0.053 ±0.011	0.170 ±0.041	0.106 ±0.023

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Per-Subject Zero-Shot Transfer

Table 61: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.014	0.577	0.039	0.039	0.074
DeepConvnet	± 0.009	± 0.025	± 0.009	± 0.009	± 0.013
	0.012	0.560	0.037	0.037	0.072
EEGNet	± 0.003	± 0.015	± 0.003	± 0.003	± 0.005
	0.016	0.565	0.040	0.040	0.078
Conformer	± 0.005	± 0.014	± 0.005	± 0.005	± 0.008
	0.022	0.594	0.046	0.046	0.087
CTNet	± 0.016	± 0.041	± 0.016	± 0.016	± 0.025
	0.012	0.551	0.036	0.036	0.070
SSVEPDNN	± 0.004	± 0.015	± 0.004	± 0.004	± 0.006
	0.008	0.526	0.033	0.033	0.064
BIOT (f)	± 0.007	± 0.018	± 0.007	± 0.007	± 0.012
	0.003	0.513	0.028	0.028	0.056
BIOT (l)	± 0.004	± 0.012	± 0.004	± 0.004	± 0.007
	0.013	0.541	0.038	0.038	0.074
BENDR (f)	± 0.004	± 0.011	± 0.004	± 0.004	± 0.007
	0.003	0.516	0.028	0.028	0.056
BENDR (l)	± 0.001	± 0.006	± 0.001	± 0.001	± 0.002
	0.008	0.534	0.033	0.033	0.065
CBraMod (f)	± 0.003	± 0.009	± 0.003	± 0.003	± 0.005
	0.008	0.541	0.032	0.033	0.064
CBraMod (l)	± 0.004	± 0.017	± 0.004	± 0.004	± 0.007
	0.004	0.517	0.029	0.029	0.057
EEGPT (f)	± 0.004	± 0.011	± 0.004	± 0.004	± 0.006
	0.024	0.607	0.049	0.049	0.091
EEGPT (l)	± 0.014	± 0.038	± 0.013	± 0.013	± 0.022
	0.011	0.534	0.036	0.036	0.069
LaBraM (f)	± 0.010	± 0.019	± 0.009	± 0.009	± 0.014
	0.001	0.509	0.026	0.026	0.052
LaBraM (l)	± 0.001	± 0.005	± 0.001	± 0.001	± 0.002
	0.008	0.536	0.033	0.033	0.065
STEEGformer-s (f)	± 0.006	± 0.017	± 0.006	± 0.006	± 0.010
	0.002	0.526	0.027	0.027	0.054
STEEGformer-s (l)	± 0.002	± 0.012	± 0.001	± 0.002	± 0.003

Table 62: Per-Subject Zero-Shot Transfer Performance

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformers-s ^(f)	STEEGformers-s ^(l)
Subject10_async	κ	0.014 ± 0.010	0.011 ± 0.008	0.015 ± 0.008	0.012 ± 0.010	0.012 ± 0.007	0.004 ± 0.007	0.001 ± 0.005	0.011 ± 0.006	0.004 ± 0.003	0.007 ± 0.009	0.009 ± 0.008	0.002 ± 0.004	0.016 ± 0.009	0.010 ± 0.009	0.001 ± 0.004	0.010 ± 0.009	0.003 ± 0.009
	AUC	0.579 ± 0.031	0.557 ± 0.023	0.571 ± 0.024	0.559 ± 0.028	0.546 ± 0.017	0.512 ± 0.016	0.509 ± 0.012	0.532 ± 0.013	0.517 ± 0.007	0.534 ± 0.019	0.549 ± 0.018	0.508 ± 0.009	0.587 ± 0.024	0.538 ± 0.019	0.510 ± 0.014	0.540 ± 0.022	0.537 ± 0.028
	BACC	0.038 ± 0.010	0.036 ± 0.007	0.040 ± 0.008	0.037 ± 0.009	0.036 ± 0.007	0.029 ± 0.007	0.026 ± 0.005	0.036 ± 0.006	0.029 ± 0.003	0.032 ± 0.009	0.034 ± 0.008	0.027 ± 0.004	0.040 ± 0.009	0.035 ± 0.008	0.026 ± 0.004	0.035 ± 0.008	0.028 ± 0.009
	Acc.1	0.038 ± 0.010	0.036 ± 0.007	0.040 ± 0.008	0.037 ± 0.009	0.036 ± 0.007	0.029 ± 0.007	0.026 ± 0.005	0.036 ± 0.006	0.029 ± 0.003	0.032 ± 0.009	0.034 ± 0.008	0.027 ± 0.004	0.040 ± 0.009	0.035 ± 0.008	0.026 ± 0.004	0.035 ± 0.009	0.028 ± 0.009
	Acc.2	0.074 ± 0.014	0.071 ± 0.012	0.078 ± 0.013	0.070 ± 0.016	0.070 ± 0.012	0.057 ± 0.011	0.053 ± 0.007	0.069 ± 0.010	0.057 ± 0.006	0.063 ± 0.012	0.066 ± 0.012	0.053 ± 0.005	0.078 ± 0.013	0.071 ± 0.012	0.053 ± 0.006	0.068 ± 0.012	0.056 ± 0.012
Subject11_async	κ	0.013 ± 0.007	0.011 ± 0.008	0.012 ± 0.009	0.011 ± 0.009	0.008 ± 0.007	0.005 ± 0.006	0.003 ± 0.005	0.009 ± 0.005	0.001 ± 0.004	0.007 ± 0.008	0.005 ± 0.006	0.002 ± 0.004	0.006 ± 0.005	0.004 ± 0.006	0.002 ± 0.004	0.001 ± 0.007	0.001 ± 0.008
	AUC	0.564 ± 0.022	0.554 ± 0.022	0.559 ± 0.026	0.551 ± 0.026	0.542 ± 0.018	0.512 ± 0.013	0.509 ± 0.013	0.530 ± 0.015	0.506 ± 0.008	0.531 ± 0.016	0.539 ± 0.020	0.509 ± 0.010	0.526 ± 0.015	0.515 ± 0.013	0.509 ± 0.010	0.510 ± 0.015	0.516 ± 0.019
	BACC	0.038 ± 0.007	0.036 ± 0.008	0.037 ± 0.008	0.035 ± 0.009	0.032 ± 0.007	0.029 ± 0.005	0.028 ± 0.005	0.033 ± 0.005	0.026 ± 0.004	0.032 ± 0.008	0.030 ± 0.006	0.027 ± 0.004	0.031 ± 0.005	0.029 ± 0.006	0.027 ± 0.004	0.026 ± 0.007	0.026 ± 0.007
	Acc.1	0.038 ± 0.007	0.036 ± 0.008	0.037 ± 0.008	0.035 ± 0.009	0.032 ± 0.007	0.030 ± 0.006	0.028 ± 0.005	0.034 ± 0.005	0.026 ± 0.004	0.032 ± 0.008	0.030 ± 0.006	0.027 ± 0.004	0.031 ± 0.005	0.029 ± 0.006	0.027 ± 0.004	0.026 ± 0.007	0.027 ± 0.007
	Acc.2	0.073 ± 0.011	0.071 ± 0.011	0.074 ± 0.013	0.068 ± 0.013	0.064 ± 0.010	0.058 ± 0.010	0.055 ± 0.008	0.064 ± 0.008	0.052 ± 0.005	0.061 ± 0.011	0.060 ± 0.010	0.053 ± 0.006	0.059 ± 0.007	0.056 ± 0.010	0.053 ± 0.006	0.052 ± 0.009	0.054 ± 0.010
Subject12_async	κ	0.011 ± 0.008	0.013 ± 0.007	0.014 ± 0.010	0.009 ± 0.007	0.009 ± 0.006	-0.000 ± 0.005	0.001 ± 0.005	0.009 ± 0.005	0.004 ± 0.004	0.010 ± 0.008	0.009 ± 0.007	0.002 ± 0.003	0.010 ± 0.005	0.010 ± 0.009	0.002 ± 0.004	0.003 ± 0.007	-0.001 ± 0.007
	AUC	0.567 ± 0.027	0.564 ± 0.026	0.561 ± 0.025	0.554 ± 0.027	0.549 ± 0.022	0.506 ± 0.012	0.501 ± 0.012	0.532 ± 0.014	0.515 ± 0.009	0.534 ± 0.018	0.542 ± 0.019	0.507 ± 0.007	0.559 ± 0.020	0.527 ± 0.019	0.503 ± 0.011	0.526 ± 0.019	0.501 ± 0.017
	BACC	0.036 ± 0.008	0.037 ± 0.007	0.039 ± 0.010	0.034 ± 0.006	0.033 ± 0.006	0.025 ± 0.005	0.026 ± 0.005	0.034 ± 0.005	0.029 ± 0.004	0.034 ± 0.007	0.034 ± 0.006	0.027 ± 0.003	0.035 ± 0.005	0.035 ± 0.009	0.027 ± 0.004	0.028 ± 0.007	0.024 ± 0.007
	Acc.1	0.036 ± 0.008	0.037 ± 0.007	0.039 ± 0.010	0.034 ± 0.006	0.033 ± 0.006	0.025 ± 0.005	0.026 ± 0.005	0.034 ± 0.005	0.029 ± 0.004	0.035 ± 0.007	0.034 ± 0.007	0.027 ± 0.003	0.035 ± 0.005	0.035 ± 0.009	0.026 ± 0.004	0.028 ± 0.007	0.024 ± 0.007
	Acc.2	0.071 ± 0.012	0.072 ± 0.011	0.075 ± 0.014	0.066 ± 0.010	0.067 ± 0.012	0.052 ± 0.008	0.051 ± 0.007	0.067 ± 0.009	0.056 ± 0.006	0.067 ± 0.013	0.067 ± 0.011	0.054 ± 0.004	0.068 ± 0.008	0.052 ± 0.013	0.052 ± 0.005	0.055 ± 0.011	0.050 ± 0.008

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject13_async	κ	0.013 ± 0.010	0.011 ± 0.009	0.012 ± 0.009	0.028 ± 0.029	0.010 ± 0.009	0.007 ± 0.011	0.001 ± 0.006	0.016 ± 0.008	0.005 ± 0.005	0.014 ± 0.009	0.004 ± 0.006	0.006 ± 0.006	0.053 ± 0.056	0.011 ± 0.009	0.000 ± 0.003	0.014 ± 0.012	0.004 ± 0.006
	AUC	0.572 ± 0.028	0.556 ± 0.021	0.568 ± 0.026	0.622 ± 0.071	0.547 ± 0.024	0.527 ± 0.022	0.508 ± 0.017	0.544 ± 0.017	0.526 ± 0.013	0.553 ± 0.020	0.527 ± 0.019	0.526 ± 0.016	0.674 ± 0.087	0.556 ± 0.022	0.503 ± 0.012	0.551 ± 0.027	0.542 ± 0.034
	BAcc	0.038 ± 0.009	0.036 ± 0.008	0.037 ± 0.009	0.052 ± 0.028	0.034 ± 0.008	0.032 ± 0.011	0.026 ± 0.006	0.041 ± 0.008	0.030 ± 0.005	0.039 ± 0.009	0.028 ± 0.006	0.031 ± 0.005	0.076 ± 0.054	0.036 ± 0.009	0.025 ± 0.003	0.038 ± 0.011	0.029 ± 0.006
	Acc.1	0.038 ± 0.009	0.036 ± 0.008	0.037 ± 0.009	0.052 ± 0.028	0.034 ± 0.008	0.032 ± 0.010	0.026 ± 0.006	0.041 ± 0.008	0.030 ± 0.005	0.039 ± 0.009	0.029 ± 0.006	0.031 ± 0.005	0.076 ± 0.054	0.036 ± 0.009	0.025 ± 0.003	0.038 ± 0.011	0.029 ± 0.006
	Acc.2	0.073 ± 0.015	0.070 ± 0.012	0.074 ± 0.014	0.098 ± 0.045	0.067 ± 0.012	0.061 ± 0.014	0.051 ± 0.009	0.078 ± 0.013	0.058 ± 0.006	0.075 ± 0.015	0.056 ± 0.008	0.059 ± 0.008	0.134 ± 0.080	0.071 ± 0.015	0.050 ± 0.005	0.074 ± 0.020	0.057 ± 0.010
Subject14_async	κ	0.010 ± 0.006	0.015 ± 0.009	0.014 ± 0.009	0.033 ± 0.035	0.019 ± 0.010	0.011 ± 0.012	0.003 ± 0.006	0.019 ± 0.007	0.005 ± 0.004	0.012 ± 0.008	0.015 ± 0.010	0.006 ± 0.006	0.045 ± 0.039	0.017 ± 0.011	0.001 ± 0.004	0.014 ± 0.011	0.004 ± 0.008
	AUC	0.582 ± 0.030	0.572 ± 0.029	0.579 ± 0.028	0.632 ± 0.079	0.564 ± 0.029	0.536 ± 0.024	0.514 ± 0.015	0.554 ± 0.018	0.526 ± 0.010	0.542 ± 0.016	0.566 ± 0.025	0.525 ± 0.017	0.671 ± 0.081	0.542 ± 0.023	0.516 ± 0.017	0.546 ± 0.026	0.542 ± 0.032
	BAcc	0.035 ± 0.006	0.039 ± 0.008	0.039 ± 0.008	0.058 ± 0.034	0.043 ± 0.010	0.036 ± 0.011	0.028 ± 0.006	0.043 ± 0.007	0.030 ± 0.004	0.037 ± 0.008	0.039 ± 0.010	0.031 ± 0.006	0.069 ± 0.038	0.042 ± 0.010	0.026 ± 0.004	0.039 ± 0.011	0.029 ± 0.007
	Acc.1	0.035 ± 0.006	0.039 ± 0.008	0.039 ± 0.008	0.058 ± 0.034	0.043 ± 0.010	0.035 ± 0.011	0.027 ± 0.006	0.044 ± 0.007	0.030 ± 0.004	0.036 ± 0.008	0.041 ± 0.010	0.031 ± 0.006	0.068 ± 0.038	0.042 ± 0.011	0.026 ± 0.004	0.038 ± 0.011	0.028 ± 0.007
	Acc.2	0.070 ± 0.009	0.076 ± 0.015	0.080 ± 0.014	0.107 ± 0.055	0.079 ± 0.014	0.067 ± 0.016	0.055 ± 0.009	0.084 ± 0.013	0.059 ± 0.007	0.070 ± 0.011	0.077 ± 0.015	0.060 ± 0.009	0.126 ± 0.061	0.080 ± 0.019	0.053 ± 0.006	0.072 ± 0.018	0.056 ± 0.011
Subject15_async	κ	0.015 ± 0.008	0.012 ± 0.008	0.019 ± 0.008	0.016 ± 0.012	0.014 ± 0.008	0.007 ± 0.007	0.002 ± 0.006	0.015 ± 0.007	0.003 ± 0.004	0.004 ± 0.008	0.005 ± 0.007	0.001 ± 0.005	0.023 ± 0.012	0.001 ± 0.004	-0.000 ± 0.003	0.006 ± 0.007	0.001 ± 0.005
	AUC	0.580 ± 0.027	0.561 ± 0.028	0.571 ± 0.023	0.576 ± 0.035	0.557 ± 0.028	0.522 ± 0.023	0.507 ± 0.014	0.546 ± 0.020	0.515 ± 0.007	0.526 ± 0.016	0.519 ± 0.013	0.510 ± 0.013	0.606 ± 0.040	0.504 ± 0.010	0.502 ± 0.010	0.534 ± 0.015	0.516 ± 0.016
	BAcc	0.039 ± 0.008	0.037 ± 0.007	0.044 ± 0.008	0.041 ± 0.012	0.039 ± 0.008	0.032 ± 0.007	0.027 ± 0.006	0.039 ± 0.007	0.028 ± 0.004	0.029 ± 0.008	0.030 ± 0.007	0.026 ± 0.005	0.047 ± 0.011	0.026 ± 0.004	0.025 ± 0.003	0.031 ± 0.007	0.026 ± 0.005
	Acc.1	0.039 ± 0.008	0.037 ± 0.007	0.044 ± 0.008	0.041 ± 0.012	0.039 ± 0.008	0.032 ± 0.007	0.027 ± 0.006	0.040 ± 0.007	0.028 ± 0.004	0.029 ± 0.008	0.030 ± 0.007	0.026 ± 0.005	0.047 ± 0.011	0.026 ± 0.004	0.024 ± 0.003	0.031 ± 0.007	0.026 ± 0.005
	Acc.2	0.076 ± 0.014	0.073 ± 0.012	0.084 ± 0.012	0.078 ± 0.017	0.074 ± 0.013	0.061 ± 0.012	0.053 ± 0.009	0.076 ± 0.014	0.057 ± 0.005	0.058 ± 0.011	0.057 ± 0.009	0.053 ± 0.006	0.091 ± 0.019	0.052 ± 0.005	0.049 ± 0.005	0.060 ± 0.010	0.052 ± 0.008
Subject16_async		0.012 ± 0.007	0.013 ± 0.010	0.018 ± 0.009	0.014 ± 0.009	0.012 ± 0.009	0.006 ± 0.009	-0.000 ± 0.006	0.016 ± 0.009	0.003 ± 0.003	0.011 ± 0.008	0.008 ± 0.007	0.003 ± 0.004	0.016 ± 0.008	0.008 ± 0.008	0.000 ± 0.004	0.006 ± 0.007	-0.000 ± 0.006

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject17_async	AUC	0.577 ±0.029	0.561 ±0.031	0.570 ±0.026	0.588 ± 0.039	0.562 ±0.029	0.520 ±0.017	0.506 ±0.014	0.548 ±0.020	0.513 ±0.007	0.544 ±0.021	0.542 ±0.019	0.509 ±0.011	0.591 ± 0.030	0.532 ±0.019	0.504 ±0.012	0.539 ±0.019	0.517 ±0.018
		0.037 ±0.007	0.038 ±0.010	0.043 ± 0.009	0.038 ±0.008	0.037 ±0.009	0.031 ±0.009	0.025 ±0.006	0.041 ± 0.008	0.028 ±0.003	0.036 ±0.008	0.033 ±0.007	0.028 ±0.004	0.041 ±0.008	0.033 ±0.008	0.025 ±0.003	0.031 ±0.007	0.025 ±0.006
	Acc.1	0.037 ±0.007	0.038 ±0.010	0.043 ± 0.009	0.038 ±0.008	0.037 ±0.009	0.031 ±0.009	0.025 ±0.006	0.041 ± 0.009	0.028 ±0.003	0.036 ±0.008	0.033 ±0.007	0.028 ±0.004	0.041 ±0.008	0.033 ±0.008	0.025 ±0.003	0.030 ±0.007	0.025 ±0.006
		0.071 ±0.011	0.073 ±0.015	0.083 ± 0.014	0.076 ±0.013	0.074 ±0.016	0.059 ±0.013	0.050 ±0.008	0.079 ± 0.014	0.057 ±0.005	0.069 ±0.013	0.064 ±0.011	0.055 ±0.006	0.078 ±0.013	0.064 ±0.013	0.050 ±0.006	0.060 ±0.011	0.051 ±0.007
	κ	0.014 ±0.008	0.010 ±0.009	0.013 ±0.006	0.017 ± 0.014	0.013 ±0.010	0.012 ±0.015	0.002 ±0.006	0.011 ±0.006	0.003 ±0.004	0.007 ±0.007	0.008 ±0.008	0.003 ±0.005	0.027 ± 0.033	0.008 ±0.007	0.001 ±0.004	0.003 ±0.007	0.001 ±0.006
		0.567 ±0.025	0.554 ±0.029	0.556 ±0.021	0.594 ± 0.047	0.554 ±0.027	0.537 ±0.029	0.517 ±0.019	0.538 ±0.014	0.510 ±0.008	0.530 ±0.020	0.546 ±0.021	0.511 ±0.013	0.601 ± 0.086	0.538 ±0.018	0.504 ±0.011	0.521 ±0.022	0.511 ±0.020
	BAcc	0.038 ±0.008	0.035 ±0.009	0.038 ±0.006	0.041 ± 0.014	0.038 ±0.010	0.036 ±0.014	0.027 ±0.006	0.036 ±0.006	0.028 ±0.004	0.032 ±0.006	0.032 ±0.008	0.028 ±0.005	0.052 ± 0.032	0.033 ±0.007	0.026 ±0.004	0.028 ±0.007	0.026 ±0.006
		0.038 ±0.008	0.035 ±0.009	0.038 ±0.006	0.041 ± 0.014	0.038 ±0.010	0.036 ±0.014	0.027 ±0.006	0.036 ±0.006	0.028 ±0.004	0.032 ±0.007	0.032 ±0.008	0.028 ±0.004	0.052 ± 0.032	0.034 ±0.007	0.027 ±0.004	0.028 ±0.007	0.026 ±0.006
	Acc.2	0.073 ±0.012	0.067 ±0.012	0.074 ±0.011	0.081 ± 0.021	0.072 ±0.015	0.067 ±0.019	0.053 ±0.008	0.069 ±0.009	0.055 ±0.004	0.061 ±0.009	0.063 ±0.012	0.055 ±0.007	0.096 ± 0.055	0.067 ±0.012	0.052 ±0.006	0.056 ±0.011	0.051 ±0.009
		0.017 ±0.012	0.012 ±0.008	0.015 ±0.009	0.022 ± 0.019	0.014 ±0.010	0.022 ± 0.024	0.007 ±0.010	0.014 ±0.008	0.002 ±0.003	0.012 ±0.010	0.012 ±0.008	0.002 ±0.005	0.020 ±0.016	0.010 ±0.011	0.003 ±0.004	0.007 ±0.007	0.003 ±0.007
Subject18_async	AUC	0.594 ±0.035	0.560 ±0.025	0.569 ±0.027	0.619 ± 0.057	0.555 ±0.026	0.561 ±0.043	0.530 ±0.027	0.543 ±0.020	0.515 ±0.008	0.536 ±0.022	0.558 ±0.024	0.513 ±0.013	0.618 ± 0.043	0.529 ±0.020	0.514 ±0.014	0.535 ±0.023	0.534 ±0.022
		0.041 ±0.012	0.036 ±0.008	0.040 ±0.009	0.047 ± 0.019	0.039 ±0.009	0.046 ± 0.024	0.031 ±0.009	0.039 ±0.007	0.027 ±0.003	0.037 ±0.010	0.037 ±0.008	0.027 ±0.005	0.045 ±0.015	0.035 ±0.011	0.028 ±0.004	0.032 ±0.007	0.028 ±0.007
	BAcc	0.041 ±0.012	0.036 ±0.008	0.040 ±0.009	0.047 ± 0.019	0.039 ±0.009	0.046 ± 0.024	0.031 ±0.009	0.039 ±0.008	0.027 ±0.003	0.037 ±0.010	0.039 ±0.008	0.027 ±0.005	0.046 ±0.016	0.036 ±0.011	0.028 ±0.004	0.033 ±0.007	0.029 ±0.007
		0.080 ±0.017	0.072 ±0.012	0.076 ±0.014	0.088 ± 0.030	0.074 ±0.014	0.085 ±0.036	0.062 ±0.014	0.073 ±0.012	0.055 ±0.004	0.069 ±0.017	0.074 ±0.014	0.055 ±0.007	0.086 ± 0.024	0.070 ±0.016	0.055 ±0.007	0.062 ±0.011	0.056 ±0.010
	Acc.2	0.013 ±0.007	0.013 ±0.009	0.018 ± 0.008	0.010 ±0.007	0.010 ±0.007	0.003 ±0.005	0.000 ±0.005	0.014 ± 0.007	0.005 ±0.005	0.007 ±0.008	0.006 ±0.007	0.001 ±0.005	0.010 ±0.007	0.008 ±0.007	0.002 ±0.003	0.004 ±0.011	0.002 ±0.006
		0.572 ±0.028	0.576 ± 0.032	0.573 ±0.028	0.560 ±0.026	0.552 ±0.024	0.517 ±0.016	0.508 ±0.015	0.543 ±0.021	0.523 ±0.009	0.535 ±0.020	0.542 ±0.020	0.507 ±0.009	0.577 ± 0.022	0.516 ±0.013	0.511 ±0.011	0.519 ±0.023	0.531 ±0.027

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject1.async	BAcc	0.038 ±0.007	0.038 ±0.009	0.042 ±0.008	0.034 ±0.007	0.035 ±0.007	0.028 ±0.005	0.025 ±0.005	0.038 ± 0.007	0.029 ±0.004	0.031 ±0.007	0.031 ±0.007	0.026 ±0.004	0.035 ±0.007	0.033 ±0.007	0.027 ±0.003	0.029 ±0.010	0.027 ±0.005
		0.038 ±0.007	0.038 ±0.009	0.042 ±0.008	0.034 ±0.007	0.035 ±0.007	0.028 ±0.005	0.026 ±0.005	0.039 ± 0.007	0.029 ±0.004	0.032 ±0.008	0.032 ±0.006	0.026 ±0.005	0.035 ±0.007	0.033 ±0.007	0.029 ±0.004	0.029 ±0.011	0.028 ±0.005
	Acc.1	0.073 ±0.010	0.074 ±0.015	0.081 ±0.013	0.067 ±0.011	0.068 ±0.010	0.056 ±0.010	0.051 ±0.008	0.075 ± 0.012	0.058 ±0.006	0.062 ±0.012	0.064 ±0.009	0.053 ±0.007	0.071 ±0.011	0.062 ±0.009	0.057 ±0.005	0.060 ±0.016	0.055 ±0.010
		0.073 ±0.010	0.074 ±0.015	0.081 ±0.013	0.067 ±0.011	0.068 ±0.010	0.056 ±0.010	0.051 ±0.008	0.075 ± 0.012	0.058 ±0.006	0.062 ±0.012	0.064 ±0.009	0.053 ±0.007	0.071 ±0.011	0.062 ±0.009	0.057 ±0.005	0.060 ±0.016	0.055 ±0.010
	κ	0.013 ± 0.010	0.009 ±0.009	0.009 ±0.005	0.013 ±0.012	0.007 ±0.006	0.003 ±0.007	0.000 ±0.007	0.007 ±0.006	0.002 ±0.004	0.010 ±0.008	0.009 ±0.007	0.002 ±0.004	0.009 ±0.006	0.008 ±0.009	0.002 ±0.005	0.007 ±0.008	0.003 ±0.005
		0.569 ±0.033	0.550 ±0.019	0.550 ±0.017	0.568 ± 0.032	0.533 ±0.018	0.509 ±0.018	0.507 ±0.016	0.523 ±0.011	0.510 ±0.006	0.537 ±0.017	0.537 ±0.023	0.507 ±0.009	0.553 ±0.023	0.524 ±0.018	0.509 ±0.017	0.519 ±0.021	0.530 ±0.027
	BAcc	0.038 ± 0.009	0.034 ±0.009	0.034 ±0.005	0.038 ±0.011	0.031 ±0.006	0.027 ±0.007	0.025 ±0.006	0.031 ±0.006	0.027 ±0.003	0.035 ±0.007	0.034 ±0.007	0.027 ±0.004	0.034 ±0.006	0.033 ±0.009	0.027 ±0.005	0.032 ±0.008	0.028 ±0.005
		0.038 ± 0.009	0.034 ±0.009	0.034 ±0.005	0.038 ±0.011	0.031 ±0.006	0.027 ±0.007	0.025 ±0.007	0.032 ±0.006	0.027 ±0.004	0.035 ±0.007	0.034 ±0.007	0.027 ±0.004	0.034 ±0.006	0.033 ±0.009	0.027 ±0.005	0.032 ±0.008	0.028 ±0.005
	Acc.1	0.070 ± 0.015	0.067 ±0.012	0.067 ±0.008	0.073 ±0.017	0.061 ±0.010	0.054 ±0.012	0.051 ±0.008	0.061 ±0.009	0.054 ±0.005	0.066 ±0.011	0.067 ±0.011	0.052 ±0.005	0.067 ±0.011	0.065 ±0.013	0.053 ±0.007	0.062 ±0.012	0.056 ±0.008
		0.070 ± 0.015	0.067 ±0.012	0.067 ±0.008	0.073 ±0.017	0.061 ±0.010	0.054 ±0.012	0.051 ±0.008	0.061 ±0.009	0.054 ±0.005	0.066 ±0.011	0.067 ±0.011	0.052 ±0.005	0.067 ±0.011	0.065 ±0.013	0.053 ±0.007	0.062 ±0.012	0.056 ±0.008
Subject20.async	κ	0.017 ±0.009	0.017 ±0.008	0.016 ±0.009	0.037 ±0.039	0.018 ±0.010	0.014 ±0.016	0.006 ±0.008	0.018 ±0.009	0.005 ±0.004	0.012 ±0.009	0.011 ±0.007	0.007 ±0.009	0.034 ± 0.036	0.019 ±0.017	0.002 ±0.004	0.008 ±0.009	0.004 ±0.007
		0.590 ±0.029	0.583 ±0.031	0.563 ±0.025	0.638 ± 0.075	0.577 ±0.035	0.546 ±0.034	0.521 ±0.023	0.556 ±0.022	0.522 ±0.009	0.551 ±0.025	0.559 ±0.026	0.529 ±0.021	0.647 ±0.070	0.547 ±0.036	0.513 ±0.014	0.531 ±0.025	0.542 ±0.027
	BAcc	0.041 ±0.009	0.041 ±0.008	0.041 ±0.009	0.061 ±0.038	0.043 ±0.010	0.039 ±0.015	0.030 ±0.008	0.043 ±0.009	0.030 ±0.004	0.036 ±0.008	0.036 ±0.007	0.031 ±0.009	0.058 ± 0.035	0.043 ±0.016	0.027 ±0.004	0.033 ±0.008	0.029 ±0.007
		0.041 ±0.009	0.041 ±0.008	0.041 ±0.009	0.061 ± 0.038	0.043 ±0.010	0.040 ±0.015	0.032 ±0.008	0.043 ±0.009	0.030 ±0.004	0.038 ±0.009	0.038 ±0.007	0.033 ±0.009	0.061 ±0.036	0.045 ±0.017	0.028 ±0.004	0.035 ±0.009	0.030 ±0.007
	Acc.1	0.077 ±0.013	0.081 ±0.014	0.079 ±0.016	0.109 ±0.059	0.083 ±0.017	0.077 ±0.026	0.061 ±0.013	0.083 ±0.017	0.059 ±0.005	0.071 ±0.013	0.073 ±0.012	0.063 ±0.013	0.106 ± 0.053	0.083 ±0.028	0.056 ±0.005	0.066 ±0.015	0.058 ±0.012
		0.077 ±0.013	0.081 ±0.014	0.079 ±0.016	0.109 ±0.059	0.083 ±0.017	0.077 ±0.026	0.061 ±0.013	0.083 ±0.017	0.059 ±0.005	0.071 ±0.013	0.073 ±0.012	0.063 ±0.013	0.106 ± 0.053	0.083 ±0.028	0.056 ±0.005	0.066 ±0.015	0.058 ±0.012
Subject21.async	κ	0.011 ±0.009	0.009 ±0.008	0.012 ±0.009	0.037 ± 0.030	0.008 ±0.007	0.008 ±0.011	0.003 ±0.005	0.012 ±0.007	0.004 ±0.005	0.007 ±0.008	-0.001 ±0.003	0.003 ±0.005	0.042 ±0.042	0.001 ±0.003	0.001 ±0.002	0.015 ±0.012	0.004 ±0.007
		0.572 ±0.027	0.548 ±0.028	0.561 ±0.026	0.645 ± 0.078	0.545 ±0.025	0.529 ±0.027	0.514 ±0.016	0.541 ±0.021	0.521 ±0.009	0.526 ±0.015	0.515 ±0.018	0.516 ±0.014	0.658 ±0.085	0.509 ±0.009	0.507 ±0.010	0.552 ±0.027	0.543 ±0.030
	BAcc	0.036 ±0.009	0.034 ±0.008	0.037 ±0.009	0.061 ± 0.030	0.033 ±0.007	0.033 ±0.011	0.028 ±0.005	0.037 ±0.007	0.029 ±0.005	0.032 ±0.007	0.024 ±0.003	0.028 ±0.004	0.066 ±0.041	0.026 ±0.003	0.026 ±0.002	0.039 ±0.012	0.029 ±0.007
		0.036 ±0.009	0.034 ±0.008	0.037 ±0.009	0.061 ± 0.030	0.033 ±0.007	0.033 ±0.011	0.028 ±0.005	0.037 ±0.007	0.029 ±0.005	0.032 ±0.007	0.024 ±0.003	0.028 ±0.004	0.066 ±0.041	0.026 ±0.003	0.026 ±0.002	0.039 ±0.012	0.029 ±0.007

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject22_async	Acc.1	0.036 ±0.009	0.034 ±0.008	0.037 ±0.009	0.061 ± 0.030	0.033 ±0.007	0.032 ±0.011	0.028 ±0.005	0.037 ±0.007	0.029 ±0.005	0.032 ±0.007	0.023 ±0.003	0.028 ±0.004	<div>0.066 ± 0.041</div>	0.025 ±0.003	0.025 ±0.002	0.039 ±0.012	0.028 ±0.007
		0.070 ±0.014	0.068 ±0.012	0.075 ±0.017	0.113 ± 0.051	0.065 ±0.012	0.063 ±0.016	0.056 ±0.008	0.073 ±0.011	0.057 ±0.006	0.061 ±0.011	0.049 ±0.004	0.057 ±0.007	<div>0.121 ± 0.065</div>	0.052 ±0.004	0.049 ±0.004	0.076 ±0.018	0.058 ±0.011
	AUC	0.014 ±0.009	0.013 ±0.009	0.019 ±0.009	<div>0.050 ± 0.049</div>	0.014 ±0.011	0.021 ±0.024	0.010 ±0.014	0.017 ±0.011	0.004 ±0.005	0.008 ±0.009	0.009 ±0.009	0.007 ±0.010	0.039 ± 0.046	0.019 ±0.016	0.002 ±0.004	0.009 ±0.008	0.005 ±0.008
		0.578 ±0.029	0.565 ±0.030	0.573 ±0.029	<div>0.666 ± 0.089</div>	0.562 ±0.024	0.558 ±0.042	0.540 ±0.040	0.551 ±0.022	0.519 ±0.010	0.533 ±0.021	0.555 ±0.025	0.524 ±0.026	0.646 ± 0.083	0.554 ±0.031	0.519 ±0.018	0.544 ±0.020	0.542 ±0.029
	BAcc	0.038 ±0.009	0.038 ±0.009	0.043 ±0.009	<div>0.074 ± 0.048</div>	0.038 ±0.011	0.045 ±0.023	0.035 ±0.013	0.042 ±0.010	0.029 ±0.005	0.033 ±0.009	0.034 ±0.009	0.032 ±0.010	0.063 ± 0.045	0.044 ±0.016	0.027 ±0.004	0.034 ±0.008	0.030 ±0.008
		0.038 ±0.009	0.038 ±0.009	0.043 ±0.009	<div>0.074 ± 0.048</div>	0.038 ±0.011	0.045 ±0.023	0.035 ±0.013	0.042 ±0.011	0.029 ±0.005	0.033 ±0.009	0.034 ±0.009	0.032 ±0.010	0.063 ± 0.045	0.043 ±0.016	0.027 ±0.004	0.034 ±0.008	0.030 ±0.008
Subject23_async	Acc.1	0.073 ±0.012	0.075 ±0.014	0.084 ±0.016	<div>0.135 ± 0.079</div>	0.074 ±0.016	0.084 ±0.035	0.068 ±0.024	0.081 ±0.017	0.058 ±0.007	0.064 ±0.012	0.067 ±0.015	0.062 ±0.015	0.115 ± 0.073	0.080 ±0.026	0.055 ±0.006	0.066 ±0.013	0.057 ±0.011
		0.013 ±0.008	0.011 ±0.008	0.015 ± 0.008	0.008 ±0.008	0.011 ±0.008	0.002 ±0.006	0.002 ±0.005	0.014 ±0.008	0.003 ±0.003	0.009 ±0.008	0.011 ±0.009	0.003 ±0.004	<div>0.017 ± 0.009</div>	0.013 ±0.009	0.002 ±0.003	0.010 ±0.009	0.005 ±0.006
	AUC	0.570 ± 0.027	0.556 ±0.028	0.561 ±0.022	0.562 ±0.027	0.552 ±0.025	0.510 ±0.014	0.506 ±0.012	0.542 ±0.018	0.518 ±0.010	0.540 ±0.018	0.550 ±0.023	0.509 ±0.010	<div>0.592 ± 0.029</div>	0.545 ±0.016	0.509 ±0.014	0.538 ±0.019	0.522 ±0.023
		0.038 ±0.008	0.036 ±0.007	0.040 ± 0.008	0.033 ±0.008	0.036 ±0.008	0.027 ±0.005	0.027 ±0.005	0.039 ±0.008	0.028 ±0.003	0.034 ±0.007	0.036 ±0.009	0.028 ±0.004	<div>0.042 ± 0.009</div>	0.038 ±0.009	0.027 ±0.003	0.035 ±0.009	0.030 ±0.006
	Acc.1	0.038 ±0.008	0.036 ±0.007	0.040 ± 0.008	0.033 ±0.008	0.036 ±0.008	0.027 ±0.006	0.027 ±0.005	0.039 ±0.008	0.028 ±0.003	0.033 ±0.008	0.036 ±0.009	0.028 ±0.004	<div>0.042 ± 0.009</div>	0.038 ±0.009	0.026 ±0.003	0.034 ±0.009	0.029 ±0.006
		0.071 ±0.014	0.071 ±0.012	0.076 ± 0.012	0.066 ±0.012	0.070 ±0.012	0.052 ±0.006	0.053 ±0.008	0.075 ±0.013	0.057 ±0.006	0.065 ±0.012	0.068 ±0.014	0.053 ±0.005	<div>0.079 ± 0.013</div>	0.073 ±0.013	0.053 ±0.006	0.066 ±0.012	0.056 ±0.009
Subject24_async	Acc.1	0.013 ±0.010	0.013 ±0.009	0.015 ± 0.009	0.012 ±0.011	0.010 ±0.007	0.011 ±0.012	0.003 ±0.006	0.013 ±0.008	0.002 ±0.004	0.006 ±0.008	0.011 ±0.009	0.003 ±0.005	<div>0.019 ± 0.011</div>	0.012 ±0.010	0.002 ±0.004	0.009 ±0.010	0.004 ±0.009
		0.571 ± 0.027	0.549 ±0.026	0.557 ±0.026	0.566 ±0.035	0.548 ±0.024	0.528 ±0.024	0.512 ±0.014	0.535 ±0.018	0.511 ±0.008	0.528 ±0.017	0.543 ±0.023	0.514 ±0.013	<div>0.601 ± 0.036</div>	0.534 ±0.018	0.509 ±0.011	0.528 ±0.023	0.531 ±0.023
	BAcc	0.038 ±0.010	0.037 ±0.008	0.040 ± 0.009	0.036 ±0.011	0.034 ±0.007	0.036 ±0.011	0.028 ±0.006	0.038 ±0.007	0.027 ±0.004	0.031 ±0.008	0.036 ±0.009	0.028 ±0.004	<div>0.044 ± 0.011</div>	0.037 ±0.010	0.027 ±0.004	0.034 ±0.010	0.029 ±0.009
		0.038 ±0.010	0.037 ±0.008	0.040 ± 0.009	0.036 ±0.011	0.034 ±0.007	0.036 ±0.011	0.028 ±0.006	0.038 ±0.007	0.027 ±0.004	0.031 ±0.008	0.038 ±0.010	0.028 ±0.004	<div>0.045 ± 0.012</div>	0.037 ±0.010	0.027 ±0.004	0.036 ±0.010	0.029 ±0.008
	Acc.1	0.038 ±0.010	0.037 ±0.008	0.040 ± 0.009	0.036 ±0.011	0.034 ±0.007	0.036 ±0.011	0.028 ±0.006	0.038 ±0.007	0.027 ±0.004	0.031 ±0.008	0.038 ±0.010	0.028 ±0.004	<div>0.045 ± 0.012</div>	0.037 ±0.010	0.027 ±0.004	0.036 ±0.010	0.029 ±0.008
		0.038 ±0.010	0.037 ±0.008	0.040 ± 0.009	0.036 ±0.011	0.034 ±0.007	0.036 ±0.011	0.028 ±0.006	0.038 ±0.007	0.027 ±0.004	0.031 ±0.008	0.038 ±0.010	0.028 ±0.004	<div>0.045 ± 0.012</div>	0.037 ±0.010	0.027 ±0.004	0.036 ±0.010	0.029 ±0.008

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.072 ±0.014	0.071 ±0.012	0.076 ± 0.014	0.070 ±0.017	0.068 ±0.011	0.067 ±0.019	0.056 ±0.008	0.073 ±0.012	0.054 ±0.005	0.063 ±0.013	0.071 ±0.015	0.055 ±0.006	0.085 ± 0.019	0.071 ±0.016	0.054 ±0.005	0.068 ±0.015	0.058 ±0.010
Subject25_async	κ	0.003 ±0.006	0.001 ±0.005	0.003 ±0.007	0.001 ±0.006	0.003 ±0.005	0.004 ±0.006	0.000 ±0.006	0.003 ±0.004	0.001 ±0.004	0.007 ±0.008	0.010 ± 0.010	0.005 ±0.004	0.007 ± 0.007	0.006 ±0.008	0.002 ±0.004	0.004 ±0.008	0.002 ±0.005
	AUC	0.526 ±0.013	0.520 ±0.015	0.522 ±0.016	0.508 ±0.015	0.512 ±0.012	0.508 ±0.013	0.502 ±0.013	0.512 ±0.013	0.501 ±0.007	0.523 ±0.019	0.542 ± 0.026	0.524 ±0.013	0.564 ± 0.028	0.520 ±0.018	0.509 ±0.012	0.513 ±0.018	0.520 ±0.016
	BAcc	0.028 ±0.006	0.026 ±0.005	0.028 ±0.007	0.026 ±0.006	0.028 ±0.005	0.029 ±0.006	0.025 ±0.005	0.028 ±0.004	0.026 ±0.003	0.032 ±0.008	0.035 ± 0.009	0.029 ±0.004	0.032 ± 0.007	0.030 ±0.008	0.027 ±0.004	0.029 ±0.008	0.027 ±0.005
	Acc.1	0.028 ±0.006	0.026 ±0.005	0.028 ±0.007	0.026 ±0.006	0.028 ±0.005	0.029 ±0.006	0.025 ±0.005	0.028 ±0.004	0.026 ±0.003	0.031 ±0.008	0.035 ± 0.009	0.029 ±0.004	0.032 ± 0.007	0.030 ±0.008	0.026 ±0.004	0.028 ±0.007	0.027 ±0.005
	Acc.2	0.055 ±0.009	0.054 ±0.008	0.055 ±0.010	0.050 ±0.008	0.056 ±0.008	0.055 ±0.008	0.050 ±0.007	0.055 ±0.007	0.051 ±0.005	0.063 ± 0.012	0.067 ± 0.014	0.058 ±0.007	0.062 ±0.009	0.059 ±0.011	0.051 ±0.005	0.056 ±0.010	0.053 ±0.007
	κ	0.011 ±0.008	0.015 ±0.009	0.016 ±0.008	0.027 ± 0.022	0.012 ±0.008	0.005 ±0.010	0.004 ±0.007	0.014 ±0.006	0.004 ±0.003	0.010 ±0.007	0.012 ±0.008	0.003 ±0.004	0.019 ± 0.014	0.013 ±0.010	0.002 ±0.004	0.007 ±0.007	0.003 ±0.006
Subject26_async	AUC	0.583 ±0.030	0.572 ±0.028	0.571 ±0.024	0.616 ± 0.063	0.549 ±0.022	0.525 ±0.023	0.521 ±0.023	0.545 ±0.018	0.522 ±0.010	0.540 ±0.018	0.562 ±0.022	0.509 ±0.008	0.614 ± 0.041	0.540 ±0.023	0.512 ±0.012	0.549 ±0.018	0.527 ±0.018
	BAcc	0.036 ±0.008	0.039 ±0.009	0.041 ±0.008	0.051 ± 0.021	0.037 ±0.008	0.030 ±0.009	0.029 ±0.007	0.038 ±0.006	0.029 ±0.003	0.035 ±0.007	0.037 ±0.008	0.028 ±0.004	0.043 ± 0.014	0.038 ±0.010	0.027 ±0.004	0.032 ±0.006	0.028 ±0.006
	Acc.1	0.036 ±0.008	0.039 ±0.009	0.041 ±0.008	0.051 ± 0.021	0.037 ±0.008	0.029 ±0.009	0.028 ±0.006	0.039 ±0.006	0.029 ±0.003	0.035 ±0.007	0.037 ±0.008	0.028 ±0.004	0.043 ± 0.013	0.037 ±0.009	0.026 ±0.004	0.031 ±0.006	0.028 ±0.006
	Acc.2	0.069 ±0.012	0.076 ±0.014	0.080 ±0.012	0.095 ± 0.035	0.071 ±0.012	0.058 ±0.014	0.057 ±0.010	0.074 ±0.011	0.057 ±0.005	0.069 ±0.012	0.072 ±0.012	0.054 ±0.007	0.081 ± 0.020	0.070 ±0.015	0.053 ±0.006	0.060 ±0.008	0.054 ±0.009
	κ	0.011 ±0.008	0.013 ±0.007	0.019 ± 0.008	0.016 ±0.013	0.012 ±0.007	0.004 ±0.007	0.001 ±0.006	0.014 ±0.007	0.003 ±0.003	0.010 ±0.009	0.009 ±0.009	0.002 ±0.005	0.019 ± 0.011	0.006 ±0.008	-0.001 ±0.005	0.003 ±0.008	0.001 ±0.006
	AUC	0.568 ±0.032	0.565 ±0.026	0.575 ±0.028	0.582 ± 0.048	0.554 ±0.020	0.507 ±0.017	0.502 ±0.013	0.545 ±0.018	0.515 ±0.008	0.541 ±0.018	0.552 ±0.027	0.511 ±0.011	0.594 ± 0.034	0.534 ±0.022	0.499 ±0.015	0.522 ±0.018	0.504 ±0.015
Subject27_async	BAcc	0.036 ±0.008	0.037 ±0.007	0.043 ± 0.007	0.041 ±0.012	0.037 ±0.007	0.029 ±0.007	0.026 ±0.006	0.038 ±0.007	0.028 ±0.003	0.034 ±0.009	0.034 ±0.009	0.027 ±0.004	0.043 ± 0.010	0.031 ±0.008	0.024 ±0.005	0.028 ±0.008	0.026 ±0.005
	Acc.1	0.036 ±0.008	0.037 ±0.007	0.043 ± 0.007	0.041 ±0.012	0.037 ±0.007	0.029 ±0.007	0.026 ±0.006	0.039 ±0.007	0.028 ±0.003	0.034 ±0.009	0.034 ±0.009	0.027 ±0.004	0.044 ± 0.011	0.031 ±0.008	0.024 ±0.004	0.028 ±0.008	0.027 ±0.006
	Acc.2	0.070 ±0.013	0.072 ±0.012	0.082 ± 0.011	0.078 ±0.022	0.072 ±0.011	0.057 ±0.010	0.051 ±0.008	0.076 ±0.012	0.056 ±0.004	0.067 ±0.013	0.068 ±0.012	0.054 ±0.008	0.083 ± 0.016	0.065 ±0.013	0.049 ±0.006	0.054 ±0.010	0.053 ±0.010

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject28_async	κ	0.011 ± 0.008	0.013 ± 0.008	0.015 ± 0.009	0.010 ± 0.006	0.012 ± 0.008	0.007 ± 0.006	-0.000 ± 0.004	0.012 ± 0.008	0.003 ± 0.003	0.005 ± 0.007	0.001 ± 0.004	0.001 ± 0.004	0.010 ± 0.006	0.005 ± 0.006	0.001 ± 0.004	0.002 ± 0.006	0.001 ± 0.006
	AUC	0.571 ± 0.032	0.567 ± 0.024	0.574 ± 0.030	0.579 ± 0.035	0.556 ± 0.025	0.517 ± 0.016	0.507 ± 0.014	0.540 ± 0.017	0.514 ± 0.008	0.518 ± 0.018	0.510 ± 0.014	0.508 ± 0.010	0.567 ± 0.027	0.521 ± 0.014	0.506 ± 0.012	0.512 ± 0.014	0.529 ± 0.029
	BAcc	0.036 ± 0.008	0.037 ± 0.007	0.040 ± 0.009	0.035 ± 0.006	0.036 ± 0.007	0.032 ± 0.006	0.025 ± 0.004	0.036 ± 0.008	0.028 ± 0.003	0.030 ± 0.006	0.026 ± 0.004	0.026 ± 0.004	0.035 ± 0.006	0.030 ± 0.006	0.026 ± 0.004	0.027 ± 0.006	0.026 ± 0.005
	Acc.1	0.036 ± 0.008	0.037 ± 0.007	0.040 ± 0.009	0.035 ± 0.006	0.036 ± 0.007	0.031 ± 0.006	0.025 ± 0.004	0.037 ± 0.008	0.028 ± 0.003	0.031 ± 0.006	0.026 ± 0.004	0.026 ± 0.004	0.036 ± 0.006	0.030 ± 0.006	0.025 ± 0.004	0.027 ± 0.006	0.026 ± 0.005
	Acc.2	0.071 ± 0.012	0.073 ± 0.011	0.078 ± 0.016	0.070 ± 0.010	0.071 ± 0.011	0.060 ± 0.010	0.050 ± 0.006	0.072 ± 0.012	0.054 ± 0.004	0.060 ± 0.009	0.051 ± 0.005	0.052 ± 0.006	0.069 ± 0.010	0.060 ± 0.008	0.051 ± 0.005	0.056 ± 0.010	0.053 ± 0.009
Subject29_async	κ	0.004 ± 0.006	0.004 ± 0.007	0.010 ± 0.009	0.002 ± 0.006	0.003 ± 0.006	0.002 ± 0.006	0.001 ± 0.004	0.004 ± 0.005	0.001 ± 0.004	0.007 ± 0.009	0.007 ± 0.010	0.002 ± 0.004	0.010 ± 0.009	0.006 ± 0.009	0.001 ± 0.004	0.004 ± 0.009	-0.001 ± 0.006
	AUC	0.525 ± 0.017	0.519 ± 0.013	0.552 ± 0.031	0.516 ± 0.015	0.515 ± 0.020	0.505 ± 0.012	0.500 ± 0.014	0.518 ± 0.013	0.505 ± 0.007	0.522 ± 0.019	0.538 ± 0.033	0.507 ± 0.010	0.565 ± 0.034	0.522 ± 0.019	0.502 ± 0.012	0.526 ± 0.023	0.509 ± 0.017
	BAcc	0.028 ± 0.006	0.029 ± 0.007	0.035 ± 0.009	0.027 ± 0.006	0.028 ± 0.006	0.027 ± 0.006	0.026 ± 0.004	0.029 ± 0.005	0.026 ± 0.004	0.031 ± 0.009	0.032 ± 0.010	0.027 ± 0.004	0.035 ± 0.008	0.031 ± 0.009	0.026 ± 0.004	0.029 ± 0.009	0.024 ± 0.006
	Acc.1	0.028 ± 0.006	0.029 ± 0.007	0.035 ± 0.009	0.027 ± 0.006	0.028 ± 0.006	0.027 ± 0.006	0.026 ± 0.004	0.029 ± 0.005	0.026 ± 0.004	0.032 ± 0.009	0.032 ± 0.010	0.027 ± 0.004	0.036 ± 0.009	0.031 ± 0.009	0.026 ± 0.004	0.029 ± 0.009	0.024 ± 0.006
	Acc.2	0.057 ± 0.010	0.058 ± 0.009	0.069 ± 0.014	0.053 ± 0.009	0.056 ± 0.009	0.053 ± 0.007	0.053 ± 0.007	0.056 ± 0.007	0.052 ± 0.005	0.062 ± 0.015	0.064 ± 0.016	0.053 ± 0.006	0.070 ± 0.013	0.061 ± 0.014	0.051 ± 0.006	0.057 ± 0.015	0.049 ± 0.008
Subject2_async	κ	0.014 ± 0.008	0.014 ± 0.008	0.015 ± 0.007	0.013 ± 0.009	0.010 ± 0.007	0.004 ± 0.007	0.001 ± 0.006	0.010 ± 0.007	0.001 ± 0.004	0.006 ± 0.008	0.010 ± 0.007	0.002 ± 0.004	0.010 ± 0.006	0.010 ± 0.011	0.002 ± 0.004	0.006 ± 0.009	0.001 ± 0.007
	AUC	0.578 ± 0.024	0.560 ± 0.024	0.564 ± 0.022	0.582 ± 0.030	0.541 ± 0.022	0.513 ± 0.012	0.505 ± 0.015	0.534 ± 0.014	0.506 ± 0.006	0.533 ± 0.019	0.545 ± 0.026	0.510 ± 0.009	0.551 ± 0.022	0.529 ± 0.016	0.507 ± 0.013	0.514 ± 0.016	0.524 ± 0.025
	BAcc	0.038 ± 0.008	0.038 ± 0.007	0.040 ± 0.007	0.037 ± 0.009	0.035 ± 0.007	0.029 ± 0.007	0.026 ± 0.006	0.035 ± 0.006	0.026 ± 0.004	0.031 ± 0.008	0.035 ± 0.007	0.027 ± 0.004	0.035 ± 0.005	0.035 ± 0.011	0.027 ± 0.004	0.031 ± 0.009	0.026 ± 0.007
	Acc.1	0.038 ± 0.008	0.038 ± 0.007	0.040 ± 0.007	0.037 ± 0.009	0.035 ± 0.007	0.029 ± 0.007	0.026 ± 0.006	0.035 ± 0.006	0.026 ± 0.003	0.031 ± 0.008	0.036 ± 0.008	0.027 ± 0.004	0.036 ± 0.006	0.036 ± 0.011	0.027 ± 0.004	0.031 ± 0.008	0.026 ± 0.007
	Acc.2	0.072 ± 0.012	0.074 ± 0.012	0.077 ± 0.012	0.073 ± 0.013	0.067 ± 0.011	0.056 ± 0.011	0.052 ± 0.009	0.068 ± 0.009	0.052 ± 0.006	0.061 ± 0.012	0.068 ± 0.014	0.052 ± 0.006	0.067 ± 0.010	0.067 ± 0.016	0.053 ± 0.006	0.060 ± 0.013	0.050 ± 0.008
Subject30_async		0.011 ± 0.008	0.013 ± 0.010	0.017 ± 0.011	0.008 ± 0.010	0.012 ± 0.008	0.002 ± 0.007	0.002 ± 0.005	0.014 ± 0.008	0.004 ± 0.004	0.010 ± 0.011	0.007 ± 0.006	0.002 ± 0.004	0.012 ± 0.010	0.006 ± 0.007	0.003 ± 0.005	0.003 ± 0.007	0.002 ± 0.006

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(l)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject31_async	κ	0.566 ± 0.026	0.565 ± 0.028	0.565 ± 0.025	0.563 ± 0.032	0.544 ± 0.020	0.510 ± 0.014	0.503 ± 0.014	0.542 ± 0.021	0.519 ± 0.009	0.542 ± 0.021	0.551 ± 0.025	0.507 ± 0.012	0.590 ± 0.034	0.537 ± 0.020	0.505 ± 0.015	0.534 ± 0.018	0.518 ± 0.013
	AUC	0.036 ± 0.008	0.038 ± 0.009	0.041 ± 0.010	0.033 ± 0.010	0.037 ± 0.008	0.027 ± 0.006	0.027 ± 0.005	0.039 ± 0.008	0.029 ± 0.004	0.035 ± 0.010	0.032 ± 0.006	0.027 ± 0.004	0.037 ± 0.010	0.031 ± 0.007	0.028 ± 0.005	0.028 ± 0.007	0.026 ± 0.006
	BAcc	0.036 ± 0.008	0.038 ± 0.009	0.041 ± 0.010	0.033 ± 0.010	0.037 ± 0.008	0.027 ± 0.006	0.027 ± 0.005	0.039 ± 0.008	0.029 ± 0.004	0.035 ± 0.011	0.031 ± 0.006	0.027 ± 0.004	0.037 ± 0.010	0.031 ± 0.007	0.027 ± 0.005	0.028 ± 0.007	0.026 ± 0.006
	Acc.1	0.068 ± 0.013	0.073 ± 0.015	0.080 ± 0.018	0.065 ± 0.016	0.069 ± 0.012	0.054 ± 0.011	0.052 ± 0.007	0.075 ± 0.012	0.057 ± 0.005	0.069 ± 0.015	0.062 ± 0.010	0.052 ± 0.007	0.071 ± 0.014	0.061 ± 0.011	0.052 ± 0.006	0.057 ± 0.012	0.053 ± 0.010
	Acc.2	0.008 ± 0.008	0.012 ± 0.007	0.015 ± 0.009	0.009 ± 0.007	0.013 ± 0.008	0.005 ± 0.007	0.003 ± 0.006	0.012 ± 0.006	0.005 ± 0.004	0.011 ± 0.009	0.000 ± 0.004	0.004 ± 0.004	0.017 ± 0.009	0.008 ± 0.007	0.001 ± 0.002	0.011 ± 0.008	0.003 ± 0.007
	AUC	0.563 ± 0.028	0.549 ± 0.022	0.554 ± 0.023	0.553 ± 0.028	0.540 ± 0.019	0.520 ± 0.018	0.507 ± 0.012	0.534 ± 0.015	0.519 ± 0.008	0.544 ± 0.024	0.503 ± 0.013	0.516 ± 0.011	0.591 ± 0.030	0.530 ± 0.014	0.505 ± 0.012	0.539 ± 0.022	0.533 ± 0.030
	BAcc	0.033 ± 0.008	0.036 ± 0.007	0.040 ± 0.009	0.034 ± 0.007	0.037 ± 0.008	0.030 ± 0.007	0.028 ± 0.006	0.037 ± 0.006	0.030 ± 0.004	0.036 ± 0.009	0.025 ± 0.004	0.029 ± 0.004	0.042 ± 0.009	0.033 ± 0.007	0.026 ± 0.002	0.036 ± 0.008	0.028 ± 0.007
	Acc.1	0.033 ± 0.008	0.036 ± 0.007	0.040 ± 0.009	0.034 ± 0.007	0.037 ± 0.008	0.031 ± 0.007	0.028 ± 0.006	0.037 ± 0.006	0.030 ± 0.004	0.036 ± 0.009	0.025 ± 0.004	0.029 ± 0.004	0.042 ± 0.009	0.033 ± 0.007	0.025 ± 0.002	0.036 ± 0.008	0.028 ± 0.007
	Acc.2	0.068 ± 0.011	0.069 ± 0.011	0.076 ± 0.013	0.067 ± 0.009	0.070 ± 0.012	0.058 ± 0.010	0.055 ± 0.009	0.071 ± 0.010	0.058 ± 0.005	0.070 ± 0.015	0.049 ± 0.006	0.056 ± 0.007	0.080 ± 0.015	0.064 ± 0.009	0.049 ± 0.004	0.071 ± 0.014	0.056 ± 0.010
Subject32_async	κ	0.020 ± 0.020	0.012 ± 0.008	0.017 ± 0.011	0.027 ± 0.030	0.015 ± 0.010	0.014 ± 0.014	0.008 ± 0.013	0.014 ± 0.007	0.003 ± 0.004	0.007 ± 0.007	0.007 ± 0.008	0.004 ± 0.006	0.033 ± 0.043	0.011 ± 0.011	0.003 ± 0.005	0.009 ± 0.010	0.003 ± 0.006
	AUC	0.619 ± 0.056	0.557 ± 0.023	0.568 ± 0.030	0.620 ± 0.069	0.557 ± 0.025	0.546 ± 0.032	0.541 ± 0.034	0.547 ± 0.019	0.515 ± 0.010	0.534 ± 0.022	0.550 ± 0.024	0.517 ± 0.017	0.623 ± 0.079	0.541 ± 0.025	0.520 ± 0.018	0.540 ± 0.023	0.538 ± 0.028
	BAcc	0.045 ± 0.020	0.036 ± 0.008	0.042 ± 0.010	0.051 ± 0.030	0.039 ± 0.010	0.039 ± 0.014	0.033 ± 0.013	0.039 ± 0.007	0.028 ± 0.004	0.032 ± 0.007	0.032 ± 0.007	0.029 ± 0.006	0.057 ± 0.042	0.036 ± 0.010	0.028 ± 0.005	0.034 ± 0.010	0.028 ± 0.006
	Acc.1	0.045 ± 0.020	0.036 ± 0.008	0.042 ± 0.010	0.051 ± 0.030	0.039 ± 0.010	0.039 ± 0.014	0.032 ± 0.013	0.039 ± 0.007	0.028 ± 0.004	0.032 ± 0.007	0.032 ± 0.007	0.029 ± 0.006	0.057 ± 0.042	0.036 ± 0.011	0.028 ± 0.005	0.034 ± 0.010	0.028 ± 0.006
	Acc.2	0.088 ± 0.032	0.072 ± 0.013	0.080 ± 0.018	0.095 ± 0.046	0.076 ± 0.016	0.075 ± 0.023	0.066 ± 0.021	0.074 ± 0.011	0.056 ± 0.006	0.063 ± 0.010	0.065 ± 0.012	0.057 ± 0.009	0.106 ± 0.069	0.070 ± 0.015	0.055 ± 0.008	0.064 ± 0.014	0.053 ± 0.009
Subject33_async	κ	0.014 ± 0.009	0.016 ± 0.008	0.019 ± 0.010	0.015 ± 0.010	0.013 ± 0.010	0.004 ± 0.006	0.002 ± 0.005	0.016 ± 0.007	0.004 ± 0.004	0.001 ± 0.007	0.002 ± 0.006	0.004 ± 0.004	0.014 ± 0.014	0.007 ± 0.008	0.001 ± 0.004	0.004 ± 0.008	0.002 ± 0.005
	AUC	0.596 ± 0.036	0.586 ± 0.032	0.572 ± 0.027	0.596 ± 0.037	0.575 ± 0.034	0.515 ± 0.019	0.505 ± 0.013	0.552 ± 0.021	0.516 ± 0.008	0.516 ± 0.020	0.519 ± 0.021	0.514 ± 0.013	0.575 ± 0.045	0.518 ± 0.016	0.511 ± 0.015	0.531 ± 0.023	0.538 ± 0.027

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	BAcc	0.038 ±0.009	0.041 ± 0.008	0.043 ± 0.010	0.040 ±0.010	0.038 ±0.010	0.029 ±0.006	0.027 ±0.005	0.041 ±0.007	0.029 ±0.004	0.026 ±0.007	0.027 ±0.005	0.029 ±0.004	0.038 ±0.013	0.032 ±0.007	0.026 ±0.004	0.029 ±0.007	0.027 ±0.005
	Acc.1	0.038 ±0.009	0.041 ±0.008	0.043 ± 0.010	0.040 ±0.010	0.038 ±0.010	0.028 ±0.006	0.026 ±0.005	0.041 ± 0.007	0.029 ±0.004	0.027 ±0.007	0.026 ±0.005	0.029 ±0.004	0.039 ±0.014	0.032 ±0.007	0.026 ±0.004	0.029 ±0.008	0.027 ±0.005
	Acc.2	0.075 ±0.014	0.078 ±0.011	0.081 ± 0.015	0.076 ±0.014	0.074 ±0.017	0.057 ±0.010	0.053 ±0.007	0.081 ± 0.012	0.056 ±0.006	0.055 ±0.010	0.054 ±0.007	0.057 ±0.006	0.074 ±0.021	0.061 ±0.013	0.052 ±0.004	0.060 ±0.013	0.052 ±0.008
	κ	0.009 ±0.005	0.009 ±0.006	0.012 ±0.007	0.032 ± 0.032	0.012 ±0.008	0.003 ±0.007	0.000 ±0.005	0.014 ±0.006	0.004 ±0.004	0.004 ±0.008	0.003 ±0.006	0.005 ±0.006	0.045 ± 0.040	0.009 ±0.006	-0.000 ±0.004	0.006 ±0.008	0.001 ±0.006
Subject34_async	AUC	0.557 ±0.020	0.543 ±0.019	0.545 ±0.020	0.622 ± 0.088	0.558 ±0.024	0.515 ±0.016	0.504 ±0.014	0.537 ±0.014	0.514 ±0.007	0.534 ±0.022	0.518 ±0.014	0.524 ±0.021	0.659 ± 0.078	0.522 ±0.015	0.504 ±0.012	0.531 ±0.020	0.518 ±0.016
	BAcc	0.034 ±0.005	0.034 ±0.006	0.036 ±0.007	0.057 ± 0.031	0.037 ±0.008	0.028 ±0.007	0.025 ±0.005	0.039 ±0.005	0.029 ±0.004	0.029 ±0.007	0.028 ±0.005	0.030 ±0.006	0.069 ± 0.039	0.034 ±0.006	0.025 ±0.003	0.031 ±0.008	0.026 ±0.006
	Acc.1	0.034 ±0.005	0.034 ±0.006	0.036 ±0.007	0.057 ± 0.031	0.037 ±0.008	0.028 ±0.007	0.025 ±0.005	0.039 ±0.006	0.029 ±0.004	0.030 ±0.007	0.028 ±0.005	0.030 ±0.006	0.070 ± 0.039	0.033 ±0.006	0.025 ±0.004	0.030 ±0.008	0.026 ±0.006
	Acc.2	0.063 ±0.007	0.066 ±0.009	0.069 ±0.010	0.105 ± 0.055	0.072 ±0.012	0.055 ±0.009	0.051 ±0.006	0.075 ±0.009	0.056 ±0.006	0.061 ±0.011	0.054 ±0.008	0.059 ±0.009	0.125 ± 0.059	0.064 ±0.010	0.050 ±0.006	0.059 ±0.010	0.051 ±0.007
Subject35_async	κ	0.013 ±0.006	0.014 ±0.008	0.018 ± 0.011	0.017 ±0.013	0.015 ±0.009	0.005 ±0.010	0.003 ±0.006	0.016 ±0.007	0.005 ±0.004	0.009 ±0.008	0.005 ±0.005	0.005 ±0.005	0.024 ± 0.022	0.009 ±0.007	0.002 ±0.005	0.007 ±0.008	0.002 ±0.006
	AUC	0.585 ±0.031	0.581 ±0.030	0.572 ±0.026	0.598 ± 0.043	0.566 ±0.029	0.527 ±0.025	0.509 ±0.018	0.553 ±0.022	0.520 ±0.009	0.544 ±0.021	0.530 ±0.024	0.521 ±0.016	0.617 ± 0.057	0.532 ±0.017	0.508 ±0.012	0.544 ±0.020	0.520 ±0.020
	BAcc	0.038 ±0.006	0.039 ±0.007	0.042 ± 0.011	0.041 ±0.012	0.040 ±0.009	0.030 ±0.009	0.028 ±0.006	0.041 ±0.007	0.030 ±0.004	0.033 ±0.008	0.030 ±0.005	0.030 ±0.005	0.049 ± 0.021	0.034 ±0.007	0.027 ±0.005	0.032 ±0.008	0.026 ±0.006
	Acc.1	0.038 ±0.006	0.039 ±0.007	0.042 ± 0.011	0.041 ±0.012	0.040 ±0.009	0.030 ±0.009	0.028 ±0.006	0.041 ±0.007	0.030 ±0.004	0.034 ±0.008	0.030 ±0.005	0.030 ±0.005	0.050 ± 0.022	0.035 ±0.007	0.027 ±0.005	0.032 ±0.008	0.026 ±0.006
	Acc.2	0.073 ±0.011	0.078 ±0.013	0.082 ± 0.017	0.080 ±0.021	0.076 ±0.014	0.060 ±0.015	0.055 ±0.008	0.079 ±0.013	0.058 ±0.006	0.067 ±0.012	0.060 ±0.008	0.059 ±0.008	0.092 ± 0.034	0.068 ±0.011	0.053 ±0.007	0.063 ±0.012	0.053 ±0.007
Subject3_async	κ	0.052 ± 0.106	0.016 ±0.016	0.025 ±0.042	0.068 ± 0.130	0.011 ±0.016	0.033 ±0.071	0.016 ±0.049	0.018 ±0.016	0.005 ±0.004	0.008 ±0.007	0.010 ±0.011	0.015 ±0.035	0.045 ±0.089	0.043 ±0.093	0.002 ±0.006	0.022 ±0.045	0.004 ±0.008
	AUC	0.646 ±0.109	0.565 ±0.045	0.571 ±0.059	0.661 ± 0.118	0.549 ±0.035	0.579 ±0.078	0.538 ±0.071	0.549 ±0.034	0.526 ±0.010	0.530 ±0.021	0.561 ±0.029	0.551 ±0.059	0.659 ± 0.095	0.585 ±0.084	0.510 ±0.017	0.579 ±0.064	0.523 ±0.023
	BAcc	0.076 ± 0.103	0.040 ±0.016	0.049 ±0.041	0.092 ± 0.127	0.035 ±0.016	0.057 ±0.069	0.041 ±0.047	0.043 ±0.015	0.030 ±0.004	0.033 ±0.007	0.035 ±0.011	0.035 ±0.034	0.069 ±0.087	0.067 ±0.091	0.027 ±0.006	0.046 ±0.044	0.028 ±0.008

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject4_sync	Acc.1	0.076	0.040	0.049	0.092	0.035	0.057	0.041	0.043	0.030	0.033	0.034	0.039	0.069	0.066	0.027	0.046	0.028
		± 0.103	± 0.016	± 0.041	± 0.127	± 0.016	± 0.069	± 0.047	± 0.015	± 0.004	± 0.007	± 0.011	± 0.034	± 0.086	± 0.090	± 0.006	± 0.044	± 0.008
	Acc.2	0.128	0.076	0.091	0.155	0.070	0.101	0.076	0.081	0.060	0.063	0.067	0.075	0.121	0.114	0.053	0.090	0.055
		± 0.132	± 0.026	± 0.060	± 0.162	± 0.024	± 0.100	± 0.073	± 0.025	± 0.007	± 0.010	± 0.018	± 0.052	± 0.118	± 0.120	± 0.008	± 0.065	± 0.011
	κ	0.005	0.008	0.012	0.005	0.005	0.008	0.002	0.010	0.002	0.006	0.010	0.001	0.013	0.003	0.001	0.004	0.003
		± 0.006	± 0.008	± 0.008	± 0.007	± 0.005	± 0.009	± 0.005	± 0.006	± 0.004	± 0.007	± 0.008	± 0.004	± 0.009	± 0.007	± 0.004	± 0.007	± 0.004
Subject4_async	AUC	0.540	0.544	0.547	0.527	0.525	0.525	0.508	0.526	0.509	0.531	0.545	0.511	0.575	0.516	0.506	0.526	0.519
		± 0.021	± 0.021	± 0.019	± 0.019	± 0.017	± 0.020	± 0.014	± 0.013	± 0.006	± 0.020	± 0.027	± 0.009	± 0.031	± 0.016	± 0.011	± 0.020	± 0.016
	BAcc	0.030	0.033	0.037	0.029	0.030	0.033	0.027	0.035	0.027	0.031	0.035	0.026	0.038	0.028	0.026	0.029	0.028
		± 0.006	± 0.007	± 0.008	± 0.007	± 0.005	± 0.009	± 0.005	± 0.006	± 0.004	± 0.007	± 0.008	± 0.004	± 0.009	± 0.007	± 0.004	± 0.007	± 0.004
	Acc.1	0.030	0.033	0.037	0.029	0.030	0.033	0.026	0.035	0.027	0.031	0.036	0.026	0.038	0.028	0.026	0.028	0.029
		± 0.006	± 0.007	± 0.008	± 0.007	± 0.005	± 0.009	± 0.005	± 0.006	± 0.004	± 0.007	± 0.009	± 0.004	± 0.009	± 0.007	± 0.004	± 0.007	± 0.004
Subject5_sync	Acc.2	0.060	0.065	0.070	0.057	0.060	0.063	0.053	0.067	0.052	0.061	0.068	0.053	0.074	0.055	0.053	0.056	0.056
		± 0.008	± 0.011	± 0.012	± 0.009	± 0.008	± 0.014	± 0.008	± 0.010	± 0.005	± 0.011	± 0.014	± 0.005	± 0.015	± 0.010	± 0.006	± 0.010	± 0.008
	κ	0.042	0.014	0.034	0.065	0.013	0.027	0.016	0.022	0.006	0.011	0.011	0.018	0.044	0.046	0.002	0.027	0.004
		± 0.078	± 0.011	± 0.046	± 0.116	± 0.014	± 0.052	± 0.042	± 0.018	± 0.004	± 0.009	± 0.011	± 0.038	± 0.082	± 0.090	± 0.006	± 0.035	± 0.010
	AUC	0.645	0.570	0.592	0.674	0.557	0.567	0.539	0.557	0.530	0.540	0.558	0.554	0.665	0.594	0.510	0.584	0.529
		± 0.090	± 0.037	± 0.060	± 0.106	± 0.035	± 0.068	± 0.064	± 0.034	± 0.013	± 0.023	± 0.025	± 0.058	± 0.092	± 0.084	± 0.017	± 0.054	± 0.025
Subject5_async	BAcc	0.066	0.039	0.058	0.088	0.038	0.051	0.040	0.047	0.031	0.036	0.036	0.043	0.068	0.069	0.027	0.051	0.029
		± 0.076	± 0.011	± 0.045	± 0.113	± 0.013	± 0.051	± 0.041	± 0.018	± 0.004	± 0.009	± 0.011	± 0.037	± 0.080	± 0.088	± 0.006	± 0.034	± 0.010
	Acc.1	0.066	0.039	0.058	0.088	0.038	0.051	0.040	0.047	0.031	0.036	0.036	0.043	0.068	0.070	0.027	0.053	0.029
		± 0.076	± 0.011	± 0.045	± 0.113	± 0.013	± 0.050	± 0.041	± 0.018	± 0.004	± 0.009	± 0.011	± 0.037	± 0.080	± 0.088	± 0.006	± 0.034	± 0.010
	Acc.2	0.112	0.075	0.106	0.146	0.074	0.094	0.075	0.087	0.062	0.068	0.069	0.078	0.121	0.119	0.053	0.096	0.059
		± 0.104	± 0.015	± 0.064	± 0.144	± 0.020	± 0.076	± 0.065	± 0.026	± 0.006	± 0.013	± 0.018	± 0.053	± 0.106	± 0.115	± 0.009	± 0.052	± 0.013
Subject6_async	κ	0.019	0.018	0.022	0.041	0.018	0.014	0.008	0.019	0.003	0.014	0.012	0.010	0.037	0.024	0.002	0.020	0.002
		± 0.013	± 0.011	± 0.011	± 0.050	± 0.010	± 0.016	± 0.012	± 0.009	± 0.003	± 0.010	± 0.008	± 0.014	± 0.051	± 0.020	± 0.003	± 0.017	± 0.005
	AUC	0.608	0.588	0.589	0.649	0.574	0.543	0.533	0.562	0.514	0.554	0.562	0.535	0.626	0.565	0.512	0.569	0.540
		± 0.040	± 0.033	± 0.033	± 0.083	± 0.028	± 0.040	± 0.034	± 0.023	± 0.008	± 0.025	± 0.027	± 0.036	± 0.089	± 0.042	± 0.009	± 0.042	± 0.028
	BAcc	0.043	0.042	0.046	0.065	0.043	0.038	0.033	0.043	0.028	0.039	0.037	0.034	0.061	0.048	0.027	0.045	0.027
		± 0.012	± 0.010	± 0.011	± 0.048	± 0.010	± 0.016	± 0.012	± 0.009	± 0.003	± 0.009	± 0.007	± 0.014	± 0.049	± 0.020	± 0.003	± 0.017	± 0.005
Subject6_sync	Acc.1	0.043	0.042	0.046	0.065	0.043	0.039	0.033	0.043	0.028	0.039	0.037	0.034	0.062	0.049	0.027	0.045	0.027
		± 0.012	± 0.010	± 0.011	± 0.048	± 0.010	± 0.016	± 0.012	± 0.009	± 0.002	± 0.009	± 0.007	± 0.014	± 0.049	± 0.020	± 0.003	± 0.017	± 0.004

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
	Acc.2	0.083 ±0.018	0.082 ±0.018	0.089 ±0.019	0.116 ± 0.068	0.079 ±0.015	0.074 ±0.027	0.065 ±0.020	0.083 ±0.014	0.056 ±0.004	0.072 ±0.014	0.074 ±0.011	0.067 ±0.022	0.112 ± 0.080	0.090 ±0.031	0.054 ±0.005	0.085 ±0.028	0.054 ±0.007
Subject7_async	κ	0.014 ±0.009	0.014 ±0.008	0.017 ±0.010	0.020 ± 0.015	0.016 ±0.009	0.003 ±0.006	0.001 ±0.006	0.014 ±0.007	0.004 ±0.003	0.009 ±0.007	0.010 ±0.007	0.005 ±0.005	0.028 ± 0.029	0.012 ±0.009	0.003 ±0.005	0.007 ±0.007	0.002 ±0.006
	AUC	0.590 ±0.033	0.570 ±0.028	0.580 ±0.029	0.612 ± 0.051	0.570 ±0.023	0.515 ±0.020	0.512 ±0.021	0.551 ±0.020	0.516 ±0.010	0.537 ±0.018	0.561 ±0.018	0.519 ±0.019	0.634 ± 0.070	0.542 ±0.023	0.521 ±0.020	0.532 ±0.019	0.543 ±0.034
	BAcc	0.039 ±0.009	0.038 ±0.007	0.041 ±0.010	0.044 ± 0.014	0.041 ±0.009	0.027 ±0.006	0.026 ±0.006	0.039 ±0.007	0.029 ±0.003	0.034 ±0.007	0.035 ±0.007	0.030 ±0.005	0.053 ± 0.029	0.037 ±0.009	0.027 ±0.005	0.031 ±0.007	0.027 ±0.006
	Acc.1	0.039 ±0.009	0.038 ±0.007	0.041 ±0.010	0.044 ± 0.014	0.041 ±0.009	0.027 ±0.006	0.026 ±0.006	0.039 ±0.007	0.029 ±0.003	0.034 ±0.007	0.036 ±0.007	0.030 ±0.005	0.052 ± 0.028	0.036 ±0.009	0.028 ±0.005	0.031 ±0.006	0.027 ±0.006
	Acc.2	0.074 ±0.015	0.074 ±0.012	0.082 ±0.017	0.085 ± 0.025	0.078 ±0.013	0.056 ±0.010	0.052 ±0.009	0.076 ±0.011	0.056 ±0.006	0.066 ±0.010	0.069 ±0.012	0.057 ±0.008	0.098 ± 0.047	0.071 ±0.016	0.055 ±0.008	0.063 ±0.013	0.055 ±0.010
Subject8_async	κ	0.006 ±0.006	0.011 ±0.009	0.009 ±0.006	0.037 ± 0.045	0.009 ±0.007	0.004 ±0.009	0.003 ±0.008	0.012 ±0.007	0.003 ±0.004	0.003 ±0.006	0.007 ±0.008	0.005 ±0.007	0.048 ± 0.048	0.006 ±0.007	0.000 ±0.003	0.002 ±0.007	0.002 ±0.006
	AUC	0.548 ±0.021	0.549 ±0.024	0.538 ±0.017	0.622 ± 0.092	0.542 ±0.019	0.516 ±0.020	0.510 ±0.016	0.534 ±0.018	0.514 ±0.007	0.523 ±0.017	0.522 ±0.018	0.524 ±0.022	0.656 ± 0.093	0.520 ±0.014	0.508 ±0.012	0.526 ±0.015	0.518 ±0.018
	BAcc	0.031 ±0.006	0.036 ±0.009	0.033 ±0.006	0.061 ± 0.044	0.034 ±0.007	0.029 ±0.008	0.028 ±0.008	0.037 ±0.007	0.028 ±0.004	0.027 ±0.006	0.032 ±0.008	0.030 ±0.007	0.071 ± 0.047	0.031 ±0.007	0.025 ±0.003	0.027 ±0.007	0.027 ±0.006
	Acc.1	0.031 ±0.006	0.036 ±0.009	0.033 ±0.006	0.061 ± 0.044	0.034 ±0.007	0.029 ±0.008	0.028 ±0.008	0.037 ±0.007	0.029 ±0.004	0.028 ±0.006	0.032 ±0.009	0.030 ±0.007	0.071 ± 0.047	0.031 ±0.007	0.025 ±0.003	0.027 ±0.007	0.027 ±0.006
	Acc.2	0.063 ±0.009	0.069 ±0.013	0.064 ±0.009	0.111 ± 0.071	0.066 ±0.010	0.057 ±0.014	0.055 ±0.009	0.071 ±0.012	0.055 ±0.005	0.057 ±0.010	0.061 ±0.012	0.059 ±0.011	0.126 ± 0.073	0.060 ±0.009	0.051 ±0.004	0.057 ±0.008	0.052 ±0.009
Subject9_async	κ	0.014 ±0.010	0.013 ±0.009	0.018 ±0.010	0.022 ± 0.015	0.017 ±0.010	0.006 ±0.010	-0.001 ±0.006	0.017 ±0.009	0.003 ±0.004	0.004 ±0.006	0.001 ±0.006	0.003 ±0.005	0.031 ± 0.035	0.002 ±0.005	0.001 ±0.003	0.014 ±0.010	0.001 ±0.007
	AUC	0.579 ±0.035	0.571 ±0.030	0.575 ±0.032	0.607 ± 0.045	0.573 ±0.029	0.525 ±0.023	0.505 ±0.014	0.554 ±0.022	0.522 ±0.010	0.519 ±0.015	0.504 ±0.019	0.515 ±0.014	0.625 ± 0.077	0.517 ±0.012	0.504 ±0.007	0.546 ±0.027	0.517 ±0.023
	BAcc	0.038 ±0.010	0.038 ±0.008	0.043 ±0.010	0.046 ± 0.014	0.042 ±0.010	0.031 ±0.010	0.024 ±0.005	0.042 ±0.009	0.028 ±0.004	0.029 ±0.005	0.026 ±0.005	0.028 ±0.005	0.055 ± 0.034	0.027 ±0.005	0.026 ±0.003	0.039 ±0.010	0.026 ±0.006
	Acc.1	0.038 ±0.010	0.038 ±0.008	0.043 ±0.010	0.046 ± 0.014	0.042 ±0.010	0.031 ±0.010	0.024 ±0.005	0.042 ±0.009	0.028 ±0.004	0.029 ±0.005	0.027 ±0.005	0.028 ±0.005	0.055 ± 0.034	0.029 ±0.005	0.029 ±0.004	0.039 ±0.010	0.026 ±0.006
	Acc.2	0.075 ±0.017	0.076 ±0.015	0.083 ±0.016	0.087 ± 0.022	0.079 ±0.015	0.060 ±0.014	0.051 ±0.009	0.081 ±0.014	0.057 ±0.006	0.058 ±0.008	0.052 ±0.007	0.055 ±0.008	0.100 ± 0.052	0.058 ±0.007	0.054 ±0.004	0.074 ±0.014	0.051 ±0.009

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F.3 LEAVE-ONE-OUT RESULTS

F.3.1 SYNCHRONOUS DECODING RESULTS

Leave-One-Out Zero-Shot Evaluation

Table 63: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.124	0.750	0.146	0.145	0.235
DeepConvnet	± 0.099	± 0.107	± 0.096	± 0.097	± 0.138
	0.160	0.767	0.181	0.179	0.280
EEGNet	± 0.122	± 0.134	± 0.119	± 0.117	± 0.166
	0.107	0.730	0.130	0.130	0.213
Conformer	± 0.098	± 0.115	± 0.096	± 0.099	± 0.133
	0.188	0.806	0.208	0.215	0.338
CTNet	± 0.153	± 0.136	± 0.149	± 0.159	± 0.215
	0.111	0.724	0.134	0.133	0.218
SSVEPDNN	± 0.088	± 0.111	± 0.086	± 0.086	± 0.123
	0.171	0.707	0.191	0.208	0.313
BIOT (f)	± 0.140	± 0.111	± 0.136	± 0.147	± 0.194
	0.156	0.776	0.177	0.180	0.305
BIOT (l)	± 0.125	± 0.130	± 0.122	± 0.127	± 0.194
	0.163	0.740	0.184	0.187	0.284
BENDR (f)	± 0.135	± 0.118	± 0.132	± 0.137	± 0.178
	0.015	0.573	0.039	0.037	0.072
BENDR (l)	± 0.021	± 0.073	± 0.020	± 0.023	± 0.037
	0.040	0.604	0.064	0.070	0.126
CBraMod (f)	± 0.019	± 0.037	± 0.019	± 0.025	± 0.038
	0.031	0.655	0.055	0.070	0.124
CBraMod (l)	± 0.019	± 0.080	± 0.019	± 0.027	± 0.046
	0.077	0.659	0.100	0.116	0.176
EEGPT (f)	± 0.071	± 0.082	± 0.070	± 0.083	± 0.102
	0.126	0.767	0.147	0.162	0.258
EEGPT (l)	± 0.095	± 0.108	± 0.092	± 0.110	± 0.147
	0.194	0.741	0.214	0.238	0.348
LaBraM (f)	± 0.146	± 0.104	± 0.142	± 0.155	± 0.182
	0.008	0.530	0.033	0.034	0.063
LaBraM (l)	± 0.014	± 0.027	± 0.014	± 0.018	± 0.028
	0.140	0.685	0.162	0.179	0.269
STEEGformer-s (f)	± 0.104	± 0.094	± 0.101	± 0.118	± 0.153
	0.012	0.602	0.036	0.031	0.061
STEEGformer-s (l)	± 0.014	± 0.045	± 0.014	± 0.017	± 0.029

Table 64: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
Subject1	κ	0.082 ± 0.061	0.082 ± 0.033	0.067 ± 0.056	0.128 ± 0.041	0.082 ± 0.028	0.082 ± 0.056	0.092 ± 0.067	0.096 ± 0.043	-0.006 ± 0.012	0.015 ± 0.029	0.031 ± 0.033	0.015 ± 0.029	0.036 ± 0.014	0.169 ± 0.047	-0.005 ± 0.011	0.149 ± 0.071	0.010 ± 0.029
	AUC	0.710 ± 0.067	0.706 ± 0.034	0.689 ± 0.070	0.791 ± 0.043	0.673 ± 0.039	0.654 ± 0.023	0.746 ± 0.041	0.661 ± 0.035	0.526 ± 0.039	0.564 ± 0.078	0.626 ± 0.054	0.610 ± 0.063	0.642 ± 0.027	0.722 ± 0.056	0.534 ± 0.037	0.706 ± 0.069	0.554 ± 0.043
	BAcc	0.105 ± 0.060	0.105 ± 0.033	0.090 ± 0.055	0.150 ± 0.040	0.105 ± 0.027	0.105 ± 0.054	0.115 ± 0.065	0.119 ± 0.042	0.019 ± 0.012	0.040 ± 0.029	0.055 ± 0.033	0.040 ± 0.029	0.060 ± 0.014	0.190 ± 0.045	0.020 ± 0.011	0.170 ± 0.069	0.035 ± 0.029
	Acc.1	0.105 ± 0.060	0.105 ± 0.033	0.090 ± 0.055	0.150 ± 0.040	0.105 ± 0.027	0.113 ± 0.061	0.081 ± 0.061	0.104 ± 0.036	0.012 ± 0.007	0.044 ± 0.056	0.044 ± 0.039	0.044 ± 0.056	0.047 ± 0.027	0.175 ± 0.026	0.022 ± 0.024	0.144 ± 0.055	0.041 ± 0.032
	Acc.2	0.180 ± 0.104	0.180 ± 0.021	0.170 ± 0.104	0.230 ± 0.045	0.175 ± 0.040	0.203 ± 0.062	0.206 ± 0.089	0.146 ± 0.033	0.027 ± 0.016	0.094 ± 0.080	0.084 ± 0.057	0.094 ± 0.055	0.081 ± 0.034	0.263 ± 0.102	0.037 ± 0.041	0.237 ± 0.120	0.050 ± 0.026
Subject10	κ	0.036 ± 0.023	0.031 ± 0.033	0.015 ± 0.014	0.010 ± 0.029	0.036 ± 0.014	0.021 ± 0.011	0.031 ± 0.042	0.051 ± 0.057	0.000 ± 0.018	0.041 ± 0.050	0.046 ± 0.028	0.036 ± 0.039	0.077 ± 0.033	0.015 ± 0.023	-0.005 ± 0.021	0.056 ± 0.021	0.031 ± 0.011
	AUC	0.635 ± 0.020	0.597 ± 0.028	0.596 ± 0.037	0.625 ± 0.050	0.583 ± 0.042	0.545 ± 0.027	0.574 ± 0.042	0.556 ± 0.034	0.561 ± 0.039	0.582 ± 0.034	0.680 ± 0.019	0.544 ± 0.026	0.668 ± 0.043	0.564 ± 0.021	0.556 ± 0.025	0.589 ± 0.016	0.607 ± 0.031
	BAcc	0.060 ± 0.022	0.055 ± 0.033	0.040 ± 0.014	0.035 ± 0.029	0.060 ± 0.014	0.045 ± 0.011	0.055 ± 0.041	0.075 ± 0.056	0.025 ± 0.018	0.065 ± 0.049	0.070 ± 0.027	0.060 ± 0.038	0.100 ± 0.032	0.040 ± 0.022	0.020 ± 0.021	0.080 ± 0.021	0.055 ± 0.011
	Acc.1	0.060 ± 0.022	0.055 ± 0.033	0.040 ± 0.014	0.035 ± 0.029	0.060 ± 0.014	0.056 ± 0.024	0.053 ± 0.048	0.075 ± 0.069	0.034 ± 0.034	0.087 ± 0.075	0.072 ± 0.039	0.075 ± 0.055	0.089 ± 0.028	0.053 ± 0.053	0.016 ± 0.011	0.125 ± 0.046	0.034 ± 0.007
	Acc.2	0.090 ± 0.034	0.100 ± 0.043	0.090 ± 0.052	0.100 ± 0.018	0.110 ± 0.022	0.106 ± 0.074	0.081 ± 0.050	0.109 ± 0.057	0.062 ± 0.044	0.181 ± 0.078	0.150 ± 0.045	0.087 ± 0.055	0.116 ± 0.022	0.166 ± 0.092	0.059 ± 0.034	0.169 ± 0.061	0.047 ± 0.010
Subject11	κ	0.056 ± 0.064	0.067 ± 0.039	0.030 ± 0.030	0.087 ± 0.068	0.021 ± 0.046	0.087 ± 0.023	0.097 ± 0.033	0.057 ± 0.028	0.026 ± 0.039	0.038 ± 0.047	0.021 ± 0.038	0.010 ± 0.029	0.046 ± 0.028	0.045 ± 0.043	-0.000 ± 0.026	0.082 ± 0.049	0.019 ± 0.041
	AUC	0.721 ± 0.055	0.713 ± 0.033	0.649 ± 0.030	0.762 ± 0.030	0.660 ± 0.025	0.605 ± 0.055	0.704 ± 0.042	0.612 ± 0.038	0.534 ± 0.050	0.550 ± 0.038	0.619 ± 0.074	0.551 ± 0.045	0.670 ± 0.049	0.642 ± 0.031	0.539 ± 0.040	0.613 ± 0.031	0.534 ± 0.053
	BAcc	0.080 ± 0.062	0.090 ± 0.038	0.054 ± 0.029	0.109 ± 0.067	0.045 ± 0.045	0.110 ± 0.022	0.120 ± 0.033	0.081 ± 0.027	0.050 ± 0.038	0.062 ± 0.046	0.045 ± 0.037	0.035 ± 0.029	0.070 ± 0.027	0.069 ± 0.042	0.025 ± 0.025	0.105 ± 0.048	0.044 ± 0.040
	Acc.1	0.080 ± 0.062	0.090 ± 0.038	0.059 ± 0.031	0.174 ± 0.087	0.045 ± 0.045	0.116 ± 0.045	0.141 ± 0.062	0.092 ± 0.041	0.043 ± 0.038	0.039 ± 0.029	0.075 ± 0.080	0.041 ± 0.032	0.062 ± 0.038	0.098 ± 0.052	0.016 ± 0.016	0.122 ± 0.062	0.033 ± 0.037
	Acc.2	0.160 ± 0.065	0.175 ± 0.059	0.136 ± 0.078	0.271 ± 0.130	0.115 ± 0.014	0.159 ± 0.040	0.178 ± 0.076	0.151 ± 0.062	0.059 ± 0.052	0.096 ± 0.065	0.116 ± 0.103	0.053 ± 0.038	0.116 ± 0.021	0.160 ± 0.042	0.031 ± 0.016	0.197 ± 0.051	0.037 ± 0.034

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject12	κ	0.026 \pm 0.031	-0.021 \pm 0.011	0.021 \pm 0.033	-0.015 \pm 0.014	0.000 \pm 0.000	0.010 \pm 0.014	0.015 \pm 0.029	-0.013 \pm 0.021	0.000 \pm 0.018	0.046 \pm 0.053	0.000 \pm 0.026	0.010 \pm 0.039	0.005 \pm 0.028	0.015 \pm 0.023	-0.000 \pm 0.018	-0.000 \pm 0.018	0.005 \pm 0.021
	AUC	0.571 \pm 0.043	0.526 \pm 0.057	0.547 \pm 0.068	0.576 \pm 0.068	0.535 \pm 0.021	0.544 \pm 0.039	0.530 \pm 0.027	0.511 \pm 0.050	0.508 \pm 0.051	0.574 \pm 0.072	0.660 \pm 0.044	0.564 \pm 0.054	0.588 \pm 0.045	0.582 \pm 0.030	0.499 \pm 0.036	0.514 \pm 0.025	0.501 \pm 0.037
	BAcc	0.050 \pm 0.031	0.005 \pm 0.011	0.045 \pm 0.033	0.010 \pm 0.014	0.025 \pm 0.000	0.035 \pm 0.014	0.040 \pm 0.029	0.013 \pm 0.021	0.025 \pm 0.018	0.070 \pm 0.051	0.025 \pm 0.025	0.035 \pm 0.038	0.030 \pm 0.027	0.040 \pm 0.022	0.025 \pm 0.018	0.025 \pm 0.018	0.030 \pm 0.021
	Acc.1	0.031 \pm 0.019	0.003 \pm 0.007	0.028 \pm 0.020	0.006 \pm 0.009	0.025 \pm 0.000	0.031 \pm 0.027	0.025 \pm 0.018	0.008 \pm 0.013	0.016 \pm 0.011	0.062 \pm 0.057	0.044 \pm 0.056	0.022 \pm 0.024	0.037 \pm 0.039	0.044 \pm 0.034	0.016 \pm 0.011	0.016 \pm 0.011	0.019 \pm 0.013
	Acc.2	0.078 \pm 0.027	0.037 \pm 0.018	0.069 \pm 0.034	0.022 \pm 0.009	0.070 \pm 0.048	0.059 \pm 0.032	0.041 \pm 0.026	0.036 \pm 0.043	0.037 \pm 0.024	0.094 \pm 0.049	0.100 \pm 0.070	0.047 \pm 0.040	0.056 \pm 0.032	0.091 \pm 0.061	0.034 \pm 0.020	0.037 \pm 0.018	0.041 \pm 0.018
Subject13	κ	0.179 \pm 0.098	0.200 \pm 0.069	0.128 \pm 0.036	0.226 \pm 0.118	0.138 \pm 0.072	0.138 \pm 0.047	0.077 \pm 0.026	0.191 \pm 0.073	0.018 \pm 0.032	0.046 \pm 0.033	0.000 \pm 0.018	0.054 \pm 0.035	0.164 \pm 0.034	0.144 \pm 0.063	-0.010 \pm 0.023	0.097 \pm 0.033	-0.003 \pm 0.021
	AUC	0.807 \pm 0.075	0.825 \pm 0.034	0.758 \pm 0.052	0.866 \pm 0.034	0.767 \pm 0.049	0.716 \pm 0.033	0.793 \pm 0.026	0.782 \pm 0.022	0.588 \pm 0.017	0.607 \pm 0.021	0.464 \pm 0.051	0.711 \pm 0.026	0.846 \pm 0.019	0.738 \pm 0.038	0.482 \pm 0.043	0.697 \pm 0.056	0.602 \pm 0.042
	BAcc	0.200 \pm 0.095	0.220 \pm 0.067	0.150 \pm 0.035	0.245 \pm 0.115	0.160 \pm 0.070	0.160 \pm 0.045	0.100 \pm 0.025	0.211 \pm 0.071	0.043 \pm 0.031	0.070 \pm 0.033	0.025 \pm 0.018	0.078 \pm 0.034	0.185 \pm 0.034	0.166 \pm 0.061	0.015 \pm 0.022	0.120 \pm 0.033	0.022 \pm 0.021
	Acc.1	0.200 \pm 0.095	0.220 \pm 0.067	0.150 \pm 0.035	0.245 \pm 0.115	0.160 \pm 0.070	0.166 \pm 0.055	0.119 \pm 0.042	0.205 \pm 0.062	0.047 \pm 0.041	0.109 \pm 0.044	0.016 \pm 0.011	0.090 \pm 0.055	0.209 \pm 0.048	0.203 \pm 0.081	0.028 \pm 0.039	0.188 \pm 0.040	0.020 \pm 0.026
	Acc.2	0.275 \pm 0.100	0.360 \pm 0.063	0.230 \pm 0.065	0.400 \pm 0.121	0.255 \pm 0.037	0.278 \pm 0.098	0.272 \pm 0.093	0.321 \pm 0.043	0.085 \pm 0.030	0.166 \pm 0.072	0.034 \pm 0.026	0.207 \pm 0.070	0.303 \pm 0.038	0.324 \pm 0.108	0.081 \pm 0.060	0.316 \pm 0.109	0.051 \pm 0.034
Subject14	κ	0.164 \pm 0.053	0.200 \pm 0.084	0.082 \pm 0.071	0.241 \pm 0.034	0.098 \pm 0.047	0.256 \pm 0.041	0.251 \pm 0.066	0.226 \pm 0.049	0.010 \pm 0.029	0.031 \pm 0.033	0.036 \pm 0.023	0.082 \pm 0.042	0.154 \pm 0.036	0.400 \pm 0.088	0.005 \pm 0.021	0.282 \pm 0.077	0.021 \pm 0.033
	AUC	0.840 \pm 0.055	0.835 \pm 0.028	0.792 \pm 0.029	0.894 \pm 0.028	0.735 \pm 0.050	0.816 \pm 0.022	0.885 \pm 0.012	0.846 \pm 0.035	0.562 \pm 0.021	0.678 \pm 0.053	0.728 \pm 0.047	0.737 \pm 0.042	0.833 \pm 0.025	0.907 \pm 0.013	0.560 \pm 0.031	0.791 \pm 0.050	0.657 \pm 0.054
	BAcc	0.185 \pm 0.052	0.220 \pm 0.082	0.105 \pm 0.069	0.260 \pm 0.034	0.121 \pm 0.046	0.275 \pm 0.040	0.270 \pm 0.065	0.245 \pm 0.048	0.035 \pm 0.029	0.055 \pm 0.033	0.060 \pm 0.022	0.105 \pm 0.041	0.175 \pm 0.035	0.415 \pm 0.086	0.030 \pm 0.021	0.300 \pm 0.075	0.045 \pm 0.033
	Acc.1	0.185 \pm 0.052	0.220 \pm 0.082	0.105 \pm 0.069	0.209 \pm 0.090	0.116 \pm 0.052	0.228 \pm 0.018	0.197 \pm 0.057	0.209 \pm 0.054	0.031 \pm 0.025	0.062 \pm 0.044	0.094 \pm 0.035	0.141 \pm 0.063	0.175 \pm 0.058	0.438 \pm 0.046	0.019 \pm 0.013	0.234 \pm 0.086	0.028 \pm 0.020
	Acc.2	0.275 \pm 0.085	0.355 \pm 0.091	0.230 \pm 0.045	0.322 \pm 0.083	0.194 \pm 0.082	0.397 \pm 0.051	0.356 \pm 0.062	0.366 \pm 0.075	0.056 \pm 0.028	0.147 \pm 0.067	0.194 \pm 0.083	0.228 \pm 0.107	0.287 \pm 0.071	0.669 \pm 0.040	0.044 \pm 0.013	0.366 \pm 0.095	0.047 \pm 0.025
Subject15	κ	0.144 \pm 0.050	0.144 \pm 0.053	0.072 \pm 0.093	0.179 \pm 0.073	0.169 \pm 0.088	0.179 \pm 0.057	0.195 \pm 0.090	0.174 \pm 0.058	-0.005 \pm 0.033	0.010 \pm 0.027	0.021 \pm 0.021	0.051 \pm 0.000	0.099 \pm 0.084	0.113 \pm 0.023	0.000 \pm 0.018	0.154 \pm 0.031	0.005 \pm 0.028

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		7858	7859	7860	7861	7862	7863	7864	7865	7866	7867	7868	7869	7870	7871	7872	7873	7874	7875	7876	7877	7878	7879	7880	7881	7882	7883	7884	7885	7886	
Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)													
	AUC	0.762 ±0.032	0.794 ±0.056	0.722 ±0.082	0.827 ± 0.066	0.769 ±0.120	0.709 ±0.045	0.832 ± 0.080	0.757 ±0.073	0.558 ±0.075	0.586 ±0.037	0.579 ±0.064	0.662 ±0.035	0.764 ±0.061	0.696 ±0.034	0.518 ±0.093	0.697 ±0.031	0.566 ±0.037													
	BAcc	0.165 ±0.049	0.165 ±0.052	0.095 ±0.091	0.200 ± 0.071	0.190 ±0.086	0.200 ± 0.056	0.215 ± 0.088	0.195 ±0.057	0.020 ±0.033	0.034 ±0.027	0.045 ±0.021	0.075 ±0.000	0.121 ±0.082	0.135 ±0.022	0.025 ±0.018	0.175 ±0.031	0.030 ±0.027													
	Acc.1	0.165 ±0.049	0.165 ±0.052	0.134 ±0.126	0.275 ± 0.080	0.190 ±0.086	0.219 ±0.044	0.237 ±0.089	0.234 ±0.080	0.022 ±0.030	0.045 ±0.048	0.084 ±0.050	0.084 ±0.039	0.150 ±0.107	0.188 ±0.048	0.025 ±0.024	0.241 ± 0.055	0.047 ±0.038													
	Acc.2	0.265 ±0.068	0.305 ±0.048	0.222 ±0.110	0.438 ± 0.134	0.295 ±0.116	0.281 ±0.090	0.394 ± 0.130	0.325 ±0.148	0.053 ±0.028	0.102 ±0.048	0.131 ±0.080	0.184 ±0.067	0.230 ±0.121	0.381 ±0.053	0.078 ±0.057	0.372 ±0.151	0.056 ±0.041													
	κ	0.067 ±0.092	0.185 ± 0.058	0.046 ±0.061	0.128 ±0.079	0.144 ±0.074	0.113 ±0.088	0.149 ±0.098	0.138 ±0.111	0.021 ±0.011	0.021 ±0.025	0.041 ±0.047	0.043 ±0.042	0.132 ±0.040	0.190 ± 0.047	-0.000 ±0.018	0.125 ±0.046	0.000 ±0.018													
	AUC	0.695 ±0.121	0.796 ±0.061	0.669 ±0.034	0.827 ± 0.039	0.695 ±0.087	0.694 ±0.030	0.802 ± 0.042	0.762 ±0.052	0.564 ±0.033	0.601 ±0.036	0.689 ±0.024	0.647 ±0.049	0.759 ±0.048	0.743 ±0.038	0.536 ±0.032	0.673 ±0.023	0.578 ±0.059													
	BAcc	0.090 ±0.089	0.205 ± 0.057	0.070 ±0.060	0.150 ±0.077	0.165 ±0.072	0.135 ±0.086	0.170 ±0.096	0.160 ±0.108	0.045 ±0.011	0.046 ±0.025	0.065 ±0.045	0.067 ±0.041	0.154 ±0.039	0.210 ± 0.045	0.025 ±0.018	0.147 ±0.045	0.025 ±0.018													
	Acc.1	0.090 ±0.089	0.205 ±0.057	0.070 ±0.060	0.150 ±0.077	0.165 ±0.072	0.159 ±0.144	0.209 ± 0.109	0.141 ±0.094	0.056 ±0.045	0.036 ±0.026	0.069 ±0.070	0.065 ±0.021	0.150 ±0.058	0.234 ± 0.118	0.016 ±0.011	0.109 ±0.041	0.016 ±0.011													
	Acc.2	0.165 ±0.128	0.295 ±0.099	0.145 ±0.033	0.315 ± 0.088	0.210 ±0.107	0.287 ±0.112	0.281 ±0.119	0.253 ±0.104	0.091 ±0.068	0.117 ±0.045	0.144 ±0.105	0.107 ±0.048	0.192 ±0.065	0.309 ± 0.122	0.037 ±0.014	0.205 ±0.051	0.037 ±0.026													
	κ	0.164 ±0.165	0.267 ± 0.067	0.128 ±0.031	0.251 ±0.061	0.190 ±0.133	0.231 ±0.079	0.267 ± 0.047	0.195 ±0.102	0.031 ±0.033	0.019 ±0.018	0.005 ±0.042	0.082 ±0.049	0.084 ±0.044	0.236 ±0.046	0.013 ±0.021	0.190 ±0.051	0.021 ±0.021													
	AUC	0.798 ±0.144	0.902 ± 0.015	0.786 ±0.026	0.902 ± 0.029	0.806 ±0.175	0.813 ±0.031	0.900 ±0.027	0.806 ±0.039	0.618 ±0.034	0.608 ±0.038	0.653 ±0.013	0.690 ±0.020	0.825 ±0.039	0.745 ±0.045	0.497 ±0.038	0.723 ±0.042	0.574 ±0.034													
	BAcc	0.185 ±0.161	0.285 ± 0.065	0.150 ±0.031	0.270 ± 0.060	0.210 ±0.129	0.250 ±0.077	0.285 ± 0.045	0.215 ±0.099	0.055 ±0.033	0.044 ±0.018	0.030 ±0.041	0.105 ±0.048	0.107 ±0.043	0.255 ±0.045	0.037 ±0.021	0.211 ±0.050	0.045 ±0.021													
	Acc.1	0.185 ±0.161	0.285 ±0.065	0.197 ±0.039	0.253 ±0.097	0.210 ±0.129	0.316 ± 0.115	0.300 ±0.042	0.219 ±0.138	0.062 ±0.040	0.045 ±0.029	0.028 ±0.042	0.122 ±0.056	0.127 ±0.059	0.366 ± 0.059	0.055 ±0.056	0.306 ±0.072	0.056 ±0.032													
	Acc.2	0.290 ±0.210	0.440 ±0.045	0.287 ±0.063	0.444 ±0.133	0.325 ±0.196	0.475 ± 0.051	0.509 ± 0.107	0.356 ±0.148	0.109 ±0.011	0.119 ±0.062	0.062 ±0.047	0.194 ±0.097	0.301 ±0.089	0.438 ±0.076	0.122 ±0.125	0.458 ±0.097	0.103 ±0.054													
	κ	0.087 ±0.053	0.097 ±0.058	0.062 ±0.039	0.149 ±0.088	0.092 ±0.053	0.282 ± 0.036	0.215 ±0.053	0.141 ±0.067	0.016 ±0.045	0.064 ±0.027	0.054 ±0.021	0.036 ±0.034	0.046 ±0.038	0.333 ± 0.069	0.005 ±0.033	0.169 ±0.029	0.010 ±0.014													
	AUC	0.809 ±0.035	0.766 ±0.036	0.732 ±0.046	0.870 ±0.012	0.734 ±0.073	0.809 ±0.043	0.904 ± 0.020	0.744 ±0.030	0.525 ±0.058	0.604 ±0.027	0.694 ±0.048	0.639 ±0.057	0.766 ±0.037	0.882 ± 0.031	0.563 ±0.033	0.742 ±0.049	0.630 ±0.038													
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
	BAcc	0.110 ±0.052	0.120 ±0.057	0.085 ±0.038	0.170 ±0.086	0.115 ±0.052	0.300 ± 0.035	0.235 ±0.052	0.163 ±0.065	0.041 ±0.044	0.087 ±0.027	0.078 ±0.021	0.060 ±0.034	0.070 ±0.037	0.350 ± 0.067	0.030 ±0.033	0.190 ±0.029	0.035 ±0.014
	Acc.1	0.110 ±0.052	0.120 ±0.057	0.085 ±0.038	0.170 ±0.086	0.115 ±0.052	0.319 ± 0.082	0.184 ±0.059	0.154 ±0.079	0.031 ±0.042	0.072 ±0.031	0.084 ±0.036	0.056 ±0.044	0.062 ±0.046	0.324 ± 0.051	0.019 ±0.020	0.138 ±0.030	0.022 ±0.009
	Acc.2	0.185 ±0.052	0.220 ±0.037	0.165 ±0.060	0.265 ±0.058	0.195 ±0.069	0.428 ± 0.107	0.334 ±0.082	0.246 ±0.122	0.045 ±0.043	0.121 ±0.044	0.143 ±0.063	0.113 ±0.055	0.097 ±0.045	0.498 ± 0.074	0.031 ±0.019	0.253 ±0.083	0.031 ±0.011
	κ	0.047 ±0.038	0.097 ±0.049	0.036 ±0.059	0.097 ±0.038	0.051 ±0.060	0.097 ±0.056	0.087 ±0.039	0.118 ± 0.047	0.031 ±0.021	0.041 ±0.050	0.026 ±0.018	0.051 ±0.051	0.108 ±0.038	0.164 ± 0.053	-0.010 ±0.014	0.082 ±0.028	0.015 ±0.023
	AUC	0.808 ±0.035	0.782 ±0.037	0.750 ±0.043	0.836 ± 0.022	0.784 ±0.052	0.639 ±0.054	0.718 ±0.041	0.733 ±0.043	0.641 ±0.040	0.641 ±0.048	0.775 ±0.006	0.633 ±0.043	0.824 ± 0.019	0.714 ±0.017	0.520 ±0.046	0.652 ±0.031	0.646 ±0.041
	BAcc	0.071 ±0.037	0.120 ±0.048	0.060 ±0.058	0.120 ±0.037	0.075 ±0.059	0.120 ±0.054	0.110 ±0.038	0.140 ± 0.045	0.055 ±0.021	0.065 ±0.049	0.050 ±0.018	0.075 ±0.050	0.130 ±0.037	0.185 ± 0.052	0.015 ±0.014	0.105 ±0.027	0.040 ±0.022
Subject19	Acc.1	0.066 ±0.038	0.120 ±0.048	0.060 ±0.058	0.122 ±0.082	0.075 ±0.059	0.122 ±0.064	0.125 ±0.035	0.134 ±0.051	0.053 ±0.038	0.050 ±0.043	0.059 ±0.028	0.084 ±0.063	0.147 ± 0.092	0.191 ± 0.036	0.009 ±0.009	0.075 ±0.026	0.025 ±0.014
	Acc.2	0.159 ±0.034	0.220 ±0.078	0.155 ±0.021	0.209 ±0.079	0.185 ±0.055	0.200 ±0.047	0.212 ±0.053	0.169 ±0.061	0.138 ±0.056	0.078 ±0.049	0.184 ±0.076	0.141 ±0.076	0.228 ± 0.084	0.278 ± 0.036	0.028 ±0.023	0.150 ±0.038	0.044 ±0.013
Subject2	κ	0.036 ±0.023	0.041 ±0.059	0.021 ±0.033	0.070 ±0.048	0.041 ±0.023	0.118 ± 0.069	0.067 ±0.064	0.005 ±0.011	0.000 ±0.026	0.031 ±0.046	0.026 ±0.018	0.026 ±0.031	0.036 ±0.053	0.073 ± 0.025	0.005 ±0.033	0.046 ±0.028	0.000 ±0.024
	AUC	0.641 ±0.041	0.620 ±0.065	0.694 ±0.040	0.732 ± 0.061	0.608 ±0.057	0.658 ±0.058	0.730 ± 0.059	0.592 ±0.044	0.459 ±0.058	0.607 ±0.057	0.632 ±0.035	0.582 ±0.046	0.657 ±0.046	0.656 ±0.032	0.510 ±0.043	0.634 ±0.053	0.578 ±0.047
	BAcc	0.060 ±0.022	0.065 ±0.058	0.045 ±0.033	0.093 ±0.047	0.065 ±0.022	0.140 ± 0.068	0.090 ±0.063	0.030 ±0.011	0.025 ±0.025	0.055 ±0.045	0.050 ±0.018	0.050 ±0.031	0.060 ±0.052	0.096 ± 0.025	0.030 ±0.033	0.070 ±0.027	0.025 ±0.024
	Acc.1	0.060 ±0.022	0.065 ±0.058	0.045 ±0.033	0.098 ±0.094	0.065 ±0.022	0.134 ± 0.042	0.094 ±0.083	0.047 ±0.029	0.034 ±0.036	0.078 ±0.062	0.078 ±0.011	0.069 ±0.034	0.075 ±0.062	0.169 ± 0.075	0.037 ±0.045	0.081 ±0.053	0.016 ±0.015
	Acc.2	0.120 ±0.033	0.100 ±0.066	0.105 ±0.037	0.154 ±0.094	0.120 ±0.048	0.203 ± 0.080	0.172 ±0.109	0.094 ±0.069	0.056 ±0.036	0.128 ±0.066	0.113 ±0.043	0.128 ±0.040	0.163 ±0.092	0.253 ± 0.112	0.069 ±0.026	0.138 ±0.111	0.034 ±0.007
	κ	0.082 ±0.028	0.144 ±0.039	0.077 ±0.041	0.154 ±0.085	0.138 ±0.047	0.272 ± 0.074	0.210 ±0.095	0.147 ±0.069	0.028 ±0.033	0.041 ±0.043	0.041 ±0.029	0.103 ±0.084	0.179 ±0.044	0.282 ± 0.057	-0.010 ±0.014	0.200 ±0.102	0.036 ±0.028
Subject20	AUC	0.767 ±0.047	0.799 ±0.030	0.724 ±0.065	0.850 ±0.023	0.768 ±0.024	0.797 ±0.041	0.860 ± 0.040	0.712 ±0.028	0.602 ±0.047	0.653 ±0.024	0.740 ±0.045	0.682 ±0.065	0.853 ± 0.032	0.803 ±0.035	0.543 ±0.066	0.734 ±0.023	0.654 ±0.039
	BAcc	0.105 ±0.027	0.165 ±0.038	0.100 ±0.040	0.175 ±0.083	0.160 ±0.045	0.290 ± 0.072	0.230 ±0.093	0.168 ±0.067	0.053 ±0.032	0.065 ±0.042	0.065 ±0.029	0.065 ±0.082	0.125 ±0.043	0.300 ± 0.056	0.015 ±0.014	0.220 ±0.099	0.060 ±0.027

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject20	Acc.1	0.105	0.165	0.081	0.170	0.160	0.331	0.228	0.145	0.043	0.084	0.078	0.125	0.219	0.328	0.009	0.212	0.037
		± 0.027	± 0.038	± 0.030	± 0.067	± 0.045	± 0.061	± 0.102	± 0.050	± 0.031	± 0.065	± 0.065	± 0.080	± 0.074	± 0.077	± 0.009	± 0.125	± 0.017
	Acc.2	0.160	0.270	0.106	0.277	0.230	0.428	0.388	0.257	0.076	0.147	0.141	0.221	0.344	0.450	0.053	0.281	0.047
		± 0.038	± 0.072	± 0.046	± 0.118	± 0.062	± 0.063	± 0.092	± 0.060	± 0.059	± 0.042	± 0.076	± 0.109	± 0.077	± 0.112	± 0.050	± 0.133	± 0.018
	κ	0.195	0.349	0.185	0.359	0.174	0.215	0.241	0.221	0.031	0.041	0.000	0.133	0.252	0.169	0.021	0.241	0.036
		± 0.165	± 0.067	± 0.064	± 0.101	± 0.033	± 0.067	± 0.059	± 0.043	± 0.038	± 0.043	± 0.000	± 0.033	± 0.055	± 0.023	± 0.021	± 0.053	± 0.029
Subject21	AUC	0.837	0.903	0.836	0.930	0.852	0.781	0.882	0.814	0.665	0.595	0.531	0.723	0.890	0.785	0.527	0.784	0.700
		± 0.094	± 0.028	± 0.036	± 0.024	± 0.032	± 0.057	± 0.020	± 0.039	± 0.045	± 0.041	± 0.056	± 0.023	± 0.024	± 0.045	± 0.032	± 0.018	± 0.043
	BAcc	0.215	0.365	0.205	0.375	0.195	0.235	0.260	0.240	0.055	0.065	0.025	0.155	0.271	0.190	0.045	0.260	0.060
		± 0.161	± 0.065	± 0.062	± 0.098	± 0.033	± 0.065	± 0.058	± 0.042	± 0.037	± 0.042	± 0.000	± 0.033	± 0.053	± 0.022	± 0.021	± 0.052	± 0.029
	Acc.1	0.198	0.312	0.156	0.422	0.195	0.222	0.228	0.244	0.034	0.078	0.025	0.181	0.224	0.175	0.056	0.237	0.078
		± 0.146	± 0.058	± 0.055	± 0.127	± 0.033	± 0.055	± 0.065	± 0.026	± 0.023	± 0.062	± 0.021	± 0.065	± 0.055	± 0.047	± 0.026	± 0.080	± 0.046
Subject22	Acc.2	0.279	0.409	0.234	0.588	0.340	0.350	0.391	0.356	0.062	0.113	0.075	0.212	0.354	0.287	0.066	0.366	0.138
		± 0.178	± 0.077	± 0.080	± 0.136	± 0.063	± 0.078	± 0.076	± 0.030	± 0.062	± 0.081	± 0.026	± 0.063	± 0.077	± 0.089	± 0.023	± 0.116	± 0.039
	κ	0.333	0.431	0.328	0.497	0.313	0.395	0.354	0.364	0.051	0.062	0.041	0.185	0.366	0.436	0.010	0.231	0.000
		± 0.252	± 0.038	± 0.093	± 0.095	± 0.049	± 0.023	± 0.078	± 0.097	± 0.057	± 0.053	± 0.034	± 0.095	± 0.059	± 0.036	± 0.029	± 0.096	± 0.018
	AUC	0.874	0.939	0.900	0.954	0.893	0.892	0.946	0.909	0.699	0.669	0.761	0.764	0.913	0.855	0.591	0.798	0.629
		± 0.112	± 0.018	± 0.046	± 0.014	± 0.040	± 0.042	± 0.018	± 0.029	± 0.059	± 0.055	± 0.052	± 0.043	± 0.022	± 0.026	± 0.048	± 0.058	± 0.050
Subject23	BAcc	0.350	0.445	0.345	0.510	0.330	0.410	0.370	0.380	0.075	0.085	0.065	0.205	0.382	0.450	0.035	0.250	0.025
		± 0.246	± 0.037	± 0.091	± 0.093	± 0.048	± 0.022	± 0.076	± 0.094	± 0.056	± 0.052	± 0.034	± 0.093	± 0.057	± 0.035	± 0.029	± 0.094	± 0.018
	Acc.1	0.350	0.445	0.345	0.510	0.330	0.425	0.391	0.378	0.066	0.100	0.106	0.259	0.460	0.516	0.050	0.344	0.013
		± 0.246	± 0.037	± 0.091	± 0.093	± 0.048	± 0.074	± 0.067	± 0.052	± 0.058	± 0.074	± 0.037	± 0.122	± 0.090	± 0.022	± 0.030	± 0.130	± 0.013
	Acc.2	0.475	0.585	0.480	0.685	0.455	0.653	0.616	0.553	0.125	0.172	0.200	0.359	0.560	0.609	0.113	0.487	0.059
		± 0.300	± 0.086	± 0.123	± 0.068	± 0.078	± 0.046	± 0.103	± 0.090	± 0.083	± 0.067	± 0.095	± 0.074	± 0.065	± 0.035	± 0.020	± 0.074	± 0.034
Subject24	κ	-0.000	0.021	0.021	0.013	0.005	0.021	0.010	0.015	0.000	0.031	0.046	0.036	0.067	0.015	0.000	-0.005	0.005
		± 0.026	± 0.028	± 0.033	± 0.031	± 0.021	± 0.033	± 0.043	± 0.014	± 0.031	± 0.028	± 0.021	± 0.050	± 0.023	± 0.029	± 0.018	± 0.021	± 0.021
	AUC	0.549	0.556	0.554	0.562	0.548	0.532	0.508	0.551	0.561	0.602	0.735	0.570	0.644	0.586	0.520	0.518	0.549
		± 0.026	± 0.032	± 0.050	± 0.041	± 0.049	± 0.043	± 0.034	± 0.022	± 0.026	± 0.053	± 0.039	± 0.054	± 0.029	± 0.024	± 0.037	± 0.023	± 0.036
	BAcc	0.025	0.045	0.045	0.037	0.030	0.045	0.035	0.040	0.025	0.055	0.070	0.060	0.090	0.040	0.025	0.020	0.030
		± 0.025	± 0.027	± 0.033	± 0.031	± 0.021	± 0.033	± 0.042	± 0.014	± 0.031	± 0.027	± 0.021	± 0.049	± 0.022	± 0.029	± 0.018	± 0.021	± 0.021
Subject25	Acc.1	0.025	0.045	0.045	0.034	0.030	0.028	0.031	0.034	0.034	0.062	0.119	0.075	0.122	0.062	0.044	0.031	0.037
		± 0.025	± 0.027	± 0.033	± 0.030	± 0.021	± 0.020	± 0.031	± 0.026	± 0.042	± 0.054	± 0.050	± 0.069	± 0.020	± 0.049	± 0.028	± 0.037	± 0.032

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject24	Acc.2	0.070 ±0.021	0.070 ±0.048	0.065 ±0.045	0.082 ±0.044	0.055 ±0.021	0.044 ±0.023	0.059 ±0.052	0.069 ±0.024	0.084 ±0.060	0.103 ±0.068	0.188 ±0.068	0.116 ±0.094	0.166 ±0.042	0.147 ±0.034	0.075 ±0.030	0.100 ±0.059	0.059 ±0.046
	κ	-0.000 ±0.018	0.041 ±0.039	0.021 ±0.042	0.021 ±0.038	0.026 ±0.000	0.015 ±0.014	0.005 ±0.028	0.000 ±0.031	0.010 ±0.043	0.010 ±0.030	0.031 ±0.021	0.036 ±0.043	0.056 ±0.049	0.077 ±0.044	0.031 ±0.028	0.026 ±0.031	0.022 ±0.034
	AUC	0.610 ±0.047	0.590 ±0.027	0.620 ±0.026	0.649 ±0.039	0.567 ±0.031	0.563 ±0.027	0.621 ±0.050	0.582 ±0.036	0.545 ±0.029	0.603 ±0.030	0.671 ±0.031	0.561 ±0.042	0.712 ±0.027	0.638 ±0.022	0.549 ±0.029	0.559 ±0.016	0.630 ±0.027
	BAcc	0.025 ±0.018	0.065 ±0.038	0.045 ±0.041	0.046 ±0.037	0.050 ±0.000	0.040 ±0.014	0.030 ±0.027	0.025 ±0.031	0.035 ±0.042	0.034 ±0.030	0.056 ±0.021	0.060 ±0.042	0.080 ±0.048	0.100 ±0.043	0.055 ±0.027	0.050 ±0.031	0.046 ±0.034
	Acc.1	0.025 ±0.018	0.065 ±0.038	0.045 ±0.041	0.029 ±0.023	0.050 ±0.000	0.034 ±0.026	0.019 ±0.017	0.025 ±0.039	0.022 ±0.026	0.057 ±0.067	0.061 ±0.036	0.075 ±0.045	0.087 ±0.063	0.091 ±0.026	0.031 ±0.022	0.031 ±0.019	0.029 ±0.021
	Acc.2	0.095 ±0.033	0.100 ±0.050	0.095 ±0.045	0.062 ±0.043	0.095 ±0.011	0.075 ±0.047	0.053 ±0.030	0.069 ±0.070	0.050 ±0.028	0.094 ±0.060	0.090 ±0.044	0.125 ±0.080	0.169 ±0.081	0.141 ±0.040	0.044 ±0.020	0.056 ±0.021	0.054 ±0.018
	κ	-0.021 ±0.011	-0.026 ±0.000	-0.021 ±0.011	-0.010 ±0.014	0.031 ±0.021	0.118 ±0.039	0.041 ±0.043	0.103 ±0.041	-0.021 ±0.011	0.015 ±0.023	0.010 ±0.014	0.000 ±0.044	0.010 ±0.023	0.108 ±0.042	-0.000 ±0.018	0.149 ±0.028	0.015 ±0.053
	AUC	0.499 ±0.060	0.408 ±0.034	0.411 ±0.022	0.406 ±0.015	0.626 ±0.063	0.688 ±0.051	0.612 ±0.074	0.726 ±0.029	0.346 ±0.033	0.517 ±0.040	0.481 ±0.026	0.558 ±0.039	0.465 ±0.018	0.707 ±0.040	0.539 ±0.058	0.719 ±0.036	0.673 ±0.041
	BAcc	0.005 ±0.011	0.000 ±0.000	0.005 ±0.011	0.015 ±0.014	0.055 ±0.021	0.140 ±0.038	0.065 ±0.042	0.125 ±0.040	0.005 ±0.011	0.040 ±0.022	0.035 ±0.014	0.025 ±0.043	0.035 ±0.022	0.130 ±0.041	0.025 ±0.018	0.170 ±0.027	0.040 ±0.052
	Acc.1	0.005 ±0.011	0.000 ±0.000	0.005 ±0.011	0.019 ±0.026	0.055 ±0.021	0.172 ±0.044	0.106 ±0.065	0.144 ±0.056	0.003 ±0.007	0.034 ±0.028	0.050 ±0.032	0.016 ±0.027	0.031 ±0.029	0.128 ±0.078	0.044 ±0.034	0.219 ±0.088	0.053 ±0.093
	Acc.2	0.020 ±0.021	0.005 ±0.011	0.015 ±0.014	0.019 ±0.026	0.095 ±0.033	0.234 ±0.070	0.125 ±0.066	0.231 ±0.098	0.009 ±0.014	0.056 ±0.032	0.081 ±0.060	0.047 ±0.033	0.062 ±0.052	0.287 ±0.053	0.119 ±0.057	0.300 ±0.078	0.109 ±0.076
Subject26	κ	0.067 ±0.023	0.108 ±0.056	0.072 ±0.049	0.149 ±0.046	0.036 ±0.023	0.149 ±0.117	0.149 ±0.086	0.060 ±0.021	0.010 ±0.027	0.029 ±0.018	0.029 ±0.032	0.043 ±0.042	0.067 ±0.043	0.107 ±0.052	-0.010 ±0.014	0.059 ±0.044	0.021 ±0.011
	AUC	0.711 ±0.045	0.717 ±0.019	0.711 ±0.018	0.791 ±0.025	0.672 ±0.040	0.713 ±0.063	0.763 ±0.052	0.678 ±0.042	0.551 ±0.040	0.618 ±0.029	0.715 ±0.029	0.636 ±0.054	0.728 ±0.044	0.662 ±0.033	0.523 ±0.035	0.618 ±0.036	0.565 ±0.013
	BAcc	0.090 ±0.022	0.130 ±0.054	0.095 ±0.048	0.170 ±0.045	0.060 ±0.022	0.170 ±0.114	0.170 ±0.084	0.083 ±0.020	0.034 ±0.027	0.054 ±0.017	0.053 ±0.031	0.067 ±0.041	0.090 ±0.042	0.129 ±0.051	0.015 ±0.014	0.082 ±0.043	0.045 ±0.011
	Acc.1	0.090 ±0.022	0.130 ±0.054	0.095 ±0.048	0.170 ±0.045	0.060 ±0.022	0.191 ±0.121	0.247 ±0.177	0.099 ±0.032	0.045 ±0.038	0.060 ±0.037	0.068 ±0.051	0.073 ±0.063	0.131 ±0.066	0.143 ±0.086	0.028 ±0.032	0.106 ±0.075	0.047 ±0.022
	Acc.2	0.185 ±0.042	0.190 ±0.063	0.165 ±0.068	0.305 ±0.082	0.145 ±0.041	0.312 ±0.082	0.353 ±0.151	0.182 ±0.082	0.078 ±0.065	0.114 ±0.032	0.139 ±0.056	0.115 ±0.065	0.225 ±0.116	0.232 ±0.056	0.053 ±0.021	0.153 ±0.086	0.072 ±0.042

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(j)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject27	κ	0.021 ± 0.021	0.041 ± 0.029	0.036 ± 0.014	0.021 ± 0.019	0.015 ± 0.029	0.000 ± 0.018	0.036 ± 0.023	0.058 ± 0.045	0.000 ± 0.018	0.048 ± 0.058	0.030 ± 0.030	0.005 ± 0.011	0.031 ± 0.033	0.061 ± 0.027	0.015 ± 0.034	0.046 ± 0.031	-0.026 ± 0.000
	AUC	0.604 ± 0.032	0.630 ± 0.028	0.605 ± 0.080	0.649 ± 0.050	0.557 ± 0.040	0.568 ± 0.024	0.638 ± 0.057	0.605 ± 0.040	0.490 ± 0.056	0.548 ± 0.042	0.638 ± 0.065	0.560 ± 0.038	0.625 ± 0.035	0.632 ± 0.019	0.522 ± 0.030	0.554 ± 0.032	0.546 ± 0.029
	BAcc	0.045 ± 0.021	0.065 ± 0.029	0.060 ± 0.014	0.046 ± 0.019	0.040 ± 0.029	0.025 ± 0.018	0.060 ± 0.022	0.081 ± 0.044	0.025 ± 0.018	0.072 ± 0.057	0.054 ± 0.029	0.030 ± 0.011	0.055 ± 0.033	0.084 ± 0.027	0.040 ± 0.034	0.069 ± 0.030	0.000 ± 0.000
	Acc.1	0.045 ± 0.021	0.065 ± 0.029	0.060 ± 0.014	0.044 ± 0.041	0.040 ± 0.029	0.016 ± 0.011	0.047 ± 0.029	0.062 ± 0.022	0.026 ± 0.027	0.082 ± 0.068	0.042 ± 0.035	0.037 ± 0.024	0.062 ± 0.044	0.082 ± 0.042	0.062 ± 0.057	0.080 ± 0.048	0.000 ± 0.000
	Acc.2	0.080 ± 0.011	0.150 ± 0.035	0.090 ± 0.029	0.099 ± 0.064	0.060 ± 0.038	0.087 ± 0.053	0.069 ± 0.042	0.111 ± 0.054	0.047 ± 0.029	0.116 ± 0.046	0.076 ± 0.044	0.072 ± 0.032	0.131 ± 0.042	0.156 ± 0.066	0.097 ± 0.066	0.120 ± 0.048	0.025 ± 0.020
Subject28	κ	0.092 ± 0.064	0.072 ± 0.053	0.144 ± 0.047	0.113 ± 0.056	0.072 ± 0.033	0.077 ± 0.048	0.056 ± 0.033	0.051 ± 0.018	0.072 ± 0.042	0.018 ± 0.035	0.022 ± 0.035	0.010 ± 0.023	0.067 ± 0.064	0.128 ± 0.031	0.015 ± 0.023	0.059 ± 0.044	0.035 ± 0.019
	AUC	0.771 ± 0.070	0.754 ± 0.022	0.739 ± 0.042	0.784 ± 0.041	0.687 ± 0.030	0.603 ± 0.049	0.700 ± 0.022	0.678 ± 0.075	0.629 ± 0.034	0.602 ± 0.045	0.545 ± 0.034	0.586 ± 0.059	0.725 ± 0.043	0.699 ± 0.044	0.527 ± 0.054	0.621 ± 0.040	0.633 ± 0.050
	BAcc	0.115 ± 0.063	0.095 ± 0.051	0.165 ± 0.045	0.135 ± 0.055	0.095 ± 0.033	0.100 ± 0.047	0.080 ± 0.033	0.075 ± 0.018	0.095 ± 0.041	0.043 ± 0.035	0.047 ± 0.034	0.035 ± 0.022	0.090 ± 0.063	0.150 ± 0.031	0.040 ± 0.022	0.082 ± 0.043	0.059 ± 0.019
	Acc.1	0.115 ± 0.063	0.095 ± 0.051	0.176 ± 0.049	0.122 ± 0.063	0.095 ± 0.033	0.109 ± 0.080	0.078 ± 0.062	0.094 ± 0.067	0.097 ± 0.057	0.033 ± 0.029	0.059 ± 0.042	0.031 ± 0.029	0.075 ± 0.060	0.169 ± 0.026	0.044 ± 0.034	0.078 ± 0.045	0.037 ± 0.012
	Acc.2	0.210 ± 0.119	0.160 ± 0.099	0.234 ± 0.053	0.203 ± 0.097	0.155 ± 0.021	0.153 ± 0.108	0.206 ± 0.106	0.175 ± 0.127	0.125 ± 0.053	0.060 ± 0.039	0.076 ± 0.029	0.069 ± 0.048	0.194 ± 0.074	0.234 ± 0.057	0.091 ± 0.045	0.158 ± 0.091	0.062 ± 0.026
Subject29	κ	0.000 ± 0.018	0.031 ± 0.021	0.026 ± 0.048	0.022 ± 0.027	0.031 ± 0.011	0.026 ± 0.041	0.015 ± 0.039	0.026 ± 0.027	-0.003 ± 0.009	0.067 ± 0.023	0.051 ± 0.036	0.015 ± 0.014	0.013 ± 0.021	0.046 ± 0.049	0.005 ± 0.033	0.015 ± 0.014	0.015 ± 0.030
	AUC	0.572 ± 0.014	0.595 ± 0.035	0.583 ± 0.043	0.563 ± 0.034	0.574 ± 0.048	0.575 ± 0.030	0.538 ± 0.059	0.594 ± 0.041	0.495 ± 0.073	0.596 ± 0.047	0.670 ± 0.039	0.579 ± 0.026	0.617 ± 0.056	0.574 ± 0.035	0.494 ± 0.057	0.545 ± 0.025	0.582 ± 0.031
	BAcc	0.025 ± 0.018	0.055 ± 0.021	0.050 ± 0.047	0.046 ± 0.027	0.055 ± 0.011	0.050 ± 0.040	0.040 ± 0.038	0.050 ± 0.027	0.022 ± 0.009	0.090 ± 0.022	0.075 ± 0.035	0.040 ± 0.014	0.037 ± 0.021	0.070 ± 0.048	0.030 ± 0.033	0.040 ± 0.014	0.040 ± 0.029
	Acc.1	0.025 ± 0.018	0.055 ± 0.021	0.050 ± 0.047	0.049 ± 0.032	0.055 ± 0.011	0.087 ± 0.074	0.034 ± 0.043	0.049 ± 0.046	0.014 ± 0.006	0.084 ± 0.036	0.066 ± 0.061	0.053 ± 0.028	0.062 ± 0.046	0.072 ± 0.054	0.028 ± 0.028	0.062 ± 0.043	0.044 ± 0.045
	Acc.2	0.065 ± 0.029	0.120 ± 0.065	0.095 ± 0.065	0.080 ± 0.029	0.105 ± 0.067	0.203 ± 0.046	0.062 ± 0.049	0.076 ± 0.039	0.049 ± 0.052	0.125 ± 0.058	0.141 ± 0.077	0.097 ± 0.055	0.120 ± 0.031	0.144 ± 0.050	0.053 ± 0.045	0.128 ± 0.056	0.073 ± 0.059
Subject3	κ	0.267 ± 0.257	0.333 ± 0.089	0.308 ± 0.044	0.469 ± 0.044	0.287 ± 0.084	0.549 ± 0.113	0.415 ± 0.071	0.522 ± 0.080	0.040 ± 0.037	0.032 ± 0.023	0.064 ± 0.019	0.241 ± 0.047	0.272 ± 0.047	0.546 ± 0.075	0.010 ± 0.014	0.390 ± 0.069	0.033 ± 0.041

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject30	AUC	0.831 ±0.180	0.950 ±0.030	0.923 ±0.018	0.974 ±0.008	0.914 ±0.025	0.912 ±0.040	0.969 ± 0.016	0.952 ±0.017	0.615 ±0.036	0.641 ±0.036	0.726 ±0.027	0.850 ±0.025	0.921 ±0.031	0.949 ±0.024	0.540 ±0.033	0.875 ±0.023	0.599 ±0.050
		0.285 ±0.250	0.350 ±0.087	0.325 ±0.043	0.482 ±0.043	0.305 ±0.082	0.560 ±0.110	0.430 ±0.069	0.534 ±0.078	0.064 ±0.036	0.056 ±0.022	0.088 ±0.019	0.260 ±0.045	0.290 ±0.045	0.557 ± 0.073	0.035 ±0.014	0.405 ±0.067	0.057 ±0.040
	Acc.1	0.285 ±0.250	0.350 ±0.087	0.325 ±0.043	0.541 ±0.079	0.305 ±0.082	0.556 ±0.103	0.419 ±0.102	0.574 ± 0.077	0.045 ±0.025	0.076 ±0.040	0.102 ±0.034	0.322 ±0.039	0.341 ±0.066	0.629 ±0.060	0.022 ±0.009	0.487 ±0.074	0.076 ±0.065
		0.425 ±0.375	0.570 ±0.094	0.480 ±0.065	0.765 ± 0.102	0.515 ±0.126	0.747 ±0.089	0.759 ±0.111	0.723 ±0.071	0.087 ±0.049	0.178 ±0.043	0.172 ±0.075	0.450 ±0.034	0.534 ±0.059	0.777 ±0.040	0.034 ±0.013	0.672 ±0.085	0.118 ±0.085
	κ	0.082 ±0.058	0.103 ±0.031	0.077 ±0.063	0.133 ±0.046	0.082 ±0.061	0.179 ±0.036	0.113 ±0.056	0.118 ±0.107	0.010 ±0.029	0.031 ±0.028	0.046 ±0.033	0.067 ±0.050	0.067 ±0.050	0.169 ± 0.039	-0.010 ±0.023	0.056 ±0.033	0.015 ±0.022
		0.713 ±0.057	0.750 ±0.040	0.710 ±0.031	0.782 ± 0.045	0.686 ±0.033	0.719 ±0.057	0.787 ±0.034	0.732 ±0.045	0.556 ±0.043	0.612 ±0.043	0.699 ±0.051	0.654 ±0.060	0.757 ±0.018	0.754 ±0.038	0.526 ±0.044	0.600 ±0.065	0.575 ±0.029
	BAcc	0.105 ±0.057	0.125 ±0.031	0.100 ±0.061	0.155 ±0.045	0.105 ±0.060	0.200 ±0.035	0.135 ±0.055	0.140 ±0.104	0.035 ±0.029	0.055 ±0.027	0.070 ±0.033	0.090 ±0.049	0.090 ±0.049	0.190 ± 0.038	0.015 ±0.022	0.080 ±0.033	0.040 ±0.021
		0.105 ±0.057	0.125 ±0.031	0.100 ±0.061	0.155 ±0.045	0.105 ±0.060	0.247 ±0.088	0.122 ±0.037	0.134 ±0.107	0.022 ±0.018	0.072 ±0.034	0.091 ±0.064	0.094 ±0.064	0.113 ±0.086	0.212 ± 0.045	0.019 ±0.034	0.087 ±0.049	0.044 ±0.051
	Acc.2	0.190 ±0.038	0.180 ±0.021	0.205 ±0.057	0.265 ±0.014	0.185 ±0.055	0.331 ±0.079	0.234 ±0.062	0.191 ±0.106	0.075 ±0.049	0.144 ±0.043	0.150 ±0.077	0.138 ±0.082	0.209 ±0.109	0.316 ± 0.062	0.041 ±0.028	0.125 ±0.047	0.078 ±0.068
Subject31	κ	0.133 ± 0.122	0.118 ±0.062	0.087 ±0.059	0.149 ±0.042	0.031 ±0.042	0.036 ±0.043	0.056 ±0.033	0.092 ±0.043	-0.005 ±0.011	0.033 ±0.029	0.003 ±0.009	0.051 ±0.026	0.124 ±0.057	0.123 ±0.058	-0.005 ±0.011	0.073 ±0.038	0.010 ±0.019
		0.775 ± 0.072	0.762 ±0.030	0.727 ±0.051	0.804 ±0.042	0.675 ±0.048	0.606 ±0.045	0.670 ±0.066	0.689 ±0.065	0.534 ±0.015	0.590 ±0.057	0.496 ±0.030	0.669 ±0.038	0.751 ±0.053	0.720 ±0.045	0.503 ±0.063	0.634 ±0.054	0.618 ±0.059
	BAcc	0.155 ± 0.119	0.140 ±0.060	0.110 ±0.058	0.170 ±0.041	0.055 ±0.041	0.060 ±0.042	0.080 ±0.033	0.115 ±0.042	0.020 ±0.011	0.057 ±0.028	0.028 ±0.009	0.075 ±0.025	0.146 ±0.056	0.145 ±0.057	0.020 ±0.011	0.096 ±0.037	0.034 ±0.019
		0.155 ± 0.119	0.140 ±0.060	0.106 ±0.055	0.191 ±0.057	0.055 ±0.041	0.066 ±0.062	0.097 ±0.051	0.109 ±0.053	0.013 ±0.007	0.062 ±0.043	0.029 ±0.026	0.084 ±0.032	0.122 ±0.064	0.147 ±0.074	0.022 ±0.024	0.122 ±0.077	0.021 ±0.012
	Acc.2	0.255 ± 0.157	0.245 ±0.060	0.166 ±0.072	0.316 ±0.106	0.110 ±0.038	0.131 ±0.091	0.134 ±0.056	0.191 ±0.026	0.034 ±0.023	0.094 ±0.044	0.057 ±0.031	0.156 ±0.047	0.198 ±0.057	0.191 ±0.095	0.047 ±0.025	0.201 ±0.144	0.043 ±0.027
Subject32	AUC	0.169 ±0.165	0.395 ±0.139	0.328 ±0.038	0.513 ±0.051	0.251 ±0.066	0.462 ±0.079	0.395 ±0.074	0.395 ±0.090	0.021 ±0.033	0.036 ±0.056	0.067 ±0.014	0.210 ±0.073	0.297 ±0.100	0.503 ± 0.142	0.036 ±0.014	0.293 ±0.074	0.000 ±0.026
		0.830 ±0.125	0.951 ±0.025	0.905 ±0.022	0.977 ±0.003	0.903 ±0.055	0.921 ±0.029	0.964 ± 0.005	0.923 ±0.016	0.619 ±0.026	0.610 ±0.038	0.734 ±0.063	0.803 ±0.048	0.906 ±0.018	0.931 ±0.030	0.574 ±0.037	0.816 ±0.019	0.629 ±0.056

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	BAcc	0.190 ±0.161	0.410 ±0.135	0.345 ±0.037	0.525 ±0.050	0.270 ±0.065	0.475 ±0.077	0.410 ±0.072	0.410 ±0.088	0.045 ±0.033	0.060 ±0.055	0.090 ±0.014	0.230 ±0.072	0.315 ±0.098	0.515 ± 0.139	0.060 ±0.014	0.311 ±0.072	0.025 ±0.025
	Acc.1	0.190 ±0.161	0.410 ±0.135	0.384 ±0.092	0.553 ± 0.057	0.270 ±0.065	0.541 ±0.065	0.397 ±0.089	0.481 ±0.071	0.028 ±0.020	0.066 ±0.046	0.113 ±0.046	0.275 ±0.116	0.403 ±0.145	0.566 ±0.177	0.075 ±0.017	0.402 ±0.084	0.025 ±0.026
	Acc.2	0.285 ±0.208	0.595 ±0.161	0.519 ±0.068	0.741 ± 0.075	0.395 ±0.076	0.772 ±0.057	0.625 ±0.053	0.634 ±0.085	0.044 ±0.020	0.134 ±0.041	0.225 ±0.036	0.331 ±0.115	0.559 ±0.078	0.734 ±0.127	0.106 ±0.040	0.496 ±0.052	0.050 ±0.030
	κ	0.149 ±0.137	0.333 ±0.087	0.123 ±0.084	0.267 ± 0.043	0.169 ±0.029	0.195 ±0.050	0.159 ±0.080	0.262 ±0.071	0.015 ±0.014	0.082 ±0.046	0.026 ±0.026	0.082 ±0.028	0.138 ±0.059	0.205 ±0.060	-0.000 ±0.018	0.246 ±0.067	0.010 ±0.014
Subject33	AUC	0.783 ±0.101	0.908 ± 0.014	0.805 ±0.035	0.923 ±0.016	0.828 ±0.038	0.751 ±0.045	0.847 ±0.037	0.842 ±0.068	0.686 ±0.038	0.632 ±0.035	0.710 ±0.048	0.668 ±0.050	0.838 ±0.027	0.819 ±0.032	0.492 ±0.008	0.765 ±0.029	0.667 ±0.046
	BAcc	0.170 ±0.134	0.350 ±0.085	0.145 ±0.082	0.285 ± 0.042	0.190 ±0.029	0.215 ±0.049	0.180 ±0.078	0.280 ±0.069	0.040 ±0.014	0.105 ±0.045	0.050 ±0.025	0.105 ±0.027	0.160 ±0.058	0.225 ±0.059	0.025 ±0.018	0.265 ±0.065	0.035 ±0.014
	Acc.1	0.170 ±0.134	0.350 ±0.085	0.100 ±0.070	0.291 ± 0.076	0.190 ±0.029	0.181 ±0.059	0.169 ±0.073	0.287 ±0.062	0.034 ±0.026	0.075 ±0.047	0.059 ±0.049	0.103 ±0.048	0.138 ±0.051	0.225 ±0.063	0.025 ±0.024	0.241 ±0.065	0.022 ±0.009
	Acc.2	0.260 ±0.197	0.510 ±0.088	0.188 ±0.080	0.478 ± 0.065	0.310 ±0.022	0.319 ±0.092	0.306 ±0.061	0.372 ±0.091	0.059 ±0.042	0.138 ±0.030	0.084 ±0.059	0.147 ±0.046	0.237 ±0.104	0.334 ±0.056	0.044 ±0.034	0.331 ±0.113	0.047 ±0.011
Subject34	κ	0.138 ± 0.047	0.103 ±0.041	0.056 ±0.033	0.128 ±0.041	0.056 ±0.046	0.056 ±0.038	0.072 ±0.038	0.169 ±0.086	-0.005 ±0.021	0.031 ±0.021	0.026 ±0.031	0.107 ±0.055	0.118 ±0.043	0.123 ±0.049	0.026 ±0.018	0.108 ±0.071	0.000 ±0.018
	AUC	0.784 ±0.068	0.779 ±0.054	0.693 ±0.017	0.800 ±0.026	0.734 ±0.030	0.598 ±0.029	0.688 ±0.034	0.801 ± 0.030	0.606 ±0.027	0.572 ±0.037	0.616 ±0.029	0.690 ±0.059	0.801 ±0.039	0.731 ±0.037	0.507 ±0.042	0.674 ±0.053	0.566 ±0.050
	BAcc	0.160 ± 0.045	0.125 ±0.040	0.080 ±0.033	0.150 ±0.040	0.080 ±0.045	0.080 ±0.037	0.095 ±0.037	0.190 ±0.084	0.020 ±0.021	0.055 ±0.021	0.050 ±0.031	0.129 ±0.053	0.140 ±0.042	0.145 ±0.048	0.050 ±0.018	0.130 ±0.069	0.025 ±0.018
	Acc.1	0.160 ± 0.045	0.125 ±0.040	0.080 ±0.033	0.113 ±0.036	0.080 ±0.045	0.106 ±0.075	0.116 ±0.042	0.184 ±0.088	0.022 ±0.026	0.062 ±0.053	0.059 ±0.042	0.151 ±0.056	0.116 ±0.060	0.156 ±0.037	0.031 ±0.011	0.109 ±0.058	0.016 ±0.011
Subject35	Acc.2	0.240 ±0.072	0.190 ±0.042	0.165 ±0.072	0.191 ±0.070	0.145 ±0.069	0.169 ±0.097	0.181 ±0.053	0.281 ±0.125	0.078 ±0.040	0.109 ±0.080	0.144 ±0.088	0.211 ±0.088	0.203 ±0.088	0.256 ± 0.095	0.041 ±0.018	0.191 ±0.040	0.034 ±0.017
	κ	0.144 ±0.053	0.174 ± 0.073	0.113 ±0.023	0.200 ±0.028	0.149 ±0.073	0.128 ±0.018	0.113 ±0.029	0.149 ±0.064	0.067 ±0.043	0.067 ±0.029	0.005 ±0.021	0.073 ±0.052	0.133 ±0.021	0.128 ±0.026	0.000 ±0.026	0.092 ±0.039	0.015 ±0.029
	AUC	0.823 ±0.025	0.823 ±0.037	0.802 ±0.019	0.846 ±0.029	0.824 ±0.039	0.682 ±0.025	0.783 ±0.034	0.782 ±0.020	0.711 ±0.019	0.606 ±0.050	0.724 ±0.047	0.633 ±0.083	0.828 ± 0.018	0.684 ±0.074	0.500 ±0.077	0.700 ±0.030	0.579 ±0.042
	BAcc	0.165 ±0.052	0.195 ± 0.072	0.135 ±0.022	0.220 ±0.027	0.170 ±0.072	0.150 ±0.018	0.135 ±0.029	0.170 ±0.062	0.090 ±0.042	0.090 ±0.029	0.030 ±0.021	0.096 ±0.051	0.155 ±0.021	0.150 ±0.025	0.025 ±0.025	0.115 ±0.038	0.040 ±0.029

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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)	
Subject1	Acc.1	0.165	0.195	0.150	0.184	0.170	0.159	0.122	0.212	0.122	0.141	0.075	0.138	0.237	0.206	0.016	0.166	0.025	
		±0.052	±0.072	±0.068	±0.017	±0.072	±0.069	±0.049	±0.070	±0.040	±0.037	±0.052	±0.079	±0.040	±0.036	±0.016	±0.109	±0.018	
	Acc.2	0.265	0.265	0.231	0.328	0.280	0.259	0.275	0.322	0.219	0.191	0.138	0.167	0.344	0.331	0.031	0.234	0.094	
		±0.114	±0.072	±0.053	±0.049	±0.096	±0.080	±0.097	±0.104	±0.040	±0.058	±0.040	±0.067	±0.016	±0.070	±0.029	±0.110	±0.019	
	Subject4	κ	0.118	0.111	0.092	0.118	0.056	0.138	0.103	0.062	-0.005	0.010	0.051	0.051	0.077	0.108	0.005	0.072	-0.005
			± 0.084	±0.066	±0.047	± 0.050	±0.056	±0.050	±0.054	±0.053	±0.021	±0.029	±0.051	±0.036	±0.055	±0.038	±0.033	±0.033	±0.021
AUC		0.733	0.700	0.681	0.778	0.636	0.703	0.800	0.651	0.502	0.542	0.649	0.642	0.716	0.687	0.517	0.594	0.527	
		±0.034	±0.051	±0.057	± 0.027	±0.042	±0.057	±0.047	±0.049	±0.023	±0.037	±0.008	±0.095	±0.053	±0.028	±0.038	±0.024	±0.026	
BAcc		0.140	0.133	0.115	0.140	0.080	0.160	0.125	0.085	0.020	0.035	0.075	0.075	0.100	0.130	0.030	0.095	0.020	
		± 0.082	±0.065	±0.045	± 0.049	±0.054	±0.049	±0.053	±0.052	±0.021	±0.029	±0.050	±0.035	±0.054	±0.037	±0.033	±0.033	±0.033	±0.021
Subject5	Acc.1	0.140	0.118	0.100	0.116	0.080	0.166	0.125	0.091	0.022	0.031	0.075	0.113	0.086	0.147	0.047	0.106	0.022	
		±0.082	±0.066	±0.051	±0.068	±0.054	±0.093	±0.098	±0.049	±0.026	±0.037	±0.073	±0.064	±0.053	± 0.083	±0.062	±0.061	±0.032	
	Acc.2	0.195	0.170	0.159	0.231	0.145	0.269	0.244	0.163	0.044	0.062	0.103	0.169	0.188	0.247	0.056	0.156	0.066	
		±0.082	±0.089	±0.096	±0.069	±0.086	±0.095	±0.134	±0.071	±0.030	±0.088	±0.053	±0.098	±0.098	± 0.072	±0.059	±0.071	±0.039	
	Subject6	κ	0.400	0.395	0.405	0.600	0.338	0.549	0.533	0.553	0.035	0.082	0.056	0.328	0.390	0.569	0.036	0.441	0.031
			±0.227	±0.059	±0.061	±0.053	±0.114	±0.034	±0.071	±0.056	±0.033	±0.069	±0.061	±0.042	±0.069	± 0.073	±0.029	±0.061	±0.028
AUC		0.914	0.959	0.945	0.984	0.937	0.946	0.976	0.967	0.658	0.682	0.745	0.873	0.961	0.965	0.576	0.879	0.628	
		±0.123	±0.016	±0.010	±0.002	±0.028	±0.014	± 0.012	±0.017	±0.020	±0.017	±0.037	±0.025	±0.013	±0.009	±0.041	±0.028	±0.053	
BAcc		0.415	0.410	0.420	0.610	0.355	0.560	0.545	0.564	0.059	0.105	0.080	0.345	0.405	0.580	0.060	0.455	0.055	
		±0.221	±0.058	±0.060	±0.052	±0.111	±0.034	±0.069	±0.055	±0.033	±0.067	±0.060	±0.041	±0.067	± 0.072	±0.029	±0.060	±0.027	
Subject7	Acc.1	0.415	0.410	0.420	0.610	0.355	0.622	0.603	0.550	0.043	0.113	0.125	0.375	0.459	0.634	0.056	0.481	0.053	
		±0.221	±0.058	±0.060	±0.052	±0.111	± 0.046	±0.120	±0.094	±0.032	±0.066	±0.103	±0.051	±0.121	±0.095	±0.057	±0.068	±0.058	
	Acc.2	0.650	0.630	0.605	0.835	0.535	0.834	0.825	0.740	0.086	0.206	0.178	0.478	0.669	0.778	0.075	0.631	0.141	
		±0.287	±0.102	±0.084	±0.022	±0.142	± 0.057	±0.072	±0.123	±0.030	±0.017	±0.101	±0.063	±0.069	±0.069	±0.049	±0.093	±0.031	
	Subject8	κ	0.231	0.215	0.123	0.262	0.092	0.195	0.179	0.195	-0.005	0.046	0.048	0.159	0.174	0.231	0.026	0.172	0.004
			± 0.073	±0.034	±0.046	±0.064	±0.086	±0.059	±0.054	±0.059	±0.021	±0.033	±0.043	±0.078	±0.069	± 0.101	±0.041	±0.055	±0.023
AUC		0.914	0.870	0.807	0.942	0.729	0.770	0.888	0.809	0.549	0.605	0.689	0.726	0.824	0.762	0.530	0.724	0.655	
		± 0.023	±0.042	±0.033	±0.011	±0.130	±0.025	±0.020	±0.022	±0.025	±0.033	±0.041	±0.050	±0.029	±0.054	±0.028	±0.036	±0.023	
BAcc		0.250	0.235	0.145	0.280	0.115	0.215	0.200	0.215	0.020	0.070	0.072	0.180	0.195	0.250	0.050	0.193	0.029	
		± 0.071	±0.034	±0.045	±0.062	±0.084	±0.058	±0.053	±0.058	±0.021	±0.033	±0.042	±0.076	±0.067	± 0.098	±0.040	±0.054	±0.022	
Subject9	Acc.1	0.250	0.235	0.145	0.280	0.115	0.256	0.219	0.191	0.022	0.091	0.094	0.206	0.197	0.269	0.031	0.167	0.018	
		±0.071	±0.034	±0.045	±0.062	±0.084	±0.085	±0.096	±0.043	±0.026	±0.051	±0.048	±0.064	±0.070	± 0.090	±0.025	±0.042	±0.014	
	Acc.2	0.250	0.235	0.145	0.280	0.115	0.256	0.219	0.191	0.022	0.091	0.094	0.206	0.197	0.269	0.031	0.167	0.018	
		±0.071	±0.034	±0.045	±0.062	±0.084	±0.085	±0.096	±0.043	±0.026	±0.051	±0.048	±0.064	±0.070	± 0.090	±0.025	±0.042	±0.014	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject7	Acc.2	0.480 ± 0.065	0.375 ± 0.018	0.255 ± 0.105	0.480 ± 0.065	0.215 ± 0.119	0.384 ± 0.057	0.428 ± 0.094	0.381 ± 0.034	0.062 ± 0.022	0.131 ± 0.042	0.144 ± 0.039	0.241 ± 0.055	0.356 ± 0.143	0.362 ± 0.092	0.044 ± 0.037	0.242 ± 0.116	0.047 ± 0.018
	κ	0.128 ± 0.152	0.222 ± 0.062	0.169 ± 0.053	0.267 ± 0.086	0.144 ± 0.047	0.221 ± 0.088	0.210 ± 0.061	0.205 ± 0.041	0.005 ± 0.021	0.058 ± 0.045	0.051 ± 0.031	0.087 ± 0.050	0.170 ± 0.041	0.221 ± 0.074	0.041 ± 0.023	0.138 ± 0.053	-0.005 ± 0.011
	AUC	0.793 ± 0.111	0.866 ± 0.045	0.845 ± 0.039	0.915 ± 0.039	0.798 ± 0.019	0.734 ± 0.051	0.875 ± 0.018	0.805 ± 0.049	0.565 ± 0.039	0.638 ± 0.071	0.675 ± 0.053	0.667 ± 0.062	0.834 ± 0.027	0.792 ± 0.039	0.592 ± 0.054	0.693 ± 0.046	0.633 ± 0.036
	BAcc	0.150 ± 0.148	0.242 ± 0.061	0.190 ± 0.052	0.285 ± 0.084	0.165 ± 0.045	0.240 ± 0.086	0.230 ± 0.060	0.225 ± 0.040	0.030 ± 0.021	0.081 ± 0.044	0.075 ± 0.031	0.110 ± 0.049	0.191 ± 0.040	0.240 ± 0.072	0.065 ± 0.022	0.160 ± 0.052	0.020 ± 0.011
	Acc.1	0.150 ± 0.148	0.243 ± 0.060	0.190 ± 0.052	0.300 ± 0.103	0.165 ± 0.045	0.281 ± 0.143	0.256 ± 0.077	0.225 ± 0.054	0.019 ± 0.013	0.080 ± 0.065	0.094 ± 0.051	0.106 ± 0.064	0.230 ± 0.043	0.253 ± 0.077	0.069 ± 0.036	0.156 ± 0.080	0.013 ± 0.007
	Acc.2	0.235 ± 0.219	0.373 ± 0.053	0.330 ± 0.082	0.491 ± 0.171	0.240 ± 0.029	0.375 ± 0.078	0.444 ± 0.061	0.353 ± 0.094	0.044 ± 0.020	0.146 ± 0.074	0.134 ± 0.056	0.184 ± 0.058	0.328 ± 0.036	0.378 ± 0.055	0.116 ± 0.059	0.228 ± 0.067	0.037 ± 0.026
	κ	0.205 ± 0.085	0.231 ± 0.068	0.113 ± 0.039	0.285 ± 0.097	0.128 ± 0.119	0.144 ± 0.047	0.256 ± 0.079	0.285 ± 0.091	0.000 ± 0.027	0.048 ± 0.040	0.028 ± 0.068	0.094 ± 0.039	0.149 ± 0.046	0.295 ± 0.066	0.021 ± 0.021	0.174 ± 0.028	-0.005 ± 0.033
Subject8	AUC	0.862 ± 0.032	0.877 ± 0.030	0.783 ± 0.021	0.906 ± 0.012	0.732 ± 0.135	0.715 ± 0.048	0.867 ± 0.022	0.868 ± 0.042	0.565 ± 0.038	0.576 ± 0.057	0.635 ± 0.058	0.731 ± 0.031	0.836 ± 0.036	0.802 ± 0.023	0.534 ± 0.043	0.782 ± 0.024	0.602 ± 0.043
	BAcc	0.225 ± 0.083	0.250 ± 0.066	0.135 ± 0.038	0.303 ± 0.095	0.150 ± 0.116	0.165 ± 0.045	0.275 ± 0.077	0.303 ± 0.089	0.025 ± 0.027	0.072 ± 0.039	0.053 ± 0.067	0.117 ± 0.038	0.170 ± 0.045	0.312 ± 0.064	0.045 ± 0.021	0.195 ± 0.027	0.020 ± 0.033
	Acc.1	0.225 ± 0.083	0.250 ± 0.066	0.135 ± 0.038	0.348 ± 0.078	0.150 ± 0.116	0.225 ± 0.055	0.275 ± 0.109	0.295 ± 0.088	0.039 ± 0.049	0.068 ± 0.036	0.075 ± 0.090	0.159 ± 0.059	0.209 ± 0.059	0.336 ± 0.097	0.037 ± 0.032	0.309 ± 0.066	0.013 ± 0.020
	Acc.2	0.410 ± 0.104	0.400 ± 0.095	0.280 ± 0.089	0.574 ± 0.071	0.210 ± 0.141	0.378 ± 0.057	0.447 ± 0.059	0.477 ± 0.121	0.076 ± 0.058	0.115 ± 0.077	0.108 ± 0.088	0.271 ± 0.088	0.328 ± 0.046	0.486 ± 0.091	0.056 ± 0.036	0.497 ± 0.120	0.056 ± 0.065
	κ	0.323 ± 0.108	0.251 ± 0.033	0.169 ± 0.086	0.303 ± 0.054	0.210 ± 0.106	0.221 ± 0.056	0.195 ± 0.039	0.292 ± 0.055	0.016 ± 0.023	0.064 ± 0.031	0.005 ± 0.021	0.082 ± 0.066	0.190 ± 0.082	0.234 ± 0.048	0.010 ± 0.029	0.205 ± 0.036	0.006 ± 0.012
	AUC	0.916 ± 0.016	0.900 ± 0.022	0.854 ± 0.015	0.922 ± 0.010	0.867 ± 0.046	0.762 ± 0.026	0.863 ± 0.025	0.860 ± 0.027	0.677 ± 0.045	0.645 ± 0.049	0.549 ± 0.025	0.663 ± 0.067	0.868 ± 0.012	0.817 ± 0.042	0.521 ± 0.046	0.754 ± 0.018	0.608 ± 0.034
Subject9	BAcc	0.340 ± 0.105	0.270 ± 0.033	0.190 ± 0.084	0.320 ± 0.052	0.230 ± 0.104	0.240 ± 0.055	0.215 ± 0.038	0.309 ± 0.053	0.041 ± 0.023	0.087 ± 0.030	0.030 ± 0.021	0.105 ± 0.065	0.210 ± 0.080	0.253 ± 0.047	0.035 ± 0.029	0.225 ± 0.035	0.031 ± 0.012
	Acc.1	0.340 ± 0.105	0.270 ± 0.033	0.190 ± 0.084	0.378 ± 0.054	0.230 ± 0.104	0.281 ± 0.057	0.209 ± 0.053	0.311 ± 0.090	0.049 ± 0.034	0.107 ± 0.042	0.028 ± 0.023	0.131 ± 0.101	0.216 ± 0.062	0.293 ± 0.085	0.059 ± 0.052	0.244 ± 0.041	0.020 ± 0.007
	Acc.2	0.465 ± 0.105	0.450 ± 0.077	0.295 ± 0.112	0.552 ± 0.038	0.360 ± 0.105	0.375 ± 0.022	0.400 ± 0.064	0.449 ± 0.097	0.090 ± 0.035	0.203 ± 0.080	0.056 ± 0.026	0.188 ± 0.091	0.388 ± 0.128	0.455 ± 0.092	0.081 ± 0.051	0.356 ± 0.065	0.057 ± 0.025

Leave-One-Out Fine-Tuning Results

Table 65: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.283	0.852	0.301	0.301	0.423
DeepConvnet	± 0.153	± 0.085	± 0.150	± 0.150	± 0.183
	0.230	0.830	0.250	0.250	0.378
EEGNet	± 0.142	± 0.101	± 0.138	± 0.138	± 0.180
	0.241	0.817	0.260	0.258	0.380
Conformer	± 0.165	± 0.115	± 0.161	± 0.160	± 0.199
	0.315	0.866	0.332	0.341	0.477
CTNet	± 0.189	± 0.096	± 0.184	± 0.183	± 0.216
	0.198	0.779	0.218	0.218	0.323
SSVEPDNN	± 0.143	± 0.107	± 0.140	± 0.140	± 0.176
	0.283	0.796	0.301	0.326	0.442
BIOT (f)	± 0.193	± 0.116	± 0.188	± 0.192	± 0.231
	0.175	0.768	0.196	0.206	0.322
BIOT (l)	± 0.134	± 0.116	± 0.131	± 0.137	± 0.182
	0.305	0.829	0.322	0.325	0.452
BENDR (f)	± 0.201	± 0.124	± 0.196	± 0.193	± 0.232
	0.014	0.552	0.038	0.038	0.070
BENDR (l)	± 0.017	± 0.044	± 0.017	± 0.018	± 0.024
	0.073	0.673	0.096	0.101	0.183
CBraMod (f)	± 0.034	± 0.048	± 0.033	± 0.039	± 0.060
	0.028	0.615	0.052	0.062	0.110
CBraMod (l)	± 0.021	± 0.053	± 0.021	± 0.033	± 0.049
	0.111	0.704	0.133	0.151	0.220
EEGPT (f)	± 0.105	± 0.090	± 0.102	± 0.118	± 0.141
	0.170	0.779	0.191	0.199	0.295
EEGPT (l)	± 0.127	± 0.099	± 0.124	± 0.139	± 0.176
	0.313	0.821	0.330	0.358	0.474
LaBraM (f)	± 0.181	± 0.097	± 0.176	± 0.182	± 0.201
	0.014	0.552	0.039	0.040	0.078
LaBraM (l)	± 0.018	± 0.038	± 0.017	± 0.019	± 0.024
	0.307	0.799	0.325	0.341	0.464
STEEGformer-s (f)	± 0.171	± 0.109	± 0.166	± 0.172	± 0.204
	0.020	0.607	0.045	0.042	0.080
STEEGformer-s (l)	± 0.017	± 0.047	± 0.017	± 0.021	± 0.031

Table 66: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1	κ	0.251 ± 0.168	0.149 ± 0.080	0.200 ± 0.078	0.241 ± 0.064	0.236 ± 0.049	0.179 ± 0.079	0.087 ± 0.029	0.176 ± 0.074	0.003 ± 0.016	0.062 ± 0.029	0.021 ± 0.021	0.026 ± 0.044	0.077 ± 0.031	0.277 ± 0.119	0.000 ± 0.026	0.251 ± 0.091	0.015 ± 0.014
	AUC	0.845 ± 0.104	0.803 ± 0.048	0.795 ± 0.028	0.884 ± 0.020	0.814 ± 0.033	0.752 ± 0.050	0.717 ± 0.039	0.804 ± 0.045	0.522 ± 0.021	0.622 ± 0.044	0.610 ± 0.023	0.621 ± 0.041	0.683 ± 0.059	0.836 ± 0.036	0.535 ± 0.052	0.804 ± 0.029	0.564 ± 0.047
	BAcc	0.270 ± 0.163	0.170 ± 0.078	0.220 ± 0.076	0.260 ± 0.063	0.255 ± 0.048	0.200 ± 0.077	0.110 ± 0.029	0.197 ± 0.073	0.028 ± 0.016	0.085 ± 0.029	0.045 ± 0.021	0.050 ± 0.043	0.100 ± 0.031	0.295 ± 0.116	0.025 ± 0.025	0.270 ± 0.089	0.040 ± 0.014
	Acc.1	0.270 ± 0.163	0.170 ± 0.078	0.220 ± 0.076	0.260 ± 0.063	0.255 ± 0.048	0.209 ± 0.073	0.106 ± 0.052	0.182 ± 0.076	0.035 ± 0.029	0.062 ± 0.025	0.056 ± 0.032	0.031 ± 0.027	0.091 ± 0.026	0.287 ± 0.116	0.025 ± 0.032	0.253 ± 0.126	0.034 ± 0.026
	Acc.2	0.360 ± 0.197	0.290 ± 0.088	0.290 ± 0.060	0.440 ± 0.045	0.350 ± 0.050	0.278 ± 0.073	0.219 ± 0.103	0.309 ± 0.091	0.061 ± 0.059	0.078 ± 0.019	0.119 ± 0.051	0.072 ± 0.059	0.175 ± 0.059	0.403 ± 0.110	0.056 ± 0.042	0.384 ± 0.102	0.059 ± 0.034
Subject10	κ	0.128 ± 0.065	0.138 ± 0.076	0.036 ± 0.029	0.108 ± 0.056	0.051 ± 0.026	0.051 ± 0.036	0.021 ± 0.038	0.010 ± 0.014	0.015 ± 0.039	0.072 ± 0.049	0.036 ± 0.039	0.005 ± 0.021	0.064 ± 0.035	0.154 ± 0.098	-0.021 ± 0.011	0.118 ± 0.086	-0.010 ± 0.013
	AUC	0.780 ± 0.060	0.730 ± 0.039	0.664 ± 0.069	0.765 ± 0.028	0.653 ± 0.043	0.638 ± 0.051	0.562 ± 0.035	0.650 ± 0.027	0.562 ± 0.026	0.678 ± 0.040	0.600 ± 0.035	0.571 ± 0.039	0.670 ± 0.040	0.751 ± 0.043	0.531 ± 0.038	0.666 ± 0.052	0.600 ± 0.054
	BAcc	0.150 ± 0.064	0.160 ± 0.074	0.060 ± 0.029	0.130 ± 0.054	0.075 ± 0.025	0.075 ± 0.035	0.045 ± 0.037	0.035 ± 0.014	0.040 ± 0.038	0.095 ± 0.048	0.060 ± 0.038	0.030 ± 0.021	0.088 ± 0.034	0.175 ± 0.095	0.005 ± 0.011	0.140 ± 0.084	0.015 ± 0.013
	Acc.1	0.150 ± 0.064	0.160 ± 0.074	0.060 ± 0.029	0.130 ± 0.054	0.075 ± 0.025	0.084 ± 0.041	0.047 ± 0.046	0.041 ± 0.034	0.044 ± 0.064	0.078 ± 0.049	0.094 ± 0.040	0.037 ± 0.032	0.094 ± 0.067	0.166 ± 0.106	0.003 ± 0.007	0.191 ± 0.086	0.009 ± 0.008
	Acc.2	0.260 ± 0.095	0.245 ± 0.037	0.125 ± 0.040	0.215 ± 0.072	0.140 ± 0.052	0.156 ± 0.046	0.087 ± 0.053	0.116 ± 0.053	0.081 ± 0.065	0.141 ± 0.065	0.138 ± 0.013	0.056 ± 0.041	0.154 ± 0.107	0.250 ± 0.169	0.028 ± 0.023	0.266 ± 0.089	0.037 ± 0.031
Subject11	κ	0.113 ± 0.086	0.077 ± 0.044	0.041 ± 0.029	0.071 ± 0.027	0.036 ± 0.034	0.046 ± 0.011	0.062 ± 0.029	0.088 ± 0.029	-0.026 ± 0.000	0.026 ± 0.034	0.026 ± 0.018	-0.000 ± 0.018	0.010 ± 0.029	0.103 ± 0.051	-0.005 ± 0.033	0.062 ± 0.039	0.006 ± 0.018
	AUC	0.750 ± 0.026	0.718 ± 0.028	0.623 ± 0.031	0.718 ± 0.040	0.636 ± 0.046	0.592 ± 0.052	0.635 ± 0.045	0.684 ± 0.041	0.506 ± 0.039	0.592 ± 0.058	0.559 ± 0.066	0.540 ± 0.019	0.582 ± 0.032	0.666 ± 0.018	0.531 ± 0.052	0.645 ± 0.033	0.543 ± 0.028
	BAcc	0.135 ± 0.084	0.100 ± 0.043	0.065 ± 0.029	0.094 ± 0.026	0.060 ± 0.034	0.070 ± 0.011	0.085 ± 0.029	0.111 ± 0.028	0.000 ± 0.000	0.050 ± 0.033	0.050 ± 0.018	0.025 ± 0.018	0.035 ± 0.029	0.125 ± 0.050	0.020 ± 0.033	0.085 ± 0.038	0.031 ± 0.018
	Acc.1	0.135 ± 0.084	0.100 ± 0.043	0.059 ± 0.029	0.111 ± 0.045	0.060 ± 0.034	0.081 ± 0.043	0.100 ± 0.032	0.095 ± 0.048	0.000 ± 0.000	0.049 ± 0.043	0.069 ± 0.024	0.025 ± 0.030	0.031 ± 0.037	0.113 ± 0.054	0.013 ± 0.020	0.072 ± 0.045	0.025 ± 0.019
	Acc.2	0.185 ± 0.108	0.180 ± 0.065	0.123 ± 0.034	0.229 ± 0.121	0.110 ± 0.055	0.128 ± 0.037	0.150 ± 0.032	0.174 ± 0.093	0.029 ± 0.033	0.096 ± 0.056	0.097 ± 0.037	0.050 ± 0.026	0.062 ± 0.037	0.197 ± 0.065	0.037 ± 0.026	0.163 ± 0.048	0.045 ± 0.035

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject12	κ	$\begin{matrix} 0.077 \\ \pm 0.060 \end{matrix}$	$\begin{matrix} 0.015 \\ \pm 0.039 \end{matrix}$	$\begin{matrix} 0.005 \\ \pm 0.042 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.029 \end{matrix}$	$\begin{matrix} 0.026 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} \mathbf{0.067} \\ \pm \mathbf{0.043} \end{matrix}$	$\begin{matrix} 0.000 \\ \pm 0.023 \end{matrix}$	$\begin{matrix} -0.005 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.036 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.005 \\ \pm 0.021 \end{matrix}$	$\begin{matrix} 0.031 \\ \pm 0.028 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.062 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.021 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.056 \\ \pm 0.049 \end{matrix}$	$\begin{matrix} 0.015 \\ \pm 0.014 \end{matrix}$
	AUC	$\begin{matrix} 0.716 \\ \pm 0.118 \end{matrix}$	$\begin{matrix} 0.597 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.558 \\ \pm 0.025 \end{matrix}$	$\begin{matrix} 0.683 \\ \pm 0.027 \end{matrix}$	$\begin{matrix} 0.624 \\ \pm 0.015 \end{matrix}$	$\begin{matrix} 0.622 \\ \pm 0.075 \end{matrix}$	$\begin{matrix} 0.617 \\ \pm 0.066 \end{matrix}$	$\begin{matrix} 0.577 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.488 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.607 \\ \pm 0.053 \end{matrix}$	$\begin{matrix} 0.582 \\ \pm 0.038 \end{matrix}$	$\begin{matrix} 0.597 \\ \pm 0.047 \end{matrix}$	$\begin{matrix} \mathbf{0.698} \\ \pm \mathbf{0.038} \end{matrix}$	$\begin{matrix} 0.595 \\ \pm 0.050 \end{matrix}$	$\begin{matrix} 0.488 \\ \pm 0.042 \end{matrix}$	$\begin{matrix} 0.604 \\ \pm 0.057 \end{matrix}$	$\begin{matrix} 0.513 \\ \pm 0.037 \end{matrix}$
	BAcc	$\begin{matrix} 0.100 \\ \pm 0.059 \end{matrix}$	$\begin{matrix} 0.040 \\ \pm 0.038 \end{matrix}$	$\begin{matrix} 0.030 \\ \pm 0.041 \end{matrix}$	$\begin{matrix} 0.065 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.065 \\ \pm 0.029 \end{matrix}$	$\begin{matrix} 0.050 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} \mathbf{0.090} \\ \pm \mathbf{0.042} \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.022 \end{matrix}$	$\begin{matrix} 0.020 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.060 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.030 \\ \pm 0.021 \end{matrix}$	$\begin{matrix} 0.055 \\ \pm 0.027 \end{matrix}$	$\begin{matrix} 0.065 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.045 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.080 \\ \pm 0.048 \end{matrix}$	$\begin{matrix} 0.040 \\ \pm 0.014 \end{matrix}$
	Acc.1	$\begin{matrix} \mathbf{0.091} \\ \pm \mathbf{0.056} \end{matrix}$	$\begin{matrix} 0.034 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.037 \\ \pm 0.067 \end{matrix}$	$\begin{matrix} 0.050 \\ \pm 0.026 \end{matrix}$	$\begin{matrix} 0.065 \\ \pm 0.029 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.046 \end{matrix}$	$\begin{matrix} 0.031 \\ \pm 0.047 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.062 \end{matrix}$	$\begin{matrix} 0.066 \\ \pm 0.060 \end{matrix}$	$\begin{matrix} 0.028 \\ \pm 0.030 \end{matrix}$	$\begin{matrix} 0.034 \\ \pm 0.017 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.009 \end{matrix}$	$\begin{matrix} 0.100 \\ \pm 0.048 \end{matrix}$	$\begin{matrix} 0.047 \\ \pm 0.040 \end{matrix}$	$\begin{matrix} 0.069 \\ \pm 0.050 \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.009 \end{matrix}$
	Acc.2	$\begin{matrix} \mathbf{0.169} \\ \pm \mathbf{0.126} \end{matrix}$	$\begin{matrix} 0.078 \\ \pm 0.086 \end{matrix}$	$\begin{matrix} 0.081 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.116 \\ \pm 0.055 \end{matrix}$	$\begin{matrix} 0.095 \\ \pm 0.027 \end{matrix}$	$\begin{matrix} 0.106 \\ \pm 0.030 \end{matrix}$	$\begin{matrix} 0.125 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} 0.062 \\ \pm 0.056 \end{matrix}$	$\begin{matrix} 0.050 \\ \pm 0.055 \end{matrix}$	$\begin{matrix} 0.122 \\ \pm 0.058 \end{matrix}$	$\begin{matrix} 0.047 \\ \pm 0.037 \end{matrix}$	$\begin{matrix} 0.062 \\ \pm 0.044 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.175 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.066 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.119 \\ \pm 0.049 \end{matrix}$	$\begin{matrix} 0.056 \\ \pm 0.038 \end{matrix}$
Subject13	κ	$\begin{matrix} 0.456 \\ \pm 0.100 \end{matrix}$	$\begin{matrix} 0.359 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.354 \\ \pm 0.126 \end{matrix}$	$\begin{matrix} 0.477 \\ \pm 0.056 \end{matrix}$	$\begin{matrix} 0.256 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.338 \\ \pm 0.066 \end{matrix}$	$\begin{matrix} 0.138 \\ \pm 0.056 \end{matrix}$	$\begin{matrix} 0.459 \\ \pm 0.088 \end{matrix}$	$\begin{matrix} 0.018 \\ \pm 0.044 \end{matrix}$	$\begin{matrix} 0.108 \\ \pm 0.038 \end{matrix}$	$\begin{matrix} 0.000 \\ \pm 0.018 \end{matrix}$	$\begin{matrix} 0.144 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.338 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} \mathbf{0.465} \\ \pm \mathbf{0.060} \end{matrix}$	$\begin{matrix} 0.010 \\ \pm 0.023 \end{matrix}$	$\begin{matrix} 0.379 \\ \pm 0.144 \end{matrix}$	$\begin{matrix} 0.035 \\ \pm 0.067 \end{matrix}$
	AUC	$\begin{matrix} 0.947 \\ \pm 0.024 \end{matrix}$	$\begin{matrix} 0.914 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.904 \\ \pm 0.045 \end{matrix}$	$\begin{matrix} \mathbf{0.937} \\ \pm \mathbf{0.022} \end{matrix}$	$\begin{matrix} 0.838 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.844 \\ \pm 0.039 \end{matrix}$	$\begin{matrix} 0.805 \\ \pm 0.061 \end{matrix}$	$\begin{matrix} 0.937 \\ \pm 0.020 \end{matrix}$	$\begin{matrix} 0.577 \\ \pm 0.053 \end{matrix}$	$\begin{matrix} 0.718 \\ \pm 0.068 \end{matrix}$	$\begin{matrix} 0.538 \\ \pm 0.036 \end{matrix}$	$\begin{matrix} 0.791 \\ \pm 0.027 \end{matrix}$	$\begin{matrix} 0.922 \\ \pm 0.029 \end{matrix}$	$\begin{matrix} 0.927 \\ \pm 0.026 \end{matrix}$	$\begin{matrix} 0.552 \\ \pm 0.040 \end{matrix}$	$\begin{matrix} 0.855 \\ \pm 0.074 \end{matrix}$	$\begin{matrix} 0.648 \\ \pm 0.024 \end{matrix}$
	BAcc	$\begin{matrix} 0.470 \\ \pm 0.097 \end{matrix}$	$\begin{matrix} 0.375 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.370 \\ \pm 0.123 \end{matrix}$	$\begin{matrix} 0.490 \\ \pm 0.055 \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.355 \\ \pm 0.065 \end{matrix}$	$\begin{matrix} 0.160 \\ \pm 0.055 \end{matrix}$	$\begin{matrix} 0.472 \\ \pm 0.086 \end{matrix}$	$\begin{matrix} 0.043 \\ \pm 0.043 \end{matrix}$	$\begin{matrix} 0.130 \\ \pm 0.037 \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.018 \end{matrix}$	$\begin{matrix} 0.166 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.355 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} \mathbf{0.478} \\ \pm \mathbf{0.059} \end{matrix}$	$\begin{matrix} 0.035 \\ \pm 0.022 \end{matrix}$	$\begin{matrix} 0.395 \\ \pm 0.141 \end{matrix}$	$\begin{matrix} 0.059 \\ \pm 0.065 \end{matrix}$
	Acc.1	$\begin{matrix} 0.470 \\ \pm 0.097 \end{matrix}$	$\begin{matrix} 0.375 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.370 \\ \pm 0.123 \end{matrix}$	$\begin{matrix} \mathbf{0.490} \\ \pm \mathbf{0.055} \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.400 \\ \pm 0.093 \end{matrix}$	$\begin{matrix} 0.194 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.462 \\ \pm 0.105 \end{matrix}$	$\begin{matrix} 0.047 \\ \pm 0.050 \end{matrix}$	$\begin{matrix} 0.147 \\ \pm 0.063 \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.024 \end{matrix}$	$\begin{matrix} 0.221 \\ \pm 0.060 \end{matrix}$	$\begin{matrix} 0.391 \\ \pm 0.062 \end{matrix}$	$\begin{matrix} 0.504 \\ \pm 0.079 \end{matrix}$	$\begin{matrix} 0.022 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.388 \\ \pm 0.130 \end{matrix}$	$\begin{matrix} 0.049 \\ \pm 0.072 \end{matrix}$
	Acc.2	$\begin{matrix} 0.650 \\ \pm 0.088 \end{matrix}$	$\begin{matrix} 0.550 \\ \pm 0.098 \end{matrix}$	$\begin{matrix} 0.520 \\ \pm 0.124 \end{matrix}$	$\begin{matrix} 0.640 \\ \pm 0.052 \end{matrix}$	$\begin{matrix} 0.430 \\ \pm 0.089 \end{matrix}$	$\begin{matrix} 0.522 \\ \pm 0.091 \end{matrix}$	$\begin{matrix} 0.341 \\ \pm 0.083 \end{matrix}$	$\begin{matrix} 0.677 \\ \pm 0.061 \end{matrix}$	$\begin{matrix} 0.074 \\ \pm 0.081 \end{matrix}$	$\begin{matrix} 0.228 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.072 \\ \pm 0.059 \end{matrix}$	$\begin{matrix} 0.320 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.600 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} \mathbf{0.652} \\ \pm \mathbf{0.070} \end{matrix}$	$\begin{matrix} 0.062 \\ \pm 0.043 \end{matrix}$	$\begin{matrix} 0.566 \\ \pm 0.123 \end{matrix}$	$\begin{matrix} 0.113 \\ \pm 0.067 \end{matrix}$
Subject14	κ	$\begin{matrix} 0.513 \\ \pm 0.110 \end{matrix}$	$\begin{matrix} 0.359 \\ \pm 0.075 \end{matrix}$	$\begin{matrix} 0.390 \\ \pm 0.042 \end{matrix}$	$\begin{matrix} 0.390 \\ \pm 0.071 \end{matrix}$	$\begin{matrix} 0.231 \\ \pm 0.051 \end{matrix}$	$\begin{matrix} 0.405 \\ \pm 0.046 \end{matrix}$	$\begin{matrix} 0.277 \\ \pm 0.071 \end{matrix}$	$\begin{matrix} 0.503 \\ \pm 0.120 \end{matrix}$	$\begin{matrix} 0.000 \\ \pm 0.018 \end{matrix}$	$\begin{matrix} 0.113 \\ \pm 0.059 \end{matrix}$	$\begin{matrix} 0.041 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.185 \\ \pm 0.091 \end{matrix}$	$\begin{matrix} 0.256 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} \mathbf{0.533} \\ \pm \mathbf{0.090} \end{matrix}$	$\begin{matrix} 0.021 \\ \pm 0.049 \end{matrix}$	$\begin{matrix} 0.559 \\ \pm 0.118 \end{matrix}$	$\begin{matrix} 0.046 \\ \pm 0.033 \end{matrix}$
	AUC	$\begin{matrix} 0.965 \\ \pm 0.013 \end{matrix}$	$\begin{matrix} 0.922 \\ \pm 0.018 \end{matrix}$	$\begin{matrix} 0.937 \\ \pm 0.002 \end{matrix}$	$\begin{matrix} \mathbf{0.952} \\ \pm \mathbf{0.010} \end{matrix}$	$\begin{matrix} 0.844 \\ \pm 0.031 \end{matrix}$	$\begin{matrix} 0.894 \\ \pm 0.033 \end{matrix}$	$\begin{matrix} 0.879 \\ \pm 0.028 \end{matrix}$	$\begin{matrix} 0.947 \\ \pm 0.031 \end{matrix}$	$\begin{matrix} 0.598 \\ \pm 0.028 \end{matrix}$	$\begin{matrix} 0.734 \\ \pm 0.057 \end{matrix}$	$\begin{matrix} 0.676 \\ \pm 0.046 \end{matrix}$	$\begin{matrix} 0.781 \\ \pm 0.043 \end{matrix}$	$\begin{matrix} 0.901 \\ \pm 0.007 \end{matrix}$	$\begin{matrix} 0.920 \\ \pm 0.017 \end{matrix}$	$\begin{matrix} 0.623 \\ \pm 0.044 \end{matrix}$	$\begin{matrix} 0.929 \\ \pm 0.035 \end{matrix}$	$\begin{matrix} 0.663 \\ \pm 0.017 \end{matrix}$
	BAcc	$\begin{matrix} 0.525 \\ \pm 0.108 \end{matrix}$	$\begin{matrix} 0.375 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} 0.405 \\ \pm 0.041 \end{matrix}$	$\begin{matrix} 0.405 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.250 \\ \pm 0.050 \end{matrix}$	$\begin{matrix} 0.420 \\ \pm 0.045 \end{matrix}$	$\begin{matrix} 0.295 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.515 \\ \pm 0.117 \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.018 \end{matrix}$	$\begin{matrix} 0.135 \\ \pm 0.058 \end{matrix}$	$\begin{matrix} 0.065 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.205 \\ \pm 0.089 \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.071 \end{matrix}$	$\begin{matrix} \mathbf{0.545} \\ \pm \mathbf{0.087} \end{matrix}$	$\begin{matrix} 0.045 \\ \pm 0.048 \end{matrix}$	$\begin{matrix} 0.570 \\ \pm 0.115 \end{matrix}$	$\begin{matrix} 0.070 \\ \pm 0.033 \end{matrix}$
	Acc.1	$\begin{matrix} 0.525 \\ \pm 0.108 \end{matrix}$	$\begin{matrix} 0.375 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} 0.405 \\ \pm 0.041 \end{matrix}$	$\begin{matrix} 0.394 \\ \pm 0.120 \end{matrix}$	$\begin{matrix} 0.252 \\ \pm 0.049 \end{matrix}$	$\begin{matrix} 0.422 \\ \pm 0.067 \end{matrix}$	$\begin{matrix} 0.297 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.500 \\ \pm 0.134 \end{matrix}$	$\begin{matrix} 0.025 \\ \pm 0.024 \end{matrix}$	$\begin{matrix} 0.122 \\ \pm 0.058 \end{matrix}$	$\begin{matrix} 0.087 \\ \pm 0.009 \end{matrix}$	$\begin{matrix} 0.212 \\ \pm 0.134 \end{matrix}$	$\begin{matrix} 0.266 \\ \pm 0.090 \end{matrix}$	$\begin{matrix} 0.566 \\ \pm 0.081 \end{matrix}$	$\begin{matrix} 0.047 \\ \pm 0.053 \end{matrix}$	$\begin{matrix} \mathbf{0.562} \\ \pm \mathbf{0.167} \end{matrix}$	$\begin{matrix} 0.081 \\ \pm 0.072 \end{matrix}$
	Acc.2	$\begin{matrix} \mathbf{0.695} \\ \pm \mathbf{0.141} \end{matrix}$	$\begin{matrix} 0.510 \\ \pm 0.084 \end{matrix}$	$\begin{matrix} 0.595 \\ \pm 0.089 \end{matrix}$	$\begin{matrix} 0.622 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.376 \\ \pm 0.039 \end{matrix}$	$\begin{matrix} 0.631 \\ \pm 0.074 \end{matrix}$	$\begin{matrix} 0.444 \\ \pm 0.110 \end{matrix}$	$\begin{matrix} 0.656 \\ \pm 0.153 \end{matrix}$	$\begin{matrix} 0.053 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.194 \\ \pm 0.042 \end{matrix}$	$\begin{matrix} 0.134 \\ \pm 0.062 \end{matrix}$	$\begin{matrix} 0.306 \\ \pm 0.139 \end{matrix}$	$\begin{matrix} 0.431 \\ \pm 0.090 \end{matrix}$	$\begin{matrix} 0.750 \\ \pm 0.096 \end{matrix}$	$\begin{matrix} 0.078 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.684 \\ \pm 0.117 \end{matrix}$	$\begin{matrix} 0.128 \\ \pm 0.062 \end{matrix}$
Subject15	κ	$\begin{matrix} 0.195 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.128 \\ \pm 0.065 \end{matrix}$	$\begin{matrix} 0.133 \\ \pm 0.038 \end{matrix}$	$\begin{matrix} 0.179 \\ \pm 0.081 \end{matrix}$	$\begin{matrix} 0.164 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.226 \\ \pm 0.061 \end{matrix}$	$\begin{matrix} 0.144 \\ \pm 0.059 \end{matrix}$	$\begin{matrix} 0.262 \\ \pm 0.078 \end{matrix}$	$\begin{matrix} 0.015 \\ \pm 0.014 \end{matrix}$	$\begin{matrix} 0.077 \\ \pm 0.041 \end{matrix}$	$\begin{matrix} 0.005 \\ \pm 0.021 \end{matrix}$	$\begin{matrix} 0.077 \\ \pm 0.048 \end{matrix}$	$\begin{matrix} 0.088 \\ \pm 0.039 \end{matrix}$	$\begin{matrix} \mathbf{0.236} \\ \pm \mathbf{0.066} \end{matrix}$	$\begin{matrix} 0.010 \\ \pm 0.034 \end{matrix}$	$\begin{matrix} 0.210 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} -0.021 \\ \pm 0.011 \end{matrix}$

Continued on next page

		8271	8272	8273	8274	8275	8276	8277	8278	8279	8280	8281	8282	8283	8284	8285	8286	8287	8288	8289	8290	8291	8292	8293	8294	8295	8296	8297	8298	8299	8300	8301	8302	8303
Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)																
Subject16	AUC	0.838 ± 0.045	0.785 ±0.051	0.736 ±0.025	0.828 ±0.047	0.789 ±0.089	0.795 ±0.044	0.768 ±0.047	0.847 ± 0.072	0.505 ±0.075	0.654 ±0.078	0.559 ±0.067	0.694 ±0.048	0.735 ±0.027	0.790 ±0.062	0.537 ±0.061	0.755 ±0.073	0.555 ±0.019																
	BAcc	0.215 ±0.070	0.150 ±0.064	0.155 ±0.037	0.200 ±0.079	0.185 ±0.068	0.245 ±0.060	0.165 ±0.058	0.280 ± 0.076	0.040 ±0.014	0.100 ±0.040	0.030 ±0.021	0.100 ±0.047	0.111 ±0.038	0.255 ± 0.065	0.035 ±0.034	0.230 ±0.062	0.005 ±0.011																
	Acc.1	0.215 ±0.070	0.150 ±0.064	0.134 ±0.050	0.228 ±0.106	0.185 ±0.068	0.284 ±0.124	0.188 ±0.070	0.325 ± 0.131	0.053 ±0.021	0.127 ±0.056	0.037 ±0.032	0.128 ±0.081	0.109 ±0.052	0.309 ± 0.112	0.041 ±0.044	0.275 ±0.049	0.003 ±0.007																
	Acc.2	0.340 ±0.084	0.275 ±0.035	0.200 ±0.036	0.356 ±0.043	0.290 ±0.082	0.444 ± 0.116	0.291 ±0.057	0.441 ±0.173	0.097 ±0.060	0.195 ±0.058	0.084 ±0.055	0.263 ±0.095	0.203 ±0.077	0.469 ± 0.089	0.084 ±0.058	0.406 ±0.117	0.025 ±0.014																
	κ	0.292 ±0.263	0.246 ±0.069	0.231 ±0.068	0.400 ± 0.082	0.200 ±0.088	0.287 ±0.064	0.154 ±0.026	0.349 ± 0.067	0.015 ±0.029	0.060 ±0.050	0.010 ±0.039	0.026 ±0.032	0.158 ±0.040	0.323 ±0.047	0.005 ±0.028	0.346 ±0.089	0.026 ±0.036																
	AUC	0.810 ±0.206	0.905 ± 0.021	0.859 ±0.038	0.927 ± 0.031	0.823 ±0.041	0.841 ±0.028	0.789 ±0.045	0.886 ±0.035	0.552 ±0.054	0.640 ±0.036	0.604 ±0.038	0.678 ±0.039	0.760 ±0.040	0.864 ±0.020	0.518 ±0.061	0.849 ±0.046	0.567 ±0.069																
	BAcc	0.310 ±0.257	0.265 ±0.068	0.250 ±0.066	0.415 ± 0.080	0.220 ±0.086	0.305 ±0.062	0.175 ±0.025	0.365 ± 0.065	0.040 ±0.029	0.083 ±0.049	0.035 ±0.038	0.050 ±0.032	0.179 ±0.039	0.340 ±0.045	0.030 ±0.027	0.362 ±0.087	0.050 ±0.035																
	Acc.1	0.310 ±0.257	0.265 ±0.068	0.250 ±0.066	0.415 ± 0.080	0.220 ±0.086	0.331 ±0.051	0.175 ±0.049	0.406 ± 0.109	0.044 ±0.040	0.068 ±0.050	0.022 ±0.024	0.062 ±0.040	0.158 ±0.045	0.344 ±0.033	0.019 ±0.017	0.338 ±0.080	0.041 ±0.036																
	Acc.2	0.475 ±0.361	0.460 ±0.058	0.390 ±0.078	0.565 ± 0.068	0.350 ±0.085	0.447 ±0.065	0.281 ±0.053	0.531 ±0.125	0.069 ±0.034	0.172 ±0.076	0.103 ±0.068	0.112 ±0.056	0.214 ±0.052	0.491 ±0.053	0.069 ±0.045	0.535 ± 0.095	0.062 ±0.035																
	Subject17	κ	0.369 ±0.269	0.405 ±0.066	0.390 ±0.066	0.467 ± 0.033	0.323 ±0.182	0.446 ± 0.069	0.251 ±0.021	0.436 ±0.077	0.000 ±0.026	0.061 ±0.060	0.026 ±0.036	0.190 ±0.023	0.168 ±0.049	0.379 ±0.071	0.010 ±0.023	0.388 ±0.078	0.010 ±0.023															
AUC		0.906 ±0.116	0.922 ±0.029	0.913 ±0.036	0.953 ± 0.019	0.850 ±0.179	0.896 ±0.027	0.869 ±0.045	0.922 ± 0.037	0.544 ±0.036	0.674 ±0.046	0.603 ±0.035	0.774 ±0.027	0.804 ±0.051	0.893 ±0.050	0.571 ±0.059	0.876 ±0.034	0.610 ±0.037																
BAcc		0.385 ±0.263	0.420 ±0.065	0.405 ±0.065	0.480 ± 0.033	0.340 ±0.177	0.460 ± 0.068	0.270 ±0.021	0.450 ±0.075	0.025 ±0.025	0.084 ±0.058	0.050 ±0.035	0.210 ±0.022	0.189 ±0.048	0.395 ±0.069	0.035 ±0.022	0.404 ±0.076	0.035 ±0.022																
Acc.1		0.385 ±0.263	0.420 ±0.065	0.441 ±0.078	0.487 ± 0.072	0.340 ±0.177	0.522 ± 0.118	0.281 ±0.037	0.478 ±0.084	0.016 ±0.016	0.105 ±0.049	0.059 ±0.039	0.225 ±0.075	0.185 ±0.059	0.406 ±0.055	0.022 ±0.014	0.433 ±0.127	0.031 ±0.022																
Acc.2		0.525 ±0.281	0.540 ±0.063	0.534 ±0.079	0.688 ± 0.077	0.470 ±0.239	0.669 ± 0.051	0.481 ±0.069	0.581 ±0.119	0.059 ±0.030	0.176 ±0.094	0.087 ±0.048	0.306 ±0.050	0.283 ±0.054	0.541 ±0.075	0.044 ±0.013	0.596 ±0.115	0.053 ±0.024																
Subject18		κ	0.508 ±0.091	0.323 ±0.088	0.421 ±0.074	0.554 ±0.078	0.451 ±0.143	0.559 ± 0.056	0.369 ±0.047	0.436 ±0.073	0.003 ±0.032	0.064 ±0.051	0.051 ±0.031	0.097 ±0.033	0.164 ±0.088	0.567 ± 0.099	0.041 ±0.053	0.451 ±0.084	0.015 ±0.029															
	AUC	0.973 ± 0.007	0.915 ±0.033	0.938 ±0.017	0.975 ± 0.007	0.932 ±0.051	0.962 ±0.007	0.930 ±0.025	0.945 ±0.019	0.493 ±0.047	0.644 ±0.080	0.660 ±0.054	0.706 ±0.014	0.786 ±0.050	0.951 ±0.020	0.527 ±0.033	0.914 ±0.032	0.635 ±0.048																
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
	BAcc	0.520 ±0.089	0.340 ±0.086	0.435 ±0.072	0.565 ±0.076	0.465 ±0.140	0.570 ± 0.054	0.385 ±0.045	0.450 ±0.071	0.028 ±0.031	0.087 ±0.050	0.075 ±0.030	0.120 ±0.033	0.185 ±0.086	0.578 ± 0.097	0.065 ±0.052	0.465 ±0.082	0.040 ±0.029
	Acc.1	0.520 ±0.089	0.340 ±0.086	0.435 ±0.072	0.565 ± 0.076	0.465 ±0.140	0.562 ±0.040	0.419 ±0.042	0.451 ±0.070	0.029 ±0.035	0.072 ±0.060	0.117 ±0.055	0.150 ±0.014	0.219 ±0.106	0.596 ± 0.112	0.062 ±0.053	0.469 ±0.066	0.044 ±0.036
	Acc.2	0.700 ±0.090	0.540 ±0.118	0.615 ±0.060	0.770 ± 0.057	0.655 ±0.129	0.794 ± 0.078	0.622 ±0.056	0.678 ±0.099	0.061 ±0.071	0.129 ±0.076	0.188 ±0.059	0.263 ±0.078	0.319 ±0.145	0.719 ±0.082	0.094 ±0.046	0.616 ±0.066	0.081 ±0.050
Subject19	κ	0.267 ±0.090	0.174 ±0.042	0.169 ±0.059	0.292 ± 0.043	0.123 ±0.046	0.272 ±0.072	0.097 ±0.038	0.226 ±0.042	0.015 ±0.023	0.128 ±0.041	0.005 ±0.021	0.097 ±0.033	0.087 ±0.050	0.205 ±0.060	0.015 ±0.029	0.328 ± 0.053	0.036 ±0.039
	AUC	0.867 ± 0.073	0.814 ±0.038	0.828 ±0.014	0.878 ± 0.034	0.761 ±0.049	0.829 ±0.032	0.733 ±0.060	0.833 ±0.044	0.581 ±0.080	0.738 ±0.053	0.629 ±0.028	0.716 ±0.073	0.735 ±0.036	0.782 ±0.038	0.561 ±0.058	0.833 ±0.027	0.658 ±0.032
	BAcc	0.285 ±0.088	0.195 ±0.041	0.190 ±0.058	0.310 ± 0.042	0.145 ±0.045	0.290 ±0.070	0.120 ±0.037	0.245 ±0.041	0.040 ±0.022	0.150 ±0.040	0.030 ±0.021	0.120 ±0.033	0.110 ±0.049	0.225 ±0.059	0.040 ±0.029	0.345 ± 0.051	0.060 ±0.038
	Acc.1	0.276 ±0.078	0.195 ±0.041	0.190 ±0.058	0.353 ±0.063	0.145 ±0.045	0.369 ± 0.088	0.141 ±0.046	0.228 ±0.061	0.044 ±0.028	0.150 ±0.063	0.047 ±0.037	0.141 ±0.040	0.097 ±0.047	0.244 ±0.057	0.044 ±0.040	0.375 ± 0.054	0.056 ±0.041
	Acc.2	0.367 ±0.112	0.295 ±0.048	0.345 ±0.033	0.422 ±0.046	0.255 ±0.021	0.456 ± 0.087	0.216 ±0.069	0.359 ±0.061	0.066 ±0.046	0.241 ±0.104	0.131 ±0.041	0.191 ±0.034	0.156 ±0.067	0.362 ±0.073	0.075 ±0.053	0.447 ± 0.066	0.097 ±0.063
	κ	0.108 ±0.088	0.082 ±0.049	0.087 ±0.039	0.132 ±0.054	0.067 ±0.053	0.138 ± 0.080	0.077 ±0.063	0.072 ±0.058	-0.005 ±0.021	0.036 ±0.047	0.031 ±0.042	0.046 ±0.021	0.067 ±0.034	0.132 ±0.078	0.005 ±0.021	0.149 ± 0.049	0.026 ±0.045
Subject2	AUC	0.771 ± 0.099	0.697 ±0.037	0.756 ±0.024	0.820 ± 0.024	0.673 ±0.038	0.749 ±0.037	0.739 ±0.028	0.638 ±0.063	0.477 ±0.041	0.628 ±0.040	0.607 ±0.058	0.614 ±0.040	0.634 ±0.071	0.748 ±0.048	0.558 ±0.054	0.693 ±0.054	0.587 ±0.020
	BAcc	0.130 ±0.086	0.105 ±0.048	0.110 ±0.038	0.154 ±0.053	0.090 ±0.052	0.160 ± 0.078	0.100 ±0.061	0.095 ±0.057	0.020 ±0.021	0.060 ±0.045	0.055 ±0.041	0.070 ±0.021	0.090 ±0.034	0.154 ±0.077	0.030 ±0.021	0.170 ± 0.048	0.050 ±0.044
	Acc.1	0.130 ±0.086	0.105 ±0.048	0.110 ±0.038	0.163 ±0.092	0.090 ±0.052	0.203 ± 0.084	0.119 ±0.055	0.097 ±0.070	0.031 ±0.053	0.075 ±0.066	0.072 ±0.058	0.072 ±0.032	0.084 ±0.028	0.198 ±0.098	0.056 ±0.032	0.200 ± 0.084	0.069 ±0.056
	Acc.2	0.245 ±0.116	0.175 ±0.064	0.205 ±0.067	0.252 ±0.078	0.175 ±0.079	0.328 ± 0.094	0.234 ±0.080	0.175 ±0.060	0.075 ±0.056	0.144 ±0.043	0.100 ±0.061	0.097 ±0.030	0.153 ±0.068	0.310 ± 0.079	0.109 ±0.027	0.281 ±0.108	0.131 ±0.029
	κ	0.436 ±0.018	0.277 ±0.080	0.318 ±0.029	0.348 ±0.075	0.277 ±0.105	0.405 ±0.082	0.226 ±0.042	0.348 ±0.064	0.028 ±0.035	0.128 ±0.048	0.062 ±0.029	0.210 ±0.105	0.241 ±0.039	0.492 ± 0.115	0.000 ±0.026	0.497 ± 0.059	0.015 ±0.037
	AUC	0.937 ± 0.015	0.878 ±0.037	0.863 ±0.025	0.911 ±0.012	0.856 ±0.015	0.876 ±0.037	0.826 ±0.047	0.873 ±0.018	0.562 ±0.049	0.739 ±0.062	0.691 ±0.028	0.759 ±0.055	0.864 ±0.034	0.923 ± 0.033	0.535 ±0.072	0.892 ±0.022	0.630 ±0.041
Subject20	BAcc	0.450 ±0.018	0.295 ±0.078	0.335 ±0.029	0.364 ±0.073	0.295 ±0.102	0.420 ±0.080	0.245 ±0.041	0.364 ±0.063	0.053 ±0.034	0.150 ±0.047	0.085 ±0.029	0.230 ±0.102	0.260 ±0.038	0.505 ± 0.112	0.025 ±0.025	0.510 ± 0.058	0.040 ±0.036

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject21	Acc.1	0.450 ±0.018	0.295 ±0.078	0.359 ±0.053	0.408 ±0.057	0.295 ±0.102	0.487 ±0.093	0.228 ±0.077	0.362 ±0.108	0.049 ±0.031	0.131 ±0.024	0.091 ±0.049	0.256 ±0.106	0.294 ±0.064	0.597 ±0.070	0.025 ±0.032	0.553 ±0.082	0.044 ±0.032
		0.595 ±0.069	0.455 ±0.097	0.497 ±0.064	0.605 ±0.083	0.445 ±0.097	0.644 ±0.151	0.412 ±0.086	0.547 ±0.106	0.069 ±0.045	0.284 ±0.079	0.128 ±0.069	0.309 ±0.107	0.459 ±0.118	0.697 ±0.060	0.056 ±0.041	0.691 ±0.046	0.094 ±0.061
	κ	0.272 ±0.181	0.328 ±0.090	0.374 ±0.029	0.426 ±0.124	0.267 ±0.097	0.287 ±0.021	0.231 ±0.083	0.436 ±0.051	0.051 ±0.018	0.067 ±0.053	-0.000 ±0.026	0.092 ±0.039	0.269 ±0.087	0.349 ±0.092	0.062 ±0.029	0.513 ±0.073	0.041 ±0.050
		0.860 ±0.123	0.916 ±0.043	0.911 ±0.027	0.930 ±0.042	0.848 ±0.042	0.857 ±0.026	0.829 ±0.042	0.924 ±0.018	0.581 ±0.032	0.674 ±0.090	0.606 ±0.057	0.751 ±0.048	0.888 ±0.025	0.891 ±0.024	0.649 ±0.026	0.893 ±0.023	0.666 ±0.040
	AUC	0.290 ±0.176	0.345 ±0.087	0.390 ±0.029	0.440 ±0.121	0.285 ±0.095	0.305 ±0.021	0.250 ±0.081	0.450 ±0.050	0.075 ±0.018	0.090 ±0.052	0.025 ±0.025	0.115 ±0.038	0.288 ±0.085	0.365 ±0.089	0.085 ±0.029	0.525 ±0.071	0.065 ±0.049
	BAcc	0.311 ±0.212	0.328 ±0.138	0.347 ±0.068	0.444 ±0.107	0.285 ±0.095	0.266 ±0.046	0.250 ±0.094	0.384 ±0.042	0.047 ±0.011	0.075 ±0.068	0.025 ±0.032	0.138 ±0.102	0.305 ±0.099	0.350 ±0.123	0.062 ±0.025	0.503 ±0.078	0.050 ±0.051
Subject22	Acc.1	0.425 ±0.293	0.441 ±0.130	0.481 ±0.095	0.594 ±0.157	0.405 ±0.082	0.431 ±0.074	0.372 ±0.097	0.600 ±0.030	0.119 ±0.078	0.128 ±0.098	0.053 ±0.032	0.209 ±0.097	0.414 ±0.099	0.463 ±0.102	0.097 ±0.026	0.634 ±0.098	0.113 ±0.063
		0.462 ±0.253	0.513 ±0.119	0.508 ±0.102	0.595 ±0.076	0.390 ±0.046	0.574 ±0.094	0.385 ±0.081	0.636 ±0.021	0.036 ±0.047	0.144 ±0.094	0.056 ±0.038	0.267 ±0.064	0.421 ±0.064	0.569 ±0.049	0.046 ±0.046	0.503 ±0.082	0.015 ±0.039
	AUC	0.930 ±0.068	0.958 ±0.015	0.968 ±0.011	0.979 ±0.007	0.888 ±0.028	0.959 ±0.006	0.943 ±0.027	0.960 ±0.020	0.622 ±0.018	0.737 ±0.049	0.681 ±0.043	0.820 ±0.022	0.921 ±0.015	0.917 ±0.021	0.604 ±0.042	0.918 ±0.025	0.661 ±0.059
		0.475 ±0.246	0.525 ±0.116	0.520 ±0.099	0.605 ±0.074	0.405 ±0.045	0.585 ±0.091	0.400 ±0.079	0.645 ±0.021	0.060 ±0.045	0.165 ±0.091	0.080 ±0.037	0.285 ±0.063	0.435 ±0.063	0.580 ±0.048	0.070 ±0.045	0.515 ±0.080	0.040 ±0.038
	Acc.1	0.475 ±0.246	0.525 ±0.116	0.520 ±0.099	0.605 ±0.074	0.405 ±0.045	0.647 ±0.092	0.475 ±0.083	0.628 ±0.030	0.075 ±0.087	0.188 ±0.053	0.134 ±0.042	0.347 ±0.046	0.487 ±0.063	0.653 ±0.030	0.053 ±0.041	0.575 ±0.091	0.025 ±0.024
		0.645 ±0.259	0.720 ±0.111	0.690 ±0.078	0.790 ±0.074	0.540 ±0.052	0.800 ±0.040	0.644 ±0.108	0.803 ±0.036	0.106 ±0.084	0.297 ±0.083	0.194 ±0.028	0.450 ±0.110	0.613 ±0.052	0.775 ±0.073	0.100 ±0.070	0.769 ±0.037	0.059 ±0.047
Subject23	κ	0.051 ±0.041	0.021 ±0.046	0.031 ±0.028	0.026 ±0.031	0.015 ±0.047	0.056 ±0.061	0.051 ±0.031	0.046 ±0.011	0.010 ±0.043	0.072 ±0.021	0.026 ±0.031	0.026 ±0.041	0.067 ±0.023	0.041 ±0.039	-0.010 ±0.023	0.077 ±0.075	0.010 ±0.014
		0.714 ±0.042	0.599 ±0.057	0.644 ±0.027	0.679 ±0.055	0.564 ±0.068	0.647 ±0.060	0.624 ±0.046	0.620 ±0.052	0.534 ±0.035	0.643 ±0.040	0.573 ±0.072	0.601 ±0.030	0.684 ±0.032	0.653 ±0.036	0.519 ±0.034	0.626 ±0.054	0.575 ±0.061
	BAcc	0.075 ±0.040	0.045 ±0.045	0.055 ±0.027	0.050 ±0.031	0.040 ±0.045	0.080 ±0.060	0.075 ±0.031	0.070 ±0.011	0.035 ±0.042	0.095 ±0.021	0.050 ±0.031	0.050 ±0.040	0.090 ±0.022	0.065 ±0.038	0.015 ±0.022	0.100 ±0.073	0.035 ±0.014
		0.075 ±0.040	0.045 ±0.045	0.055 ±0.027	0.050 ±0.031	0.040 ±0.045	0.069 ±0.077	0.056 ±0.028	0.100 ±0.045	0.022 ±0.026	0.078 ±0.025	0.050 ±0.060	0.041 ±0.042	0.113 ±0.028	0.097 ±0.039	0.019 ±0.034	0.091 ±0.030	0.031 ±0.019
	Acc.1	0.075 ±0.040	0.045 ±0.045	0.055 ±0.027	0.050 ±0.031	0.040 ±0.045	0.069 ±0.077	0.056 ±0.028	0.100 ±0.045	0.022 ±0.026	0.078 ±0.025	0.050 ±0.060	0.041 ±0.042	0.113 ±0.028	0.097 ±0.039	0.019 ±0.034	0.091 ±0.030	0.031 ±0.019

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)
	Acc.2	0.170 ± 0.048	0.085 ± 0.052	0.150 ± 0.083	0.141 ± 0.062	0.075 ± 0.050	0.116 ± 0.085	0.100 ± 0.053	0.116 ± 0.059	0.031 ± 0.019	0.131 ± 0.018	0.094 ± 0.082	0.109 ± 0.049	0.144 ± 0.047	0.169 ± 0.066	0.059 ± 0.060	0.138 ± 0.066	0.069 ± 0.038
Subject24	κ	0.133 ± 0.112	0.077 ± 0.051	0.097 ± 0.042	0.162 ± 0.045	0.113 ± 0.039	0.097 ± 0.049	0.077 ± 0.026	0.021 ± 0.021	-0.000 ± 0.026	0.067 ± 0.049	0.054 ± 0.039	0.051 ± 0.041	0.103 ± 0.018	0.205 ± 0.083	0.000 ± 0.026	0.210 ± 0.042	0.018 ± 0.019
	AUC	0.784 ± 0.136	0.761 ± 0.038	0.740 ± 0.043	0.808 ± 0.021	0.710 ± 0.042	0.680 ± 0.020	0.684 ± 0.033	0.614 ± 0.050	0.503 ± 0.044	0.687 ± 0.040	0.644 ± 0.036	0.737 ± 0.080	0.737 ± 0.038	0.787 ± 0.039	0.555 ± 0.028	0.762 ± 0.033	0.636 ± 0.040
	BAcc	0.155 ± 0.110	0.100 ± 0.050	0.120 ± 0.041	0.183 ± 0.044	0.135 ± 0.038	0.120 ± 0.048	0.100 ± 0.025	0.045 ± 0.021	0.025 ± 0.025	0.091 ± 0.048	0.078 ± 0.038	0.075 ± 0.040	0.125 ± 0.018	0.225 ± 0.081	0.025 ± 0.025	0.230 ± 0.041	0.043 ± 0.019
	Acc.1	0.155 ± 0.110	0.100 ± 0.050	0.120 ± 0.041	0.135 ± 0.060	0.135 ± 0.038	0.188 ± 0.062	0.119 ± 0.018	0.056 ± 0.054	0.034 ± 0.036	0.121 ± 0.093	0.106 ± 0.056	0.084 ± 0.071	0.134 ± 0.049	0.291 ± 0.103	0.025 ± 0.032	0.228 ± 0.055	0.054 ± 0.028
	Acc.2	0.270 ± 0.142	0.205 ± 0.072	0.200 ± 0.059	0.344 ± 0.105	0.210 ± 0.096	0.275 ± 0.090	0.206 ± 0.073	0.159 ± 0.060	0.047 ± 0.054	0.207 ± 0.116	0.179 ± 0.054	0.122 ± 0.062	0.216 ± 0.091	0.450 ± 0.095	0.072 ± 0.056	0.350 ± 0.081	0.092 ± 0.045
	κ	0.318 ± 0.097	0.205 ± 0.051	0.113 ± 0.056	0.195 ± 0.067	0.328 ± 0.066	0.272 ± 0.053	0.113 ± 0.053	0.338 ± 0.056	0.021 ± 0.021	0.103 ± 0.018	0.051 ± 0.031	0.041 ± 0.039	0.164 ± 0.047	0.344 ± 0.034	0.031 ± 0.021	0.467 ± 0.088	0.062 ± 0.043
Subject25	AUC	0.888 ± 0.051	0.843 ± 0.030	0.773 ± 0.018	0.856 ± 0.029	0.899 ± 0.019	0.816 ± 0.039	0.733 ± 0.035	0.878 ± 0.033	0.634 ± 0.023	0.777 ± 0.020	0.750 ± 0.010	0.670 ± 0.038	0.797 ± 0.027	0.853 ± 0.020	0.604 ± 0.070	0.899 ± 0.028	0.688 ± 0.030
	BAcc	0.335 ± 0.095	0.225 ± 0.050	0.135 ± 0.055	0.215 ± 0.065	0.345 ± 0.065	0.290 ± 0.052	0.135 ± 0.052	0.355 ± 0.054	0.045 ± 0.021	0.125 ± 0.018	0.075 ± 0.031	0.065 ± 0.038	0.185 ± 0.045	0.360 ± 0.034	0.055 ± 0.021	0.480 ± 0.086	0.085 ± 0.042
	Acc.1	0.335 ± 0.095	0.225 ± 0.050	0.135 ± 0.055	0.209 ± 0.075	0.345 ± 0.065	0.312 ± 0.089	0.169 ± 0.052	0.344 ± 0.112	0.056 ± 0.032	0.172 ± 0.029	0.100 ± 0.048	0.087 ± 0.049	0.200 ± 0.063	0.422 ± 0.083	0.062 ± 0.025	0.516 ± 0.113	0.091 ± 0.040
	Acc.2	0.470 ± 0.123	0.320 ± 0.086	0.240 ± 0.068	0.334 ± 0.063	0.510 ± 0.119	0.434 ± 0.062	0.291 ± 0.088	0.456 ± 0.129	0.116 ± 0.055	0.312 ± 0.106	0.216 ± 0.040	0.138 ± 0.043	0.256 ± 0.092	0.487 ± 0.079	0.122 ± 0.051	0.662 ± 0.069	0.153 ± 0.013
	κ	0.395 ± 0.213	0.246 ± 0.059	0.282 ± 0.075	0.410 ± 0.096	0.241 ± 0.050	0.462 ± 0.051	0.313 ± 0.058	0.282 ± 0.065	-0.010 ± 0.019	0.055 ± 0.050	0.038 ± 0.041	0.043 ± 0.031	0.123 ± 0.073	0.282 ± 0.069	0.015 ± 0.023	0.244 ± 0.049	-0.005 ± 0.028
	AUC	0.904 ± 0.108	0.869 ± 0.043	0.901 ± 0.019	0.936 ± 0.017	0.877 ± 0.030	0.912 ± 0.022	0.882 ± 0.018	0.890 ± 0.020	0.540 ± 0.046	0.656 ± 0.020	0.677 ± 0.043	0.701 ± 0.026	0.781 ± 0.049	0.826 ± 0.054	0.535 ± 0.045	0.819 ± 0.037	0.579 ± 0.042
Subject26	BAcc	0.410 ± 0.208	0.265 ± 0.058	0.300 ± 0.073	0.425 ± 0.094	0.260 ± 0.049	0.475 ± 0.050	0.330 ± 0.057	0.300 ± 0.063	0.016 ± 0.019	0.079 ± 0.049	0.062 ± 0.040	0.067 ± 0.030	0.145 ± 0.072	0.300 ± 0.067	0.040 ± 0.022	0.263 ± 0.048	0.020 ± 0.027
	Acc.1	0.410 ± 0.208	0.265 ± 0.058	0.300 ± 0.073	0.425 ± 0.094	0.260 ± 0.049	0.466 ± 0.082	0.328 ± 0.059	0.289 ± 0.076	0.010 ± 0.012	0.083 ± 0.072	0.039 ± 0.025	0.065 ± 0.040	0.138 ± 0.091	0.328 ± 0.089	0.034 ± 0.020	0.253 ± 0.072	0.013 ± 0.017
	Acc.2	0.530 ± 0.234	0.420 ± 0.093	0.455 ± 0.060	0.585 ± 0.049	0.430 ± 0.072	0.644 ± 0.078	0.447 ± 0.053	0.482 ± 0.118	0.051 ± 0.039	0.156 ± 0.069	0.064 ± 0.037	0.128 ± 0.038	0.225 ± 0.085	0.424 ± 0.098	0.072 ± 0.041	0.384 ± 0.101	0.044 ± 0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ⁽¹⁾	BENDR ⁽¹⁾	CBraMod ⁽¹⁾	CBraMod ⁽¹⁾	EEGPT ⁽¹⁾	EEGPT ⁽¹⁾	LaBraM ⁽¹⁾	LaBraM ⁽¹⁾	STEEGformer-s ⁽¹⁾	STEEGformer-s ⁽¹⁾
Subject27	κ	0.262 ± 0.088	0.174 ± 0.038	0.108 ± 0.071	0.197 ± 0.053	0.021 ± 0.011	0.108 ± 0.021	0.087 ± 0.059	0.179 ± 0.070	0.006 ± 0.021	0.040 ± 0.037	0.030 ± 0.055	0.036 ± 0.023	0.108 ± 0.053	0.144 ± 0.041	0.010 ± 0.029	0.151 ± 0.050	0.011 ± 0.033
	AUC	0.875 ± 0.011	0.779 ± 0.015	0.712 ± 0.073	0.809 ± 0.027	0.620 ± 0.047	0.697 ± 0.032	0.657 ± 0.039	0.737 ± 0.026	0.520 ± 0.051	0.625 ± 0.032	0.589 ± 0.027	0.607 ± 0.045	0.681 ± 0.073	0.724 ± 0.026	0.535 ± 0.039	0.666 ± 0.033	0.549 ± 0.040
	BAcc	0.280 ± 0.086	0.195 ± 0.037	0.130 ± 0.069	0.217 ± 0.052	0.045 ± 0.011	0.130 ± 0.021	0.110 ± 0.058	0.200 ± 0.068	0.031 ± 0.021	0.064 ± 0.036	0.054 ± 0.053	0.060 ± 0.022	0.130 ± 0.051	0.166 ± 0.040	0.035 ± 0.029	0.172 ± 0.049	0.036 ± 0.032
	Acc.1	0.280 ± 0.086	0.195 ± 0.037	0.130 ± 0.069	0.237 ± 0.108	0.045 ± 0.011	0.119 ± 0.026	0.069 ± 0.036	0.184 ± 0.087	0.030 ± 0.026	0.076 ± 0.062	0.057 ± 0.088	0.075 ± 0.034	0.119 ± 0.075	0.174 ± 0.034	0.050 ± 0.056	0.181 ± 0.056	0.022 ± 0.020
	Acc.2	0.395 ± 0.072	0.300 ± 0.040	0.215 ± 0.072	0.318 ± 0.069	0.095 ± 0.033	0.169 ± 0.063	0.122 ± 0.039	0.264 ± 0.112	0.064 ± 0.037	0.122 ± 0.045	0.102 ± 0.097	0.113 ± 0.034	0.172 ± 0.082	0.299 ± 0.062	0.084 ± 0.054	0.255 ± 0.075	0.042 ± 0.020
Subject28	κ	0.103 ± 0.048	0.113 ± 0.069	0.077 ± 0.026	0.138 ± 0.074	0.036 ± 0.034	0.103 ± 0.051	0.010 ± 0.029	0.118 ± 0.047	0.031 ± 0.033	0.077 ± 0.033	0.006 ± 0.018	0.021 ± 0.033	0.021 ± 0.049	0.133 ± 0.071	0.026 ± 0.018	0.092 ± 0.068	0.006 ± 0.018
	AUC	0.763 ± 0.062	0.752 ± 0.058	0.713 ± 0.040	0.760 ± 0.055	0.663 ± 0.025	0.689 ± 0.053	0.626 ± 0.027	0.689 ± 0.024	0.569 ± 0.026	0.676 ± 0.037	0.602 ± 0.043	0.595 ± 0.033	0.667 ± 0.042	0.705 ± 0.041	0.589 ± 0.060	0.659 ± 0.044	0.642 ± 0.033
	BAcc	0.125 ± 0.047	0.135 ± 0.068	0.100 ± 0.025	0.160 ± 0.072	0.060 ± 0.034	0.125 ± 0.050	0.035 ± 0.029	0.140 ± 0.045	0.055 ± 0.033	0.100 ± 0.032	0.031 ± 0.018	0.045 ± 0.033	0.045 ± 0.048	0.155 ± 0.069	0.050 ± 0.018	0.114 ± 0.066	0.031 ± 0.018
	Acc.1	0.125 ± 0.047	0.135 ± 0.068	0.107 ± 0.037	0.175 ± 0.094	0.060 ± 0.034	0.172 ± 0.117	0.059 ± 0.056	0.163 ± 0.102	0.053 ± 0.036	0.096 ± 0.051	0.037 ± 0.028	0.028 ± 0.020	0.037 ± 0.050	0.191 ± 0.124	0.050 ± 0.034	0.118 ± 0.100	0.031 ± 0.026
	Acc.2	0.195 ± 0.078	0.250 ± 0.095	0.163 ± 0.040	0.256 ± 0.101	0.120 ± 0.037	0.247 ± 0.141	0.159 ± 0.074	0.191 ± 0.087	0.087 ± 0.041	0.158 ± 0.045	0.074 ± 0.040	0.066 ± 0.055	0.097 ± 0.073	0.241 ± 0.135	0.116 ± 0.053	0.210 ± 0.133	0.076 ± 0.052
Subject29	κ	0.051 ± 0.070	0.041 ± 0.023	0.026 ± 0.018	0.011 ± 0.025	0.021 ± 0.021	0.031 ± 0.021	0.005 ± 0.011	0.035 ± 0.023	0.013 ± 0.039	0.021 ± 0.038	0.036 ± 0.029	0.015 ± 0.039	0.068 ± 0.060	0.092 ± 0.050	0.005 ± 0.021	0.067 ± 0.039	0.023 ± 0.031
	AUC	0.633 ± 0.042	0.637 ± 0.030	0.613 ± 0.033	0.598 ± 0.031	0.560 ± 0.023	0.560 ± 0.037	0.510 ± 0.033	0.602 ± 0.027	0.508 ± 0.078	0.638 ± 0.047	0.625 ± 0.020	0.599 ± 0.040	0.677 ± 0.041	0.653 ± 0.035	0.568 ± 0.041	0.591 ± 0.020	0.576 ± 0.031
	BAcc	0.075 ± 0.068	0.065 ± 0.022	0.050 ± 0.018	0.036 ± 0.024	0.045 ± 0.021	0.055 ± 0.021	0.030 ± 0.011	0.059 ± 0.023	0.037 ± 0.038	0.045 ± 0.037	0.060 ± 0.029	0.040 ± 0.038	0.092 ± 0.058	0.115 ± 0.049	0.030 ± 0.021	0.090 ± 0.038	0.048 ± 0.030
	Acc.1	0.075 ± 0.068	0.065 ± 0.022	0.050 ± 0.018	0.042 ± 0.036	0.045 ± 0.021	0.072 ± 0.038	0.028 ± 0.028	0.061 ± 0.031	0.023 ± 0.024	0.037 ± 0.032	0.056 ± 0.042	0.062 ± 0.062	0.096 ± 0.069	0.138 ± 0.094	0.047 ± 0.037	0.084 ± 0.045	0.030 ± 0.019
	Acc.2	0.120 ± 0.072	0.110 ± 0.029	0.100 ± 0.047	0.085 ± 0.064	0.085 ± 0.029	0.091 ± 0.057	0.041 ± 0.032	0.105 ± 0.025	0.041 ± 0.037	0.113 ± 0.042	0.097 ± 0.030	0.100 ± 0.080	0.143 ± 0.079	0.203 ± 0.069	0.100 ± 0.046	0.122 ± 0.037	0.062 ± 0.038
Subject3	κ	0.436 ± 0.288	0.482 ± 0.080	0.472 ± 0.064	0.604 ± 0.039	0.379 ± 0.084	0.646 ± 0.066	0.451 ± 0.097	0.673 ± 0.068	0.023 ± 0.037	0.071 ± 0.038	0.071 ± 0.038	0.390 ± 0.080	0.462 ± 0.139	0.648 ± 0.059	-0.000 ± 0.018	0.538 ± 0.081	0.044 ± 0.041

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)
	AUC	0.902	0.959	0.957	0.976	0.920	0.956	0.941	0.976	0.592	0.686	0.671	0.879	0.948	0.955	0.567	0.936	0.641
		± 0.137	± 0.027	± 0.022	± 0.006	± 0.033	± 0.013	± 0.032	± 0.010	± 0.074	± 0.030	± 0.034	± 0.030	± 0.028	± 0.020	± 0.048	± 0.025	± 0.021
	BAcc	0.450	0.495	0.485	0.614	0.395	0.655	0.465	0.681	0.047	0.094	0.094	0.405	0.475	0.657	0.025	0.550	0.068
		± 0.281	± 0.078	± 0.063	± 0.038	± 0.082	± 0.065	± 0.095	± 0.066	± 0.036	± 0.037	± 0.037	± 0.078	± 0.136	± 0.057	± 0.018	± 0.079	± 0.040
	Acc.1	0.450	0.495	0.485	0.590	0.395	0.672	0.469	0.695	0.030	0.100	0.129	0.478	0.512	0.692	0.053	0.541	0.076
		± 0.281	± 0.078	± 0.063	± 0.090	± 0.082	± 0.049	± 0.090	± 0.060	± 0.023	± 0.059	± 0.059	± 0.089	± 0.167	± 0.072	± 0.049	± 0.069	± 0.047
	Acc.2	0.605	0.715	0.680	0.787	0.570	0.797	0.631	0.850	0.071	0.236	0.213	0.566	0.662	0.839	0.113	0.719	0.105
		± 0.314	± 0.049	± 0.099	± 0.069	± 0.067	± 0.072	± 0.089	± 0.043	± 0.047	± 0.056	± 0.079	± 0.102	± 0.155	± 0.058	± 0.082	± 0.055	± 0.046
	κ	0.108	0.113	0.097	0.174	0.087	0.190	0.113	0.174	-0.010	0.031	0.015	0.082	0.056	0.185	0.010	0.113	0.015
		± 0.084	± 0.067	± 0.061	± 0.058	± 0.039	± 0.078	± 0.084	± 0.073	± 0.014	± 0.021	± 0.023	± 0.058	± 0.049	± 0.049	± 0.023	± 0.050	± 0.013
Subject30	AUC	0.748	0.762	0.725	0.818	0.709	0.766	0.709	0.786	0.548	0.624	0.579	0.672	0.705	0.762	0.515	0.676	0.550
		± 0.069	± 0.024	± 0.036	± 0.038	± 0.031	± 0.025	± 0.063	± 0.071	± 0.035	± 0.035	± 0.049	± 0.065	± 0.029	± 0.022	± 0.051	± 0.012	± 0.038
	BAcc	0.130	0.135	0.120	0.195	0.110	0.210	0.135	0.195	0.015	0.055	0.040	0.105	0.080	0.205	0.035	0.135	0.040
		± 0.082	± 0.065	± 0.060	± 0.057	± 0.038	± 0.076	± 0.082	± 0.072	± 0.014	± 0.021	± 0.022	± 0.057	± 0.048	± 0.048	± 0.022	± 0.049	± 0.013
	Acc.1	0.130	0.135	0.120	0.195	0.110	0.234	0.150	0.225	0.019	0.053	0.044	0.141	0.059	0.241	0.059	0.141	0.044
		± 0.082	± 0.065	± 0.060	± 0.057	± 0.038	± 0.074	± 0.146	± 0.071	± 0.026	± 0.032	± 0.055	± 0.080	± 0.036	± 0.081	± 0.051	± 0.058	± 0.030
Subject31	AUC	0.180	0.220	0.205	0.305	0.170	0.331	0.219	0.300	0.050	0.184	0.062	0.212	0.131	0.362	0.091	0.206	0.122
		± 0.127	± 0.086	± 0.084	± 0.054	± 0.021	± 0.098	± 0.137	± 0.142	± 0.034	± 0.060	± 0.047	± 0.116	± 0.039	± 0.056	± 0.076	± 0.040	± 0.034
	BAcc	0.154	0.067	0.144	0.205	0.067	0.087	0.051	0.149	0.000	0.062	0.000	0.092	0.107	0.159	-0.015	0.231	0.029
		± 0.099	± 0.043	± 0.053	± 0.031	± 0.047	± 0.039	± 0.048	± 0.033	± 0.018	± 0.049	± 0.019	± 0.069	± 0.025	± 0.066	± 0.014	± 0.056	± 0.025
	Acc.1	0.175	0.090	0.165	0.225	0.090	0.110	0.075	0.170	0.025	0.086	0.025	0.115	0.129	0.180	0.010	0.250	0.053
		± 0.097	± 0.042	± 0.052	± 0.031	± 0.045	± 0.038	± 0.047	± 0.033	± 0.018	± 0.048	± 0.019	± 0.068	± 0.025	± 0.065	± 0.014	± 0.055	± 0.025
Subject32	AUC	0.175	0.090	0.159	0.225	0.090	0.153	0.047	0.172	0.016	0.074	0.027	0.138	0.151	0.197	0.006	0.312	0.070
		± 0.097	± 0.042	± 0.078	± 0.034	± 0.045	± 0.058	± 0.029	± 0.067	± 0.011	± 0.049	± 0.029	± 0.091	± 0.037	± 0.069	± 0.009	± 0.089	± 0.037
	Acc.2	0.265	0.200	0.263	0.322	0.160	0.225	0.150	0.259	0.050	0.154	0.039	0.194	0.258	0.294	0.044	0.365	0.107
		± 0.088	± 0.079	± 0.113	± 0.085	± 0.060	± 0.057	± 0.103	± 0.059	± 0.034	± 0.070	± 0.029	± 0.083	± 0.084	± 0.071	± 0.037	± 0.079	± 0.062
	κ	0.446	0.497	0.631	0.749	0.662	0.677	0.451	0.703	0.041	0.123	0.067	0.344	0.426	0.692	0.031	0.551	0.041
		± 0.305	± 0.152	± 0.084	± 0.058	± 0.046	± 0.062	± 0.082	± 0.074	± 0.047	± 0.066	± 0.023	± 0.062	± 0.059	± 0.081	± 0.011	± 0.096	± 0.053
	AUC	0.933	0.970	0.979	0.988	0.975	0.975	0.950	0.987	0.572	0.688	0.712	0.893	0.940	0.961	0.592	0.951	0.688
		± 0.086	± 0.015	± 0.010	± 0.008	± 0.014	± 0.024	± 0.020	± 0.007	± 0.061	± 0.040	± 0.021	± 0.016	± 0.017	± 0.019	± 0.051	± 0.022	± 0.042

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)
Subject32	BAcc	0.460 ±0.297	0.510 ±0.149	0.640 ±0.082	0.755 ±0.057	0.670 ±0.045	0.685 ±0.060	0.465 ±0.080	0.710 ±0.072	0.065 ±0.045	0.145 ±0.065	0.090 ±0.022	0.360 ±0.060	0.440 ±0.058	0.700 ±0.079	0.055 ±0.011	0.562 ±0.093	0.065 ±0.052
	Acc.1	0.460 ±0.297	0.510 ±0.149	0.616 ±0.094	0.781 ±0.016	0.670 ±0.045	0.709 ±0.089	0.478 ±0.093	0.706 ±0.058	0.050 ±0.042	0.156 ±0.106	0.131 ±0.053	0.403 ±0.084	0.491 ±0.080	0.700 ±0.093	0.053 ±0.030	0.586 ±0.056	0.041 ±0.032
	Acc.2	0.590 ±0.309	0.700 ±0.121	0.778 ±0.093	0.900 ±0.042	0.810 ±0.060	0.909 ±0.058	0.716 ±0.073	0.869 ±0.045	0.084 ±0.055	0.253 ±0.068	0.203 ±0.073	0.522 ±0.085	0.644 ±0.058	0.853 ±0.073	0.069 ±0.045	0.740 ±0.088	0.062 ±0.029
	κ	0.190 ±0.201	0.297 ±0.023	0.256 ±0.077	0.400 ±0.059	0.215 ±0.039	0.390 ±0.095	0.190 ±0.056	0.477 ±0.102	0.051 ±0.054	0.103 ±0.051	-0.005 ±0.033	0.113 ±0.047	0.159 ±0.080	0.441 ±0.073	0.031 ±0.046	0.477 ±0.056	0.005 ±0.033
	AUC	0.825 ±0.111	0.899 ±0.013	0.871 ±0.037	0.923 ±0.019	0.844 ±0.032	0.870 ±0.038	0.832 ±0.030	0.934 ±0.016	0.605 ±0.082	0.737 ±0.052	0.608 ±0.054	0.703 ±0.068	0.782 ±0.048	0.888 ±0.026	0.903 ±0.045	0.903 ±0.018	0.646 ±0.017
	BAcc	0.210 ±0.196	0.315 ±0.022	0.275 ±0.075	0.415 ±0.058	0.235 ±0.038	0.405 ±0.093	0.210 ±0.055	0.490 ±0.099	0.075 ±0.053	0.125 ±0.050	0.020 ±0.033	0.135 ±0.045	0.180 ±0.078	0.455 ±0.072	0.055 ±0.045	0.490 ±0.055	0.030 ±0.033
Subject33	Acc.1	0.210 ±0.196	0.315 ±0.022	0.247 ±0.104	0.438 ±0.082	0.235 ±0.038	0.384 ±0.107	0.197 ±0.055	0.450 ±0.127	0.075 ±0.071	0.097 ±0.059	0.022 ±0.041	0.141 ±0.043	0.169 ±0.093	0.472 ±0.095	0.072 ±0.045	0.503 ±0.078	0.037 ±0.059
	Acc.2	0.335 ±0.280	0.495 ±0.045	0.403 ±0.107	0.569 ±0.110	0.375 ±0.073	0.537 ±0.097	0.347 ±0.088	0.597 ±0.156	0.109 ±0.072	0.188 ±0.057	0.062 ±0.040	0.181 ±0.065	0.278 ±0.073	0.603 ±0.046	0.091 ±0.020	0.622 ±0.078	0.066 ±0.052
Subject34	κ	0.385 ±0.101	0.272 ±0.113	0.287 ±0.066	0.333 ±0.075	0.169 ±0.069	0.123 ±0.049	0.087 ±0.047	0.374 ±0.076	0.005 ±0.021	0.103 ±0.041	0.026 ±0.031	0.064 ±0.035	0.169 ±0.104	0.272 ±0.034	-0.005 ±0.011	0.251 ±0.038	0.031 ±0.028
	AUC	0.911 ±0.047	0.875 ±0.040	0.831 ±0.037	0.865 ±0.032	0.788 ±0.041	0.719 ±0.033	0.680 ±0.035	0.902 ±0.020	0.540 ±0.052	0.666 ±0.037	0.555 ±0.050	0.675 ±0.040	0.817 ±0.022	0.796 ±0.023	0.466 ±0.066	0.769 ±0.042	0.542 ±0.027
	BAcc	0.400 ±0.098	0.290 ±0.110	0.305 ±0.065	0.350 ±0.073	0.190 ±0.068	0.145 ±0.048	0.110 ±0.045	0.390 ±0.074	0.030 ±0.021	0.125 ±0.040	0.050 ±0.031	0.088 ±0.034	0.190 ±0.101	0.290 ±0.034	0.020 ±0.011	0.270 ±0.037	0.055 ±0.027
	Acc.1	0.400 ±0.098	0.290 ±0.110	0.305 ±0.065	0.331 ±0.065	0.190 ±0.068	0.184 ±0.087	0.125 ±0.069	0.384 ±0.118	0.019 ±0.013	0.163 ±0.060	0.041 ±0.028	0.109 ±0.065	0.212 ±0.118	0.359 ±0.038	0.013 ±0.007	0.328 ±0.046	0.044 ±0.026
	Acc.2	0.505 ±0.104	0.455 ±0.102	0.420 ±0.093	0.472 ±0.074	0.285 ±0.076	0.256 ±0.062	0.244 ±0.044	0.528 ±0.051	0.056 ±0.042	0.234 ±0.049	0.069 ±0.041	0.167 ±0.032	0.334 ±0.113	0.447 ±0.074	0.037 ±0.026	0.466 ±0.113	0.062 ±0.025
	κ	0.215 ±0.097	0.138 ±0.039	0.246 ±0.034	0.277 ±0.066	0.215 ±0.062	0.185 ±0.021	0.103 ±0.063	0.277 ±0.076	0.041 ±0.043	0.108 ±0.058	0.046 ±0.021	0.077 ±0.054	0.092 ±0.047	0.174 ±0.033	0.051 ±0.048	0.231 ±0.070	0.015 ±0.029
Subject35	AUC	0.836 ±0.067	0.830 ±0.059	0.839 ±0.022	0.854 ±0.038	0.833 ±0.047	0.721 ±0.079	0.727 ±0.032	0.874 ±0.052	0.647 ±0.038	0.681 ±0.046	0.633 ±0.019	0.677 ±0.065	0.721 ±0.039	0.788 ±0.037	0.591 ±0.039	0.766 ±0.028	0.603 ±0.079
	BAcc	0.235 ±0.095	0.160 ±0.038	0.265 ±0.034	0.295 ±0.065	0.235 ±0.060	0.205 ±0.021	0.125 ±0.061	0.295 ±0.074	0.065 ±0.042	0.130 ±0.057	0.070 ±0.021	0.100 ±0.053	0.115 ±0.045	0.137 ±0.033	0.075 ±0.047	0.250 ±0.068	0.040 ±0.029

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)
Subject4	Acc.1	0.235	0.160	0.241	0.306	0.235	0.222	0.106	0.287	0.078	0.175	0.091	0.128	0.119	0.197	0.084	0.297	0.044
		± 0.095	± 0.038	± 0.034	± 0.060	± 0.060	± 0.078	± 0.076	± 0.121	± 0.059	± 0.091	± 0.049	± 0.063	± 0.061	± 0.056	± 0.053	± 0.147	± 0.040
	Acc.2	0.355	0.285	0.338	0.359	0.355	0.294	0.166	0.431	0.125	0.275	0.116	0.216	0.222	0.294	0.094	0.400	0.100
		± 0.105	± 0.113	± 0.046	± 0.053	± 0.033	± 0.106	± 0.048	± 0.136	± 0.059	± 0.114	± 0.034	± 0.050	± 0.084	± 0.057	± 0.051	± 0.107	± 0.097
	κ	0.185	0.118	0.082	0.185	0.092	0.159	0.082	0.159	-0.005	0.010	0.021	0.031	0.026	0.210	0.021	0.164	-0.000
	AUC	± 0.056	± 0.056	± 0.056	± 0.049	± 0.023	± 0.105	± 0.053	± 0.042	± 0.021	± 0.034	± 0.042	± 0.042	± 0.044	± 0.071	± 0.021	± 0.097	± 0.026
Subject5	Acc.1	0.809	0.769	0.711	0.800	0.687	0.726	0.730	0.740	0.522	0.573	0.571	0.655	0.666	0.781	0.500	0.725	0.509
		± 0.031	± 0.012	± 0.026	± 0.030	± 0.046	± 0.076	± 0.040	± 0.034	± 0.068	± 0.017	± 0.025	± 0.073	± 0.029	± 0.053	± 0.052	± 0.074	± 0.022
	BAcc	0.205	0.140	0.105	0.205	0.115	0.180	0.105	0.180	0.020	0.035	0.045	0.055	0.050	0.230	0.045	0.185	0.025
		± 0.054	± 0.055	± 0.054	± 0.048	± 0.022	± 0.102	± 0.051	± 0.041	± 0.021	± 0.034	± 0.041	± 0.041	± 0.043	± 0.069	± 0.021	± 0.095	± 0.025
	Acc.2	0.205	0.149	0.103	0.212	0.115	0.216	0.141	0.216	0.022	0.050	0.037	0.053	0.031	0.275	0.047	0.191	0.025
		± 0.054	± 0.102	± 0.053	± 0.060	± 0.022	± 0.108	± 0.103	± 0.053	± 0.026	± 0.060	± 0.039	± 0.061	± 0.027	± 0.102	± 0.025	± 0.084	± 0.026
Subject6	Acc.1	0.335	0.251	0.231	0.353	0.190	0.331	0.259	0.316	0.037	0.075	0.047	0.134	0.094	0.381	0.091	0.312	0.053
		± 0.065	± 0.076	± 0.062	± 0.053	± 0.034	± 0.149	± 0.067	± 0.040	± 0.026	± 0.053	± 0.031	± 0.123	± 0.016	± 0.103	± 0.020	± 0.102	± 0.045
	κ	0.595	0.513	0.549	0.697	0.400	0.733	0.554	0.721	0.026	0.092	0.051	0.410	0.487	0.646	0.015	0.621	0.046
		± 0.206	± 0.118	± 0.104	± 0.106	± 0.053	± 0.064	± 0.078	± 0.067	± 0.043	± 0.039	± 0.026	± 0.073	± 0.075	± 0.102	± 0.039	± 0.066	± 0.033
	AUC	0.975	0.960	0.971	0.984	0.910	0.974	0.961	0.987	0.625	0.754	0.654	0.913	0.953	0.974	0.560	0.950	0.607
		± 0.028	± 0.020	± 0.007	± 0.008	± 0.021	± 0.013	± 0.019	± 0.010	± 0.031	± 0.024	± 0.008	± 0.021	± 0.019	± 0.015	± 0.018	± 0.027	± 0.025
Subject7	BAcc	0.605	0.525	0.560	0.705	0.415	0.740	0.565	0.728	0.050	0.115	0.075	0.425	0.500	0.655	0.040	0.630	0.070
		± 0.201	± 0.115	± 0.101	± 0.104	± 0.052	± 0.063	± 0.076	± 0.065	± 0.042	± 0.038	± 0.025	± 0.071	± 0.073	± 0.099	± 0.038	± 0.065	± 0.033
	Acc.1	0.605	0.525	0.560	0.705	0.415	0.762	0.550	0.740	0.043	0.109	0.075	0.463	0.537	0.691	0.044	0.675	0.091
		± 0.201	± 0.115	± 0.101	± 0.104	± 0.052	± 0.060	± 0.095	± 0.129	± 0.042	± 0.082	± 0.036	± 0.070	± 0.087	± 0.102	± 0.043	± 0.062	± 0.020
	Acc.2	0.755	0.725	0.730	0.885	0.550	0.891	0.728	0.859	0.082	0.209	0.156	0.603	0.678	0.859	0.116	0.797	0.128
		± 0.244	± 0.120	± 0.054	± 0.029	± 0.073	± 0.061	± 0.095	± 0.089	± 0.042	± 0.053	± 0.049	± 0.083	± 0.089	± 0.049	± 0.039	± 0.073	± 0.045
Subject8	κ	0.528	0.338	0.482	0.538	0.236	0.441	0.221	0.467	0.015	0.097	0.031	0.195	0.282	0.559	0.021	0.574	0.007
		± 0.086	± 0.066	± 0.080	± 0.041	± 0.144	± 0.058	± 0.023	± 0.049	± 0.029	± 0.058	± 0.048	± 0.059	± 0.065	± 0.056	± 0.033	± 0.052	± 0.013
	AUC	0.980	0.954	0.959	0.969	0.788	0.925	0.870	0.925	0.529	0.699	0.654	0.793	0.897	0.930	0.532	0.936	0.637
		± 0.009	± 0.016	± 0.016	± 0.009	± 0.171	± 0.028	± 0.015	± 0.008	± 0.031	± 0.017	± 0.022	± 0.030	± 0.016	± 0.037	± 0.055	± 0.017	± 0.033
	BAcc	0.540	0.355	0.495	0.550	0.255	0.455	0.240	0.480	0.040	0.120	0.056	0.215	0.300	0.570	0.045	0.585	0.032
		± 0.084	± 0.065	± 0.078	± 0.040	± 0.141	± 0.057	± 0.022	± 0.048	± 0.029	± 0.057	± 0.046	± 0.058	± 0.064	± 0.054	± 0.033	± 0.050	± 0.012
Subject9	Acc.1	0.540	0.355	0.495	0.550	0.255	0.491	0.244	0.478	0.044	0.131	0.050	0.237	0.263	0.591	0.037	0.609	0.020
		± 0.084	± 0.065	± 0.078	± 0.040	± 0.141	± 0.103	± 0.059	± 0.079	± 0.030	± 0.042	± 0.050	± 0.055	± 0.079	± 0.096	± 0.024	± 0.074	± 0.008

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject7	Acc.2	0.770 ± 0.048	0.560 ± 0.042	0.700 ± 0.053	0.710 ± 0.074	0.345 ± 0.169	0.659 ± 0.087	0.394 ± 0.059	0.659 ± 0.086	0.066 ± 0.034	0.237 ± 0.070	0.111 ± 0.062	0.322 ± 0.049	0.441 ± 0.078	0.684 ± 0.138	0.081 ± 0.058	0.780 ± 0.053	0.049 ± 0.014
	κ	0.174 ± 0.146	0.256 ± 0.060	0.277 ± 0.093	0.333 ± 0.107	0.133 ± 0.061	0.267 ± 0.053	0.231 ± 0.126	0.287 ± 0.090	0.015 ± 0.029	0.048 ± 0.048	0.010 ± 0.014	0.092 ± 0.039	0.218 ± 0.058	0.313 ± 0.061	0.010 ± 0.029	0.277 ± 0.114	0.031 ± 0.021
	AUC	0.799 ± 0.083	0.857 ± 0.033	0.904 ± 0.017	0.918 ± 0.023	0.804 ± 0.011	0.840 ± 0.020	0.847 ± 0.033	0.855 ± 0.033	0.529 ± 0.047	0.702 ± 0.063	0.610 ± 0.042	0.751 ± 0.024	0.840 ± 0.019	0.848 ± 0.050	0.559 ± 0.070	0.802 ± 0.051	0.636 ± 0.057
	BAcc	0.195 ± 0.142	0.275 ± 0.059	0.295 ± 0.091	0.350 ± 0.105	0.155 ± 0.060	0.285 ± 0.052	0.250 ± 0.122	0.305 ± 0.087	0.040 ± 0.029	0.072 ± 0.047	0.035 ± 0.014	0.115 ± 0.038	0.238 ± 0.057	0.330 ± 0.060	0.035 ± 0.029	0.295 ± 0.111	0.055 ± 0.021
	Acc.1	0.195 ± 0.142	0.286 ± 0.052	0.295 ± 0.091	0.359 ± 0.151	0.155 ± 0.060	0.319 ± 0.101	0.325 ± 0.132	0.312 ± 0.062	0.044 ± 0.040	0.092 ± 0.060	0.031 ± 0.019	0.128 ± 0.055	0.236 ± 0.068	0.384 ± 0.109	0.031 ± 0.025	0.316 ± 0.168	0.034 ± 0.013
	Acc.2	0.290 ± 0.221	0.352 ± 0.050	0.500 ± 0.077	0.566 ± 0.131	0.240 ± 0.029	0.478 ± 0.085	0.503 ± 0.150	0.478 ± 0.074	0.056 ± 0.036	0.189 ± 0.056	0.116 ± 0.056	0.222 ± 0.030	0.326 ± 0.079	0.559 ± 0.103	0.072 ± 0.051	0.450 ± 0.191	0.075 ± 0.037
	κ	0.333 ± 0.094	0.231 ± 0.070	0.267 ± 0.047	0.288 ± 0.054	0.144 ± 0.094	0.267 ± 0.102	0.185 ± 0.071	0.362 ± 0.086	0.019 ± 0.023	0.026 ± 0.060	0.016 ± 0.030	0.175 ± 0.044	0.205 ± 0.063	0.327 ± 0.053	0.010 ± 0.039	0.282 ± 0.054	0.021 ± 0.021
	AUC	0.918 ± 0.034	0.862 ± 0.042	0.871 ± 0.016	0.891 ± 0.020	0.762 ± 0.124	0.799 ± 0.060	0.803 ± 0.039	0.914 ± 0.029	0.526 ± 0.051	0.615 ± 0.048	0.553 ± 0.035	0.771 ± 0.023	0.861 ± 0.020	0.849 ± 0.031	0.568 ± 0.041	0.844 ± 0.051	0.637 ± 0.032
	BAcc	0.350 ± 0.092	0.250 ± 0.068	0.285 ± 0.045	0.306 ± 0.053	0.165 ± 0.091	0.285 ± 0.099	0.205 ± 0.069	0.378 ± 0.084	0.044 ± 0.022	0.050 ± 0.058	0.041 ± 0.030	0.196 ± 0.043	0.225 ± 0.061	0.344 ± 0.051	0.035 ± 0.038	0.300 ± 0.053	0.045 ± 0.021
	Acc.1	0.350 ± 0.092	0.250 ± 0.068	0.285 ± 0.045	0.385 ± 0.076	0.165 ± 0.091	0.347 ± 0.113	0.231 ± 0.092	0.436 ± 0.077	0.051 ± 0.041	0.066 ± 0.069	0.049 ± 0.050	0.224 ± 0.061	0.281 ± 0.088	0.408 ± 0.085	0.050 ± 0.064	0.366 ± 0.039	0.028 ± 0.013
	Acc.2	0.500 ± 0.094	0.430 ± 0.065	0.420 ± 0.037	0.553 ± 0.094	0.265 ± 0.129	0.444 ± 0.148	0.309 ± 0.089	0.625 ± 0.068	0.094 ± 0.072	0.164 ± 0.072	0.094 ± 0.062	0.299 ± 0.067	0.441 ± 0.051	0.514 ± 0.111	0.106 ± 0.079	0.606 ± 0.126	0.072 ± 0.028
Subject9	κ	0.395 ± 0.099	0.287 ± 0.088	0.256 ± 0.065	0.372 ± 0.102	0.241 ± 0.099	0.359 ± 0.083	0.179 ± 0.065	0.401 ± 0.083	0.016 ± 0.036	0.071 ± 0.033	0.000 ± 0.018	0.103 ± 0.051	0.164 ± 0.029	0.228 ± 0.016	0.021 ± 0.028	0.333 ± 0.068	0.019 ± 0.023
	AUC	0.923 ± 0.040	0.867 ± 0.012	0.883 ± 0.037	0.915 ± 0.016	0.834 ± 0.036	0.844 ± 0.033	0.808 ± 0.037	0.911 ± 0.026	0.611 ± 0.052	0.687 ± 0.050	0.518 ± 0.036	0.715 ± 0.058	0.781 ± 0.018	0.830 ± 0.025	0.533 ± 0.046	0.825 ± 0.037	0.590 ± 0.038
	BAcc	0.410 ± 0.096	0.305 ± 0.086	0.275 ± 0.064	0.388 ± 0.099	0.260 ± 0.096	0.375 ± 0.081	0.200 ± 0.064	0.416 ± 0.081	0.041 ± 0.035	0.094 ± 0.032	0.025 ± 0.018	0.125 ± 0.050	0.185 ± 0.029	0.247 ± 0.016	0.045 ± 0.027	0.350 ± 0.066	0.044 ± 0.022
	Acc.1	0.410 ± 0.096	0.305 ± 0.086	0.275 ± 0.064	0.402 ± 0.116	0.260 ± 0.096	0.422 ± 0.074	0.209 ± 0.070	0.406 ± 0.096	0.043 ± 0.042	0.094 ± 0.047	0.025 ± 0.024	0.125 ± 0.059	0.200 ± 0.030	0.254 ± 0.054	0.037 ± 0.021	0.341 ± 0.062	0.045 ± 0.037
	Acc.2	0.550 ± 0.105	0.415 ± 0.052	0.430 ± 0.108	0.542 ± 0.070	0.375 ± 0.108	0.525 ± 0.125	0.309 ± 0.097	0.562 ± 0.084	0.061 ± 0.054	0.191 ± 0.067	0.053 ± 0.032	0.206 ± 0.098	0.253 ± 0.049	0.373 ± 0.059	0.062 ± 0.044	0.512 ± 0.062	0.098 ± 0.066

Generalization Drop After Fine-Tuning

Table 67: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.142	0.137	0.138	0.138	0.194
DeepConvnet	± 0.041	± 0.038	± 0.040	± 0.040	± 0.054
	0.129	0.136	0.126	0.126	0.185
EEGNet	± 0.023	± 0.035	± 0.023	± 0.022	± 0.035
	0.125	0.154	0.122	0.122	0.176
Conformer	± 0.029	± 0.044	± 0.028	± 0.031	± 0.048
	0.199	0.160	0.194	0.195	0.275
CTNet	± 0.025	± 0.036	± 0.024	± 0.028	± 0.044
	0.110	0.148	0.107	0.107	0.158
SSVEPDNN	± 0.019	± 0.033	± 0.019	± 0.019	± 0.029
	0.098	0.060	0.096	0.097	0.127
BIOT (f)	± 0.033	± 0.028	± 0.032	± 0.035	± 0.050
	0.113	0.129	0.110	0.112	0.183
BIOT (l)	± 0.020	± 0.031	± 0.019	± 0.021	± 0.032
	0.070	0.051	0.068	0.066	0.086
BENDR (f)	± 0.036	± 0.027	± 0.035	± 0.034	± 0.043
	0.008	0.044	0.008	0.008	0.014
BENDR (l)	± 0.002	± 0.007	± 0.002	± 0.003	± 0.006
	0.011	0.018	0.010	0.010	0.019
CBraMod (f)	± 0.007	± 0.010	± 0.007	± 0.012	± 0.019
	0.021	0.099	0.020	0.028	0.047
CBraMod (l)	± 0.007	± 0.026	± 0.007	± 0.014	± 0.020
	0.030	0.029	0.029	0.032	0.040
EEGPT (f)	± 0.014	± 0.017	± 0.013	± 0.018	± 0.022
	0.124	0.142	0.121	0.131	0.184
EEGPT (l)	± 0.015	± 0.039	± 0.015	± 0.019	± 0.031
	0.094	0.044	0.092	0.093	0.108
LaBraM (f)	± 0.030	± 0.019	± 0.029	± 0.034	± 0.040
	0.006	0.024	0.006	0.003	0.006
LaBraM (l)	± 0.003	± 0.006	± 0.003	± 0.008	± 0.013
	0.110	0.062	0.107	0.109	0.134
STEEGformer-s (f)	± 0.033	± 0.027	± 0.032	± 0.039	± 0.051
	0.011	0.056	0.010	0.003	0.008
STEEGformer-s (l)	± 0.002	± 0.012	± 0.002	± 0.010	± 0.016

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Table 68: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
Subject1	κ	0.166	0.135	0.138	0.212	0.124	0.079	0.097	0.098	0.006	0.014	0.028	0.053	0.128	0.105	0.010	0.123	0.010
		± 0.121	± 0.112	± 0.096	± 0.137	± 0.101	± 0.058	± 0.078	± 0.079	± 0.016	± 0.024	± 0.022	± 0.051	± 0.097	± 0.070	± 0.022	± 0.077	± 0.020
	AUC	0.151	0.154	0.164	0.158	0.173	0.041	0.107	0.071	0.053	0.011	0.104	0.161	0.036	0.036	0.024	0.076	0.056
		± 0.071	± 0.071	± 0.072	± 0.075	± 0.091	± 0.031	± 0.048	± 0.046	± 0.052	± 0.025	± 0.044	± 0.028	± 0.065	± 0.025	± 0.037	± 0.031	± 0.034
	BAcc	0.162	0.131	0.135	0.207	0.121	0.077	0.095	0.095	0.006	0.014	0.027	0.052	0.125	0.103	0.009	0.120	0.010
		± 0.118	± 0.109	± 0.093	± 0.134	± 0.099	± 0.057	± 0.076	± 0.077	± 0.015	± 0.023	± 0.022	± 0.050	± 0.094	± 0.069	± 0.022	± 0.075	± 0.019
Subject10	Acc.1	0.162	0.131	0.135	0.207	0.121	0.099	0.096	0.100	0.006	0.024	0.043	0.075	0.158	0.133	0.011	0.146	0.010
		± 0.118	± 0.109	± 0.093	± 0.134	± 0.099	± 0.068	± 0.079	± 0.080	± 0.021	± 0.032	± 0.028	± 0.068	± 0.115	± 0.082	± 0.022	± 0.102	± 0.027
	Acc.2	0.226	0.194	0.191	0.291	0.172	0.126	0.152	0.126	0.011	0.033	0.068	0.085	0.230	0.148	0.016	0.168	0.020
		± 0.142	± 0.145	± 0.119	± 0.173	± 0.136	± 0.063	± 0.112	± 0.092	± 0.033	± 0.040	± 0.048	± 0.069	± 0.145	± 0.085	± 0.025	± 0.111	± 0.036
Subject11	κ	0.185	0.167	0.161	0.234	0.135	0.109	0.125	0.130	0.012	-0.000	0.016	0.052	0.132	0.123	0.005	0.138	0.009
		± 0.125	± 0.117	± 0.114	± 0.148	± 0.105	± 0.075	± 0.085	± 0.077	± 0.018	± 0.020	± 0.018	± 0.049	± 0.092	± 0.074	± 0.023	± 0.082	± 0.018
	AUC	0.191	0.187	0.209	0.206	0.192	0.058	0.139	0.097	0.049	0.016	0.095	0.055	0.167	0.065	0.024	0.083	0.047
		± 0.070	± 0.072	± 0.069	± 0.076	± 0.085	± 0.030	± 0.053	± 0.040	± 0.043	± 0.018	± 0.034	± 0.032	± 0.059	± 0.027	± 0.028	± 0.035	± 0.028
	BAcc	0.180	0.162	0.157	0.229	0.132	0.106	0.122	0.127	0.011	-0.000	0.016	0.050	0.129	0.120	0.004	0.134	0.009
		± 0.121	± 0.114	± 0.112	± 0.145	± 0.103	± 0.073	± 0.083	± 0.075	± 0.018	± 0.019	± 0.018	± 0.048	± 0.090	± 0.073	± 0.022	± 0.080	± 0.018
Subject1	Acc.1	0.180	0.162	0.157	0.229	0.132	0.111	0.130	0.127	0.014	0.001	0.002	0.064	0.150	0.142	-0.004	0.149	0.005
		± 0.121	± 0.114	± 0.112	± 0.145	± 0.103	± 0.071	± 0.096	± 0.077	± 0.023	± 0.028	± 0.029	± 0.055	± 0.104	± 0.078	± 0.025	± 0.092	± 0.022
	Acc.2	0.251	0.239	0.230	0.329	0.205	0.141	0.204	0.163	0.017	0.011	0.024	0.076	0.214	0.169	-0.007	0.181	0.008
		± 0.147	± 0.152	± 0.145	± 0.186	± 0.140	± 0.072	± 0.135	± 0.088	± 0.030	± 0.043	± 0.037	± 0.053	± 0.136	± 0.081	± 0.031	± 0.096	± 0.032
	κ	0.166	0.144	0.146	0.199	0.116	0.094	0.113	0.063	0.008	0.002	0.023	0.026	0.117	0.089	0.009	0.113	0.009
		± 0.110	± 0.097	± 0.111	± 0.130	± 0.092	± 0.069	± 0.089	± 0.047	± 0.020	± 0.022	± 0.027	± 0.040	± 0.092	± 0.057	± 0.020	± 0.068	± 0.018
Subject11	AUC	0.140	0.139	0.188	0.167	0.154	0.055	0.123	0.045	0.051	0.011	0.110	0.027	0.143	0.046	0.027	0.059	0.069
		± 0.061	± 0.062	± 0.062	± 0.064	± 0.079	± 0.028	± 0.046	± 0.032	± 0.045	± 0.014	± 0.046	± 0.025	± 0.056	± 0.016	± 0.030	± 0.033	± 0.036
	BAcc	0.162	0.141	0.142	0.194	0.113	0.092	0.110	0.061	0.008	0.002	0.026	0.115	0.086	0.009	0.110	0.009	
		± 0.108	± 0.095	± 0.109	± 0.126	± 0.090	± 0.067	± 0.087	± 0.046	± 0.020	± 0.021	± 0.026	± 0.039	± 0.090	± 0.055	± 0.019	± 0.066	± 0.018
	Acc.1	0.162	0.141	0.141	0.199	0.113	0.081	0.094	0.059	0.008	-0.001	0.034	0.032	0.138	0.090	0.005	0.124	0.005
		± 0.108	± 0.095	± 0.110	± 0.126	± 0.090	± 0.068	± 0.083	± 0.047	± 0.022	± 0.027	± 0.038	± 0.043	± 0.108	± 0.057	± 0.019	± 0.073	± 0.022
Subject11	Acc.2	0.219	0.194	0.206	0.285	0.176	0.110	0.171	0.074	0.015	0.010	0.056	0.042	0.199	0.099	0.008	0.149	0.005
		± 0.130	± 0.130	± 0.120	± 0.173	± 0.122	± 0.064	± 0.133	± 0.052	± 0.027	± 0.034	± 0.047	± 0.047	± 0.126	± 0.057	± 0.027	± 0.088	± 0.026

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject12	κ	0.205 ± 0.137	0.177 ± 0.129	0.167 ± 0.114	0.252 ± 0.164	0.137 ± 0.103	0.191 ± 0.123	0.165 ± 0.128	0.148 ± 0.095	0.006 ± 0.018	0.011 ± 0.024	0.016 ± 0.021	0.048 ± 0.050	0.143 ± 0.108	0.180 ± 0.108	0.008 ± 0.017	0.210 ± 0.128	0.013 ± 0.017
	AUC	0.216 ± 0.074	0.216 ± 0.083	0.226 ± 0.077	0.245 ± 0.077	0.203 ± 0.092	0.148 ± 0.061	0.210 ± 0.083	0.114 ± 0.036	0.045 ± 0.038	0.010 ± 0.017	0.100 ± 0.037	0.047 ± 0.032	0.190 ± 0.078	0.104 ± 0.029	0.032 ± 0.027	0.165 ± 0.064	0.073 ± 0.033
	BAcc	0.200 ± 0.133	0.173 ± 0.126	0.163 ± 0.111	0.245 ± 0.160	0.134 ± 0.101	0.186 ± 0.120	0.161 ± 0.125	0.144 ± 0.092	0.006 ± 0.018	0.011 ± 0.024	0.016 ± 0.020	0.047 ± 0.048	0.139 ± 0.106	0.176 ± 0.105	0.007 ± 0.017	0.204 ± 0.125	0.013 ± 0.016
	Acc.1	0.198 ± 0.133	0.163 ± 0.119	0.177 ± 0.115	0.245 ± 0.160	0.134 ± 0.101	0.180 ± 0.113	0.169 ± 0.130	0.127 ± 0.084	0.005 ± 0.023	0.005 ± 0.029	0.023 ± 0.030	0.052 ± 0.059	0.154 ± 0.118	0.166 ± 0.103	0.004 ± 0.021	0.203 ± 0.132	0.009 ± 0.023
	Acc.2	0.273 ± 0.154	0.241 ± 0.158	0.255 ± 0.154	0.351 ± 0.201	0.201 ± 0.145	0.246 ± 0.145	0.274 ± 0.190	0.169 ± 0.098	0.010 ± 0.032	0.021 ± 0.034	0.044 ± 0.038	0.058 ± 0.069	0.225 ± 0.150	0.195 ± 0.095	0.013 ± 0.033	0.262 ± 0.143	0.013 ± 0.031
Subject13	κ	0.148 ± 0.099	0.125 ± 0.095	0.096 ± 0.075	0.193 ± 0.124	0.118 ± 0.087	0.085 ± 0.053	0.100 ± 0.063	0.057 ± 0.058	0.002 ± 0.017	0.011 ± 0.023	0.018 ± 0.019	0.010 ± 0.023	0.097 ± 0.066	0.060 ± 0.050	0.006 ± 0.015	0.093 ± 0.066	0.007 ± 0.015
	AUC	0.120 ± 0.076	0.130 ± 0.063	0.123 ± 0.072	0.152 ± 0.056	0.150 ± 0.076	0.047 ± 0.027	0.103 ± 0.039	0.039 ± 0.039	0.037 ± 0.040	0.008 ± 0.019	0.067 ± 0.032	0.007 ± 0.018	0.085 ± 0.041	0.031 ± 0.018	0.023 ± 0.031	0.045 ± 0.036	0.043 ± 0.031
	BAcc	0.144 ± 0.096	0.122 ± 0.093	0.094 ± 0.073	0.189 ± 0.121	0.115 ± 0.084	0.083 ± 0.052	0.098 ± 0.061	0.056 ± 0.057	0.002 ± 0.017	0.011 ± 0.022	0.018 ± 0.018	0.010 ± 0.022	0.095 ± 0.065	0.059 ± 0.049	0.006 ± 0.014	0.091 ± 0.064	0.007 ± 0.015
	Acc.1	0.144 ± 0.096	0.122 ± 0.093	0.094 ± 0.073	0.189 ± 0.121	0.115 ± 0.084	0.105 ± 0.068	0.105 ± 0.066	0.057 ± 0.060	0.002 ± 0.020	0.012 ± 0.028	0.025 ± 0.021	0.008 ± 0.031	0.107 ± 0.065	0.060 ± 0.054	0.012 ± 0.016	0.086 ± 0.070	0.010 ± 0.020
	Acc.2	0.209 ± 0.125	0.179 ± 0.113	0.147 ± 0.097	0.272 ± 0.157	0.164 ± 0.113	0.130 ± 0.068	0.170 ± 0.102	0.075 ± 0.080	0.009 ± 0.027	0.024 ± 0.038	0.044 ± 0.042	0.011 ± 0.034	0.142 ± 0.079	0.079 ± 0.050	0.026 ± 0.027	0.103 ± 0.085	0.017 ± 0.027
Subject14	κ	0.122 ± 0.110	0.097 ± 0.076	0.094 ± 0.077	0.162 ± 0.115	0.092 ± 0.079	0.071 ± 0.063	0.097 ± 0.075	0.062 ± 0.067	0.011 ± 0.018	-0.008 ± 0.018	0.014 ± 0.023	0.029 ± 0.037	0.101 ± 0.076	0.070 ± 0.054	0.004 ± 0.017	0.086 ± 0.076	0.011 ± 0.020
	AUC	0.100 ± 0.078	0.088 ± 0.058	0.096 ± 0.072	0.117 ± 0.060	0.111 ± 0.071	0.029 ± 0.029	0.111 ± 0.044	0.044 ± 0.055	0.041 ± 0.050	-0.000 ± 0.016	0.089 ± 0.047	0.021 ± 0.022	0.089 ± 0.043	0.038 ± 0.021	0.016 ± 0.024	0.039 ± 0.035	0.049 ± 0.026
	BAcc	0.119 ± 0.108	0.095 ± 0.074	0.092 ± 0.076	0.158 ± 0.112	0.089 ± 0.077	0.069 ± 0.062	0.095 ± 0.073	0.060 ± 0.065	0.010 ± 0.017	-0.007 ± 0.018	0.014 ± 0.023	0.028 ± 0.036	0.099 ± 0.075	0.068 ± 0.053	0.004 ± 0.016	0.084 ± 0.074	0.011 ± 0.020
	Acc.1	0.119 ± 0.108	0.095 ± 0.074	0.092 ± 0.076	0.149 ± 0.111	0.094 ± 0.078	0.053 ± 0.064	0.094 ± 0.079	0.055 ± 0.068	0.015 ± 0.023	-0.014 ± 0.027	0.016 ± 0.036	0.029 ± 0.039	0.113 ± 0.079	0.063 ± 0.060	- 0.008 ± 0.023	0.073 ± 0.074	-0.005 ± 0.023
	Acc.2	0.168 ± 0.128	0.136 ± 0.097	0.120 ± 0.093	0.209 ± 0.145	0.132 ± 0.095	0.069 ± 0.059	0.151 ± 0.114	0.076 ± 0.084	0.021 ± 0.031	-0.005 ± 0.045	0.027 ± 0.039	0.042 ± 0.045	0.152 ± 0.110	0.083 ± 0.056	- 0.010 ± 0.028	0.080 ± 0.088	-0.011 ± 0.033
Subject15	κ	0.112 ± 0.089	0.105 ± 0.088	0.118 ± 0.091	0.180 ± 0.118	0.103 ± 0.091	0.087 ± 0.064	0.103 ± 0.084	0.053 ± 0.062	0.005 ± 0.013	0.010 ± 0.018	0.028 ± 0.025	0.022 ± 0.027	0.112 ± 0.094	0.086 ± 0.067	0.004 ± 0.018	0.096 ± 0.067	0.012 ± 0.018
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	
Subject16	AUC	0.109	0.104	0.138	0.140	0.134	0.049	0.124	0.038	0.043	0.015	0.116	0.019	0.122	0.040	0.028	0.053	0.060	
		±0.067	±0.044	±0.063	±0.055	±0.073	±0.025	±0.043	±0.043	±0.044	±0.014	±0.046	± 0.019	±0.048	±0.017	±0.032	±0.028	±0.033	
	BAcc	0.109	0.102	0.115	0.176	0.101	0.084	0.101	0.052	0.005	0.010	0.027	0.021	0.109	0.084	0.004	0.093	0.011	
		±0.087	±0.086	±0.088	±0.115	±0.089	±0.063	±0.081	±0.061	± 0.013	±0.017	±0.024	±0.026	±0.092	±0.066	±0.018	±0.066	±0.017	
	Acc.1	0.109	0.102	0.124	0.176	0.101	0.087	0.097	0.063	0.007	0.007	0.039	0.023	0.115	0.077	0.002	0.115	0.010	
		±0.087	±0.086	±0.090	±0.110	±0.089	±0.063	±0.084	±0.073	±0.016	± 0.026	±0.030	±0.025	±0.108	±0.056	±0.022	±0.073	±0.023	
	Acc.2	0.151	0.150	0.179	0.252	0.146	0.116	0.167	0.082	0.013	0.018	0.059	0.027	0.165	0.082	0.008	0.144	0.018	
		±0.097	±0.098	±0.110	±0.142	±0.119	±0.071	±0.124	±0.074	± 0.030	±0.024	±0.038	±0.028	±0.131	±0.053	±0.028	±0.069	±0.035	
	κ	0.105	0.133	0.107	0.194	0.092	0.096	0.120	0.056	0.005	0.009	0.016	0.016	0.116	0.073	0.008	0.094	0.012	
		±0.082	±0.093	±0.079	±0.127	±0.085	±0.066	±0.087	±0.050	±0.019	±0.021	±0.020	±0.030	±0.091	±0.059	± 0.020	±0.060	±0.021	
Subject17	AUC	0.104	0.112	0.117	0.134	0.115	0.060	0.101	0.038	0.036	0.006	0.104	0.009	0.118	0.023	0.027	0.041	0.064	
		±0.053	±0.050	±0.055	±0.052	±0.073	±0.032	±0.040	±0.040	±0.049	±0.020	±0.040	± 0.021	±0.048	±0.020	±0.027	±0.026	±0.036	
	BAcc	0.102	0.129	0.105	0.189	0.090	0.093	0.117	0.055	0.005	0.009	0.015	0.016	0.113	0.071	0.008	0.092	0.012	
		±0.080	±0.091	±0.077	±0.124	±0.083	±0.065	±0.085	±0.049	±0.018	±0.021	±0.020	±0.029	±0.089	±0.057	± 0.019	±0.059	±0.020	
	Acc.1	0.102	0.129	0.105	0.189	0.090	0.083	0.113	0.050	0.004	0.010	0.033	0.021	0.131	0.053	-0.002	0.071	0.003	
		±0.080	±0.091	±0.077	±0.124	±0.083	±0.058	±0.080	±0.052	±0.023	±0.026	±0.024	±0.043	±0.098	±0.058	±0.025	±0.054	± 0.023	
	Acc.2	0.141	0.182	0.152	0.261	0.125	0.107	0.176	0.059	0.000	0.001	0.058	0.025	0.186	0.052	-0.007	0.074	0.004	
		±0.100	±0.125	±0.103	±0.156	±0.102	±0.069	±0.110	±0.058	± 0.027	±0.035	±0.039	±0.045	±0.124	±0.056	±0.034	±0.057	±0.026	
	κ	0.107	0.097	0.100	0.178	0.083	0.073	0.093	0.045	0.005	0.015	0.015	0.020	0.130	0.071	0.007	0.083	0.013	
		±0.083	±0.078	±0.076	±0.119	±0.072	±0.065	±0.071	±0.052	±0.015	±0.015	±0.022	±0.025	±0.089	±0.063	± 0.013	±0.047	±0.018	
Subject18	AUC	0.130	0.101	0.120	0.134	0.107	0.052	0.101	0.036	0.037	0.029	0.100	0.022	0.157	0.040	0.029	0.039	0.059	
		±0.059	±0.045	±0.064	±0.046	±0.068	±0.021	±0.038	±0.037	±0.037	±0.019	±0.038	±0.013	±0.038	±0.020	± 0.032	±0.026	±0.034	
	BAcc	0.104	0.095	0.098	0.173	0.081	0.071	0.091	0.044	0.005	0.014	0.014	0.020	0.127	0.070	0.007	0.081	0.012	
		±0.081	±0.076	±0.074	±0.116	±0.070	±0.063	±0.069	±0.051	±0.014	±0.015	±0.021	±0.024	±0.087	±0.061	± 0.013	±0.046	±0.017	
	Acc.1	0.104	0.095	0.105	0.180	0.081	0.080	0.098	0.058	0.006	0.022	0.017	0.022	0.145	0.098	0.006	0.104	0.013	
		±0.081	±0.076	±0.078	±0.124	±0.070	±0.059	±0.066	±0.056	± 0.017	±0.019	±0.029	±0.030	±0.100	±0.064	±0.020	±0.060	±0.020	
	Acc.2	0.145	0.142	0.150	0.256	0.123	0.113	0.161	0.069	0.010	0.038	0.033	0.033	0.200	0.128	0.008	0.119	0.017	
		±0.100	±0.098	±0.094	±0.154	±0.095	±0.067	±0.100	±0.062	± 0.030	±0.036	±0.033	±0.039	±0.128	±0.059	±0.034	±0.066	±0.027	
	κ	0.143	0.104	0.097	0.170	0.103	0.070	0.109	0.028	0.007	0.005	0.012	0.017	0.122	0.054	0.005	0.082	0.008	
		±0.100	±0.083	±0.072	±0.110	±0.095	±0.053	±0.089	±0.041	±0.015	± 0.022	±0.018	±0.034	±0.093	±0.028	±0.017	±0.054	±0.020	
Subject18	AUC	0.095	0.083	0.097	0.109	0.139	0.044	0.122	0.019	0.046	0.008	0.068	0.010	0.115	0.034	0.016	0.042	0.042	
		±0.048	±0.045	±0.061	±0.056	±0.085	±0.021	±0.057	±0.019	±0.038	±0.022	±0.036	± 0.022	±0.051	±0.020	±0.024	±0.029	±0.026	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1	BAcc	0.140 ±0.098	0.102 ±0.081	0.095 ±0.070	0.166 ±0.107	0.100 ±0.092	0.069 ±0.052	0.106 ±0.086	0.027 ±0.040	0.007 ±0.015	0.005 ± 0.022	0.012 ±0.017	0.016 ±0.033	0.119 ±0.091	0.052 ±0.027	0.005 ±0.017	0.080 ±0.053	0.007 ±0.019
	Acc.1	0.140 ±0.098	0.102 ±0.081	0.095 ±0.070	0.166 ±0.107	0.100 ±0.092	0.050 ±0.052	0.105 ±0.087	0.007 ±0.046	0.006 ±0.014	-0.009 ± 0.029	-0.002 ±0.025	0.003 ±0.034	0.107 ±0.099	0.035 ±0.031	0.000 ±0.020	0.041 ±0.054	-0.014 ± 0.023
	Acc.2	0.193 ±0.126	0.143 ±0.102	0.133 ±0.086	0.226 ±0.132	0.147 ±0.112	0.057 ±0.046	0.167 ±0.112	0.008 ±0.056	0.017 ±0.025	-0.016 ± 0.033	0.005 ±0.040	0.006 ±0.053	0.154 ±0.121	0.042 ±0.042	-0.003 ±0.033	0.058 ±0.057	-0.017 ± 0.024
	κ	0.116 ±0.095	0.125 ±0.100	0.155 ±0.113	0.190 ±0.123	0.126 ±0.103	0.128 ±0.092	0.122 ±0.095	0.108 ±0.076	0.012 ±0.024	0.021 ±0.021	0.028 ±0.021	0.040 ±0.042	0.153 ±0.109	0.117 ±0.080	0.006 ±0.016	0.133 ±0.100	0.010 ± 0.019
	AUC	0.092 ±0.049	0.126 ±0.046	0.195 ±0.074	0.130 ±0.041	0.169 ±0.090	0.084 ±0.043	0.131 ±0.050	0.075 ±0.046	0.061 ±0.045	0.034 ± 0.022	0.112 ±0.040	0.046 ±0.026	0.231 ±0.072	0.064 ±0.021	0.030 ±0.028	0.076 ±0.046	0.051 ±0.030
	BAcc	0.113 ±0.093	0.122 ±0.098	0.151 ±0.110	0.185 ±0.120	0.123 ±0.101	0.125 ±0.090	0.119 ±0.093	0.105 ±0.074	0.012 ±0.023	0.020 ±0.021	0.027 ±0.020	0.039 ±0.041	0.149 ±0.106	0.114 ±0.078	0.006 ±0.016	0.130 ±0.098	0.010 ± 0.019
Subject19	Acc.1	0.106 ±0.089	0.122 ±0.098	0.151 ±0.110	0.155 ±0.107	0.123 ±0.101	0.075 ±0.069	0.091 ±0.085	0.105 ±0.077	0.017 ±0.027	0.011 ±0.026	0.031 ±0.036	0.041 ±0.046	0.158 ±0.118	0.097 ±0.073	-0.010 ± 0.020	0.087 ±0.088	-0.017 ± 0.027
	Acc.2	0.148 ±0.102	0.183 ±0.125	0.232 ±0.143	0.211 ±0.147	0.179 ±0.122	0.111 ±0.089	0.153 ±0.117	0.135 ±0.092	0.036 ±0.037	0.016 ±0.036	0.054 ±0.053	0.044 ±0.048	0.221 ±0.152	0.117 ±0.063	-0.013 ± 0.026	0.102 ±0.095	-0.019 ± 0.042
	κ	0.141 ±0.095	0.139 ±0.102	0.161 ±0.110	0.215 ±0.140	0.130 ±0.108	0.082 ±0.070	0.113 ±0.085	0.108 ±0.074	0.006 ±0.017	0.001 ± 0.021	0.013 ±0.022	0.029 ±0.036	0.122 ±0.088	0.098 ±0.057	0.002 ± 0.020	0.126 ±0.070	0.010 ±0.019
	AUC	0.153 ±0.056	0.168 ±0.066	0.215 ±0.074	0.176 ±0.063	0.182 ±0.089	0.046 ±0.026	0.140 ±0.049	0.074 ±0.034	0.043 ±0.047	0.010 ± 0.023	0.091 ±0.037	0.021 ±0.025	0.134 ±0.055	0.035 ±0.023	0.020 ± 0.029	0.073 ±0.038	0.053 ±0.033
	BAcc	0.138 ±0.092	0.135 ±0.099	0.157 ±0.107	0.209 ±0.136	0.127 ±0.105	0.080 ±0.068	0.111 ±0.083	0.105 ±0.072	0.006 ±0.017	0.001 ± 0.020	0.012 ±0.022	0.028 ±0.035	0.119 ±0.085	0.095 ±0.056	0.002 ± 0.020	0.123 ±0.069	0.009 ±0.018
	Acc.1	0.138 ±0.092	0.135 ±0.099	0.157 ±0.107	0.207 ±0.140	0.127 ±0.105	0.082 ±0.076	0.109 ±0.084	0.096 ±0.067	0.005 ±0.023	0.004 ±0.037	0.028 ±0.034	0.032 ±0.044	0.125 ±0.096	0.104 ±0.071	-0.008 ± 0.024	0.133 ±0.084	-0.002 ± 0.028
Subject2	Acc.2	0.189 ±0.111	0.206 ±0.146	0.227 ±0.138	0.297 ±0.186	0.188 ±0.143	0.109 ±0.083	0.191 ±0.141	0.125 ±0.079	0.011 ±0.029	0.021 ±0.035	0.051 ±0.050	0.041 ±0.059	0.191 ±0.130	0.122 ±0.072	-0.008 ± 0.032	0.170 ±0.108	0.001 ± 0.036
	κ	0.180 ±0.137	0.128 ±0.095	0.117 ±0.092	0.184 ±0.116	0.105 ±0.080	0.083 ±0.057	0.092 ±0.067	0.079 ±0.067	0.008 ± 0.013	0.012 ±0.028	0.020 ±0.022	0.020 ±0.028	0.113 ±0.083	0.082 ±0.060	0.010 ±0.022	0.110 ±0.084	0.009 ± 0.017
	AUC	0.154 ±0.085	0.129 ±0.062	0.133 ±0.064	0.128 ±0.052	0.137 ±0.072	0.047 ±0.026	0.093 ±0.035	0.063 ±0.043	0.038 ±0.036	0.011 ± 0.022	0.097 ±0.038	0.009 ± 0.018	0.106 ±0.031	0.023 ±0.021	0.024 ±0.027	0.060 ±0.038	0.042 ±0.033
	BAcc	0.175 ±0.133	0.125 ±0.093	0.114 ±0.090	0.180 ±0.113	0.102 ±0.078	0.081 ±0.055	0.090 ±0.065	0.077 ±0.066	0.008 ± 0.013	0.011 ±0.027	0.019 ±0.022	0.020 ±0.027	0.110 ±0.081	0.080 ±0.058	0.009 ±0.021	0.107 ±0.082	0.009 ± 0.016
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject21	Acc.1	0.175	0.125	0.063	0.154	0.102	0.050	0.080	0.059	0.008	−0.006	0.014	0.008	0.092	0.040	−0.003	0.068	−0.016
		±0.133	±0.093	±0.072	±0.105	±0.078	±0.060	±0.071	±0.067	±0.015	±0.035	±0.037	±0.032	±0.083	±0.050	±0.024	±0.071	±0.026
	Acc.2	0.246	0.179	0.085	0.206	0.151	0.065	0.134	0.074	0.012	−0.022	0.013	−0.002	0.120	0.053	−0.012	0.094	−0.027
		±0.172	±0.124	±0.091	±0.136	±0.104	±0.070	±0.103	±0.081	±0.023	±0.035	±0.040	±0.031	±0.093	±0.064	±0.032	±0.075	±0.038
	κ	0.087	0.120	0.094	0.179	0.098	0.067	0.096	0.056	0.008	0.005	0.018	0.037	0.109	0.095	0.010	0.090	0.008
		±0.061	±0.094	±0.074	±0.116	±0.083	±0.058	±0.072	±0.064	±0.017	±0.026	±0.019	±0.038	±0.078	±0.072	±0.016	±0.063	±0.016
Subject22	AUC	0.104	0.120	0.114	0.132	0.127	0.038	0.108	0.039	0.040	0.021	0.055	0.039	0.127	0.052	0.035	0.049	0.044
		±0.053	±0.054	±0.070	±0.062	±0.069	±0.026	±0.044	±0.045	±0.038	±0.012	±0.028	±0.021	±0.044	±0.025	±0.034	±0.033	±0.024
	BAcc	0.085	0.117	0.091	0.174	0.096	0.065	0.094	0.055	0.008	0.005	0.018	0.036	0.106	0.093	0.010	0.088	0.008
		±0.059	±0.091	±0.072	±0.113	±0.081	±0.057	±0.070	±0.063	±0.016	±0.025	±0.018	±0.037	±0.076	±0.071	±0.015	±0.061	±0.016
	Acc.1	0.085	0.114	0.072	0.185	0.096	0.071	0.101	0.050	0.011	0.010	0.029	0.049	0.108	0.092	0.015	0.085	−0.011
		±0.060	±0.090	±0.059	±0.114	±0.081	±0.059	±0.078	±0.065	±0.021	±0.030	±0.029	±0.044	±0.085	±0.079	±0.018	±0.067	±0.026
Subject23	Acc.2	0.135	0.159	0.106	0.261	0.142	0.085	0.163	0.075	0.013	0.018	0.043	0.056	0.158	0.104	0.028	0.102	0.002
		±0.082	±0.109	±0.073	±0.161	±0.114	±0.069	±0.110	±0.086	±0.027	±0.039	±0.036	±0.053	±0.109	±0.086	±0.024	±0.072	±0.035
	κ	0.080	0.089	0.079	0.159	0.109	0.078	0.089	0.043	0.013	0.013	0.027	0.009	0.110	0.078	0.006	0.070	0.011
		±0.056	±0.069	±0.050	±0.105	±0.082	±0.058	±0.058	±0.055	±0.020	±0.022	±0.021	±0.028	±0.062	±0.057	±0.016	±0.060	±0.019
	AUC	0.093	0.093	0.101	0.120	0.139	0.032	0.116	0.039	0.046	0.016	0.121	0.009	0.132	0.034	0.014	0.038	0.045
		±0.052	±0.043	±0.063	±0.047	±0.066	±0.022	±0.041	±0.028	±0.039	±0.018	±0.044	±0.021	±0.045	±0.025	±0.030	±0.030	±0.031
Subject24	BAcc	0.078	0.087	0.077	0.155	0.107	0.076	0.087	0.041	0.012	0.012	0.026	0.009	0.108	0.076	0.006	0.068	0.011
		±0.055	±0.067	±0.049	±0.103	±0.080	±0.057	±0.057	±0.054	±0.019	±0.022	±0.021	±0.028	±0.061	±0.055	±0.015	±0.059	±0.019
	Acc.1	0.078	0.087	0.078	0.155	0.107	0.085	0.095	0.038	0.008	0.017	0.033	0.005	0.118	0.093	0.007	0.079	0.010
		±0.055	±0.067	±0.049	±0.103	±0.080	±0.057	±0.064	±0.059	±0.024	±0.028	±0.032	±0.038	±0.069	±0.067	±0.012	±0.077	±0.026
	Acc.2	0.111	0.131	0.107	0.213	0.151	0.089	0.164	0.069	0.014	0.025	0.046	0.012	0.168	0.104	0.012	0.092	0.015
		±0.073	±0.077	±0.071	±0.132	±0.095	±0.053	±0.094	±0.075	±0.032	±0.030	±0.049	±0.041	±0.084	±0.067	±0.024	±0.082	±0.039
Subject25	κ	0.234	0.180	0.168	0.248	0.140	0.209	0.173	0.179	0.008	0.018	0.023	0.051	0.150	0.180	0.006	0.189	0.010
		±0.170	±0.127	±0.110	±0.156	±0.098	±0.137	±0.123	±0.110	±0.021	±0.021	±0.022	±0.063	±0.105	±0.093	±0.015	±0.104	±0.017
	AUC	0.235	0.227	0.239	0.247	0.214	0.155	0.244	0.135	0.047	0.020	0.119	0.064	0.203	0.101	0.034	0.121	0.067
		±0.077	±0.085	±0.072	±0.082	±0.088	±0.061	±0.092	±0.046	±0.045	±0.020	±0.044	±0.042	±0.080	±0.031	±0.035	±0.050	±0.031
	BAcc	0.228	0.176	0.164	0.242	0.137	0.204	0.169	0.174	0.008	0.018	0.022	0.050	0.146	0.175	0.006	0.184	0.010
		±0.166	±0.123	±0.107	±0.152	±0.096	±0.133	±0.120	±0.108	±0.021	±0.020	±0.022	±0.061	±0.102	±0.091	±0.015	±0.101	±0.017
Subject26	Acc.1	0.228	0.176	0.164	0.246	0.137	0.210	0.174	0.175	0.007	0.034	0.042	0.057	0.156	0.193	0.004	0.223	0.013
		±0.166	±0.123	±0.107	±0.152	±0.096	±0.129	±0.121	±0.108	±0.024	±0.031	±0.036	±0.077	±0.116	±0.096	±0.022	±0.122	±0.018

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject24	Acc.2	0.322 ±0.203	0.268 ±0.171	0.234 ±0.146	0.357 ±0.203	0.201 ±0.133	0.293 ±0.147	0.281 ±0.188	0.220 ±0.121	0.016 ± 0.034	0.049 ±0.046	0.069 ±0.060	0.065 ±0.077	0.225 ±0.154	0.228 ±0.101	0.006 ± 0.031	0.287 ±0.131	0.030 ±0.031
	κ	0.178 ±0.127	0.156 ±0.115	0.157 ±0.105	0.231 ±0.156	0.140 ±0.106	0.113 ±0.081	0.117 ±0.090	0.102 ±0.071	0.010 ±0.018	0.008 ± 0.023	0.022 ±0.018	0.035 ±0.044	0.132 ±0.096	0.122 ±0.081	0.008 ± 0.016	0.142 ±0.085	0.010 ±0.021
	AUC	0.192 ±0.072	0.184 ±0.075	0.211 ±0.080	0.195 ±0.067	0.196 ±0.094	0.064 ±0.036	0.121 ±0.048	0.077 ±0.035	0.045 ±0.043	0.017 ± 0.018	0.087 ±0.043	0.024 ± 0.028	0.131 ±0.059	0.060 ±0.024	0.025 ±0.031	0.092 ±0.041	0.048 ±0.034
	BAcc	0.173 ±0.123	0.152 ±0.112	0.153 ±0.102	0.225 ±0.152	0.136 ±0.104	0.110 ±0.079	0.114 ±0.088	0.099 ±0.069	0.010 ±0.018	0.008 ± 0.023	0.021 ±0.017	0.034 ±0.043	0.129 ±0.094	0.119 ±0.079	0.007 ± 0.016	0.138 ±0.083	0.010 ±0.021
	Acc.1	0.173 ±0.123	0.152 ±0.112	0.153 ±0.102	0.194 ±0.131	0.136 ±0.104	0.080 ±0.066	0.094 ±0.075	0.082 ±0.060	0.006 ±0.021	-0.018 ± 0.031	0.006 ±0.028	0.029 ±0.051	0.128 ±0.101	0.062 ±0.060	0.000 ±0.020	0.079 ±0.059	- 0.016 ± 0.025
	Acc.2	0.251 ±0.155	0.234 ±0.156	0.232 ±0.140	0.271 ±0.170	0.198 ±0.136	0.113 ±0.072	0.170 ±0.120	0.120 ±0.079	0.008 ±0.028	- 0.020 ± 0.035	0.013 ±0.035	0.028 ±0.055	0.175 ±0.129	0.076 ±0.059	-0.007 ±0.028	0.094 ±0.075	-0.031 ± 0.032
	κ	0.225 ±0.157	0.166 ±0.117	0.178 ±0.124	0.247 ±0.146	0.129 ±0.105	0.164 ±0.107	0.145 ±0.110	0.113 ±0.079	0.011 ±0.021	0.026 ±0.022	0.010 ± 0.023	0.053 ±0.055	0.137 ±0.114	0.130 ±0.074	0.006 ± 0.015	0.148 ±0.079	0.012 ±0.021
Subject25	AUC	0.222 ±0.081	0.190 ±0.072	0.245 ±0.089	0.232 ±0.079	0.189 ±0.097	0.115 ±0.047	0.200 ±0.077	0.067 ±0.034	0.065 ±0.057	0.037 ± 0.019	0.065 ±0.044	0.060 ±0.038	0.155 ±0.080	0.038 ±0.025	0.019 ± 0.029	0.084 ±0.030	0.072 ±0.036
	BAcc	0.219 ±0.153	0.162 ±0.114	0.174 ±0.121	0.241 ±0.143	0.126 ±0.102	0.160 ±0.104	0.142 ±0.107	0.110 ±0.077	0.011 ±0.020	0.025 ±0.022	0.010 ± 0.022	0.052 ±0.053	0.134 ±0.111	0.127 ±0.072	0.006 ± 0.015	0.144 ±0.077	0.012 ±0.021
	Acc.1	0.219 ±0.153	0.162 ±0.114	0.174 ±0.121	0.251 ±0.142	0.126 ±0.102	0.177 ±0.107	0.144 ±0.107	0.102 ±0.074	0.012 ± 0.028	0.040 ±0.027	0.031 ±0.034	0.062 ±0.062	0.146 ±0.122	0.147 ±0.069	0.014 ± 0.014	0.157 ±0.086	0.015 ±0.023
	Acc.2	0.314 ±0.191	0.250 ±0.162	0.256 ±0.167	0.366 ±0.195	0.191 ±0.137	0.240 ±0.128	0.233 ±0.167	0.129 ±0.079	0.019 ± 0.036	0.063 ±0.041	0.044 ±0.043	0.087 ±0.079	0.218 ±0.153	0.168 ±0.070	0.030 ±0.027	0.215 ±0.099	0.029 ± 0.038
	κ	0.134 ±0.086	0.144 ±0.101	0.141 ±0.096	0.193 ±0.122	0.100 ±0.088	0.103 ±0.070	0.123 ±0.088	0.047 ±0.056	0.009 ±0.015	0.004 ± 0.016	0.019 ±0.019	0.021 ±0.029	0.118 ±0.088	0.087 ±0.061	0.006 ± 0.016	0.107 ±0.066	0.012 ±0.020
Subject26	AUC	0.125 ±0.049	0.129 ±0.057	0.147 ±0.047	0.142 ±0.065	0.128 ±0.067	0.076 ±0.037	0.130 ±0.051	0.032 ±0.039	0.036 ±0.037	0.009 ±0.017	0.069 ±0.033	0.029 ± 0.019	0.126 ±0.044	0.033 ±0.024	0.030 ±0.026	0.044 ±0.030	0.054 ±0.033
	BAcc	0.131 ±0.084	0.140 ±0.098	0.137 ±0.094	0.188 ±0.119	0.098 ±0.085	0.100 ±0.069	0.120 ±0.086	0.046 ±0.055	0.009 ±0.014	0.004 ± 0.016	0.019 ±0.019	0.020 ±0.028	0.115 ±0.086	0.085 ±0.059	0.006 ± 0.016	0.105 ±0.065	0.012 ±0.020
	Acc.1	0.131 ±0.084	0.140 ±0.098	0.137 ±0.094	0.188 ±0.119	0.098 ±0.085	0.111 ±0.066	0.132 ±0.084	0.042 ±0.059	0.009 ± 0.016	0.008 ± 0.024	0.028 ±0.029	0.020 ±0.034	0.124 ±0.093	0.085 ±0.063	0.009 ±0.014	0.109 ±0.075	0.011 ±0.025
	Acc.2	0.188 ±0.111	0.207 ±0.133	0.193 ±0.112	0.267 ±0.161	0.153 ±0.107	0.141 ±0.078	0.208 ±0.125	0.059 ±0.074	0.014 ±0.023	0.011 ± 0.033	0.034 ±0.034	0.032 ±0.040	0.180 ±0.118	0.099 ±0.073	0.012 ± 0.022	0.128 ±0.081	0.018 ±0.030
	κ	0.134 ±0.086	0.144 ±0.101	0.141 ±0.096	0.193 ±0.122	0.100 ±0.088	0.103 ±0.070	0.123 ±0.088	0.047 ±0.056	0.009 ±0.015	0.004 ± 0.016	0.019 ±0.019	0.021 ±0.029	0.118 ±0.088	0.087 ±0.061	0.006 ± 0.016	0.107 ±0.066	0.012 ±0.020
	AUC	0.125 ±0.049	0.129 ±0.057	0.147 ±0.047	0.142 ±0.065	0.128 ±0.067	0.076 ±0.037	0.130 ±0.051	0.032 ±0.039	0.036 ±0.037	0.009 ±0.017	0.069 ±0.033	0.029 ± 0.019	0.126 ±0.044	0.033 ±0.024	0.030 ±0.026	0.044 ±0.030	0.054 ±0.033

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject27	κ	0.188 ± 0.128	0.110 ± 0.088	0.136 ± 0.094	0.191 ± 0.121	0.118 ± 0.095	0.121 ± 0.079	0.121 ± 0.087	0.050 ± 0.052	0.007 \pm 0.012	0.006 ± 0.019	0.018 ± 0.025	0.035 ± 0.043	0.127 ± 0.095	0.096 ± 0.067	0.008 ± 0.019	0.157 ± 0.097	0.016 ± 0.019
	AUC	0.134 ± 0.063	0.116 ± 0.049	0.160 ± 0.064	0.149 ± 0.054	0.158 ± 0.069	0.068 ± 0.036	0.135 ± 0.048	0.037 ± 0.048	0.043 ± 0.039	0.008 ± 0.020	0.083 ± 0.046	0.034 ± 0.023	0.136 ± 0.048	0.046 ± 0.025	0.032 \pm 0.036	0.088 ± 0.042	0.084 ± 0.039
	BAcc	0.183 ± 0.125	0.108 ± 0.086	0.133 ± 0.091	0.186 ± 0.118	0.115 ± 0.093	0.118 ± 0.077	0.118 ± 0.084	0.049 ± 0.051	0.007 \pm 0.011	0.006 ± 0.019	0.017 ± 0.025	0.034 ± 0.042	0.124 ± 0.093	0.093 ± 0.066	0.007 ± 0.019	0.153 ± 0.094	0.015 ± 0.018
	Acc.1	0.183 ± 0.125	0.108 ± 0.086	0.133 ± 0.091	0.208 ± 0.128	0.115 ± 0.093	0.128 ± 0.090	0.123 ± 0.090	0.046 ± 0.051	0.007 ± 0.014	0.010 ± 0.031	0.028 ± 0.038	0.037 ± 0.044	0.143 ± 0.109	0.097 ± 0.072	0.012 ± 0.018	0.182 ± 0.100	0.008 \pm 0.024
	Acc.2	0.233 ± 0.146	0.166 ± 0.122	0.193 ± 0.115	0.282 ± 0.166	0.171 ± 0.117	0.169 ± 0.092	0.183 ± 0.122	0.063 ± 0.062	0.008 ± 0.025	0.015 ± 0.036	0.057 ± 0.042	0.051 ± 0.047	0.194 ± 0.129	0.109 ± 0.066	0.017 ± 0.025	0.217 ± 0.108	0.015 \pm 0.033
Subject28	κ	0.151 ± 0.104	0.157 ± 0.117	0.169 ± 0.118	0.229 ± 0.154	0.136 ± 0.110	0.128 ± 0.085	0.133 ± 0.095	0.099 ± 0.066	0.005 ± 0.019	0.011 ± 0.016	0.021 ± 0.017	0.041 ± 0.044	0.138 ± 0.094	0.124 ± 0.075	0.006 \pm 0.019	0.146 ± 0.083	0.010 ± 0.021
	AUC	0.172 ± 0.057	0.178 ± 0.066	0.214 ± 0.069	0.206 ± 0.064	0.192 ± 0.086	0.071 ± 0.029	0.154 ± 0.048	0.066 ± 0.032	0.041 ± 0.037	0.018 ± 0.015	0.105 ± 0.024	0.031 ± 0.019	0.171 ± 0.050	0.061 ± 0.025	0.026 \pm 0.022	0.090 ± 0.037	0.056 ± 0.034
	BAcc	0.147 ± 0.101	0.153 ± 0.114	0.164 ± 0.115	0.224 ± 0.150	0.133 ± 0.108	0.125 ± 0.083	0.130 ± 0.093	0.097 ± 0.064	0.005 ± 0.018	0.011 ± 0.015	0.020 ± 0.017	0.040 ± 0.043	0.135 ± 0.092	0.120 ± 0.074	0.006 \pm 0.019	0.142 ± 0.081	0.009 ± 0.020
	Acc.1	0.147 ± 0.101	0.153 ± 0.114	0.167 ± 0.116	0.217 ± 0.144	0.133 ± 0.108	0.112 ± 0.068	0.136 ± 0.094	0.084 ± 0.053	0.005 ± 0.021	0.005 \pm 0.026	0.014 ± 0.024	0.036 ± 0.047	0.133 ± 0.101	0.087 ± 0.061	0.007 ± 0.022	0.108 ± 0.068	0.006 ± 0.028
	Acc.2	0.207 ± 0.129	0.225 ± 0.156	0.247 ± 0.152	0.327 ± 0.189	0.197 ± 0.145	0.160 ± 0.091	0.210 ± 0.128	0.104 ± 0.074	0.013 \pm 0.036	0.006 ± 0.037	0.036 ± 0.041	0.038 ± 0.050	0.184 ± 0.124	0.111 ± 0.066	0.014 ± 0.031	0.138 ± 0.081	0.014 ± 0.038
Subject29	κ	0.172 ± 0.111	0.151 ± 0.106	0.152 ± 0.110	0.240 ± 0.155	0.148 ± 0.111	0.116 ± 0.067	0.146 ± 0.100	0.082 ± 0.052	0.009 \pm 0.020	0.020 ± 0.019	0.013 ± 0.023	0.036 ± 0.047	0.132 ± 0.112	0.098 ± 0.056	0.005 ± 0.020	0.120 ± 0.064	0.013 ± 0.018
	AUC	0.173 ± 0.061	0.180 ± 0.068	0.204 ± 0.063	0.226 ± 0.086	0.203 ± 0.090	0.087 ± 0.024	0.165 ± 0.054	0.056 ± 0.024	0.055 ± 0.051	0.017 ± 0.022	0.078 ± 0.045	0.035 ± 0.026	0.131 ± 0.071	0.034 ± 0.021	0.023 \pm 0.038	0.084 ± 0.030	0.072 ± 0.047
	BAcc	0.168 ± 0.109	0.147 ± 0.103	0.149 ± 0.108	0.234 ± 0.151	0.145 ± 0.108	0.113 ± 0.065	0.142 ± 0.098	0.080 ± 0.050	0.009 \pm 0.019	0.020 ± 0.019	0.012 ± 0.023	0.035 ± 0.046	0.129 ± 0.109	0.096 ± 0.054	0.005 ± 0.019	0.117 ± 0.062	0.012 ± 0.017
	Acc.1	0.168 ± 0.109	0.147 ± 0.103	0.149 ± 0.108	0.249 ± 0.159	0.145 ± 0.108	0.129 ± 0.072	0.147 ± 0.101	0.065 ± 0.050	0.008 \pm 0.023	0.024 ± 0.029	0.015 ± 0.031	0.033 ± 0.053	0.140 ± 0.120	0.095 ± 0.064	0.000 ± 0.025	0.133 ± 0.071	0.015 ± 0.020
	Acc.2	0.230 ± 0.135	0.215 ± 0.142	0.222 ± 0.138	0.362 ± 0.205	0.207 ± 0.150	0.173 ± 0.078	0.231 ± 0.154	0.072 ± 0.051	0.013 \pm 0.030	0.030 ± 0.042	0.030 ± 0.043	0.040 ± 0.055	0.199 ± 0.147	0.096 ± 0.058	-0.002 ± 0.026	0.174 ± 0.076	0.025 ± 0.036
Subject3	κ	0.093 ± 0.076	0.120 ± 0.101	0.072 ± 0.079	0.170 ± 0.120	0.104 ± 0.075	0.068 ± 0.059	0.102 ± 0.079	0.039 ± 0.048	0.010 ± 0.017	0.008 \pm 0.025	0.017 ± 0.023	0.016 ± 0.027	0.113 ± 0.086	0.053 ± 0.040	-0.002 ± 0.019	0.060 ± 0.052	0.010 ± 0.019

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject30	AUC	0.117 ±0.067	0.120 ±0.058	0.095 ±0.060	0.140 ±0.056	0.145 ±0.066	0.051 ±0.025	0.122 ±0.047	0.022 ±0.024	0.037 ±0.040	0.028 ±0.019	0.090 ±0.029	0.016 ± 0.017	0.104 ±0.032	0.022 ±0.022	0.013 ± 0.030	0.035 ±0.025	0.068 ±0.031
		0.091 ±0.074	0.117 ±0.098	0.070 ±0.077	0.166 ±0.117	0.102 ±0.073	0.066 ±0.058	0.099 ±0.077	0.038 ±0.047	0.009 ±0.017	0.008 ± 0.024	0.017 ±0.022	0.016 ±0.027	0.111 ±0.084	0.052 ±0.039	-0.002 ± 0.018	0.059 ±0.050	0.010 ±0.019
	Acc.1	0.091 ±0.074	0.117 ±0.098	0.070 ±0.077	0.171 ±0.127	0.102 ±0.073	0.093 ±0.058	0.103 ±0.083	0.046 ±0.053	0.012 ±0.021	0.018 ±0.027	0.033 ±0.027	0.026 ±0.028	0.131 ±0.098	0.080 ±0.050	-0.008 ± 0.027	0.081 ±0.062	0.009 ± 0.020
		0.136 ±0.097	0.159 ±0.122	0.101 ±0.087	0.240 ±0.158	0.158 ±0.103	0.122 ±0.069	0.173 ±0.124	0.053 ±0.055	0.017 ± 0.028	0.041 ±0.027	0.060 ±0.039	0.040 ±0.043	0.182 ±0.115	0.091 ±0.056	-0.004 ± 0.035	0.111 ±0.077	0.023 ±0.025
	κ	0.111 ±0.074	0.124 ±0.092	0.134 ±0.104	0.189 ±0.125	0.106 ±0.089	0.091 ±0.068	0.106 ±0.080	0.044 ±0.047	0.011 ±0.020	0.002 ± 0.019	0.020 ±0.022	0.029 ±0.033	0.133 ±0.102	0.100 ±0.066	0.005 ± 0.017	0.119 ±0.071	0.013 ±0.023
		0.114 ±0.039	0.115 ±0.033	0.148 ±0.054	0.139 ±0.053	0.148 ±0.075	0.054 ±0.026	0.124 ±0.046	0.027 ± 0.028	0.038 ±0.035	0.009 ± 0.022	0.096 ±0.044	0.031 ±0.021	0.145 ±0.056	0.054 ±0.020	0.036 ±0.027	0.058 ±0.030	0.063 ±0.032
	BAcc	0.108 ±0.072	0.121 ±0.090	0.131 ±0.102	0.184 ±0.122	0.103 ±0.087	0.089 ±0.066	0.104 ±0.078	0.043 ±0.045	0.010 ±0.020	0.002 ± 0.019	0.020 ±0.021	0.028 ±0.032	0.130 ±0.099	0.098 ±0.064	0.005 ± 0.017	0.116 ±0.070	0.013 ±0.023
		0.108 ±0.072	0.121 ±0.090	0.131 ±0.102	0.184 ±0.122	0.103 ±0.087	0.099 ±0.069	0.114 ±0.086	0.042 ±0.050	0.009 ±0.026	0.006 ± 0.028	0.034 ±0.032	0.032 ±0.044	0.148 ±0.115	0.112 ±0.075	-0.010 ± 0.024	0.139 ±0.079	0.011 ±0.026
	Acc.2	0.154 ±0.083	0.175 ±0.121	0.189 ±0.128	0.265 ±0.146	0.152 ±0.115	0.136 ±0.081	0.193 ±0.127	0.056 ±0.057	0.012 ± 0.032	0.023 ±0.029	0.051 ±0.041	0.039 ±0.041	0.207 ±0.142	0.114 ±0.064	-0.008 ± 0.032	0.172 ±0.098	0.018 ±0.031
Subject31	κ	0.150 ±0.103	0.126 ±0.092	0.126 ±0.099	0.203 ±0.128	0.092 ±0.075	0.109 ±0.080	0.124 ±0.096	0.047 ±0.049	0.009 ±0.018	0.008 ± 0.019	0.015 ±0.014	0.030 ±0.040	0.132 ±0.095	0.088 ±0.054	0.010 ±0.015	0.092 ±0.066	0.007 ± 0.018
		0.117 ±0.046	0.126 ±0.044	0.156 ±0.053	0.159 ±0.057	0.126 ±0.060	0.047 ±0.034	0.121 ±0.047	0.032 ±0.019	0.045 ±0.037	0.015 ± 0.015	0.065 ±0.034	0.025 ± 0.021	0.127 ±0.034	0.042 ±0.023	0.027 ±0.031	0.050 ±0.029	0.043 ±0.031
	BAcc	0.147 ±0.100	0.123 ±0.090	0.123 ±0.097	0.198 ±0.125	0.090 ±0.073	0.106 ±0.078	0.121 ±0.094	0.046 ±0.048	0.009 ±0.018	0.008 ± 0.018	0.015 ±0.014	0.029 ±0.039	0.129 ±0.093	0.086 ±0.053	0.010 ±0.015	0.089 ±0.064	0.007 ± 0.017
		0.147 ±0.100	0.123 ±0.090	0.135 ±0.097	0.215 ±0.133	0.090 ±0.073	0.107 ±0.074	0.123 ±0.095	0.048 ±0.053	0.012 ± 0.021	0.014 ±0.024	0.025 ±0.020	0.030 ±0.043	0.135 ±0.098	0.091 ±0.061	0.017 ±0.018	0.082 ±0.063	-0.001 ± 0.026
	Acc.2	0.198 ±0.115	0.185 ±0.121	0.195 ±0.129	0.303 ±0.170	0.135 ±0.089	0.131 ±0.082	0.196 ±0.132	0.055 ±0.056	0.014 ± 0.031	0.023 ±0.031	0.048 ±0.031	0.036 ±0.045	0.178 ±0.111	0.100 ±0.053	0.030 ±0.025	0.107 ±0.080	0.006 ± 0.035
Subject32	AUC	0.071 ±0.040	0.098 ±0.070	0.109 ±0.070	0.194 ±0.122	0.092 ±0.071	0.060 ±0.045	0.095 ±0.065	0.023 ±0.039	0.010 ±0.018	0.017 ±0.023	0.020 ±0.025	0.009 ±0.024	0.099 ±0.055	0.065 ±0.047	0.008 ± 0.015	0.070 ±0.055	0.009 ± 0.020
		0.111 ±0.042	0.099 ±0.039	0.135 ±0.055	0.160 ±0.057	0.127 ±0.079	0.049 ±0.025	0.105 ±0.049	0.017 ±0.028	0.039 ±0.034	0.029 ±0.022	0.105 ±0.042	0.015 ± 0.019	0.123 ±0.035	0.032 ±0.019	0.014 ± 0.025	0.034 ±0.024	0.033 ±0.026

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(j)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(j)	STEEGformer-s ^(l)
Subject33	BAcc	0.069	0.096	0.106	0.189	0.090	0.058	0.092	0.023	0.010	0.017	0.019	0.009	0.097	0.064	0.007	0.068	0.008
		± 0.039	± 0.068	± 0.068	± 0.119	± 0.069	± 0.044	± 0.063	± 0.038	± 0.018	± 0.022	± 0.025	± 0.023	± 0.054	± 0.046	± 0.015	± 0.054	± 0.019
	Acc.1	0.069	0.096	0.125	0.214	0.090	0.080	0.108	0.032	0.009	0.020	0.021	0.014	0.105	0.090	0.009	0.091	0.009
		± 0.039	± 0.068	± 0.074	± 0.129	± 0.069	± 0.052	± 0.074	± 0.045	± 0.020	± 0.030	± 0.034	± 0.031	± 0.062	± 0.061	± 0.021	± 0.069	± 0.021
	Acc.2	0.109	0.138	0.177	0.317	0.133	0.103	0.176	0.040	0.017	0.024	0.037	0.019	0.150	0.098	0.014	0.099	0.020
		± 0.058	± 0.089	± 0.087	± 0.174	± 0.092	± 0.067	± 0.105	± 0.066	± 0.025	± 0.032	± 0.049	± 0.035	± 0.074	± 0.064	± 0.025	± 0.082	± 0.027
	κ	0.079	0.128	0.135	0.195	0.098	0.101	0.117	0.075	0.008	0.020	0.042	0.049	0.144	0.105	0.004	0.112	0.011
		± 0.056	± 0.094	± 0.096	± 0.129	± 0.085	± 0.079	± 0.088	± 0.060	± 0.019	± 0.024	± 0.030	± 0.036	± 0.092	± 0.071	± 0.015	± 0.070	± 0.017
	AUC	0.117	0.137	0.169	0.154	0.122	0.046	0.132	0.057	0.049	0.032	0.181	0.054	0.222	0.058	0.019	0.052	0.056
		± 0.036	± 0.050	± 0.051	± 0.047	± 0.048	± 0.036	± 0.052	± 0.034	± 0.050	± 0.022	± 0.061	± 0.026	± 0.046	± 0.024	± 0.031	± 0.036	± 0.029
	BAcc	0.077	0.125	0.131	0.190	0.096	0.098	0.114	0.073	0.008	0.020	0.041	0.048	0.141	0.103	0.004	0.109	0.011
		± 0.054	± 0.092	± 0.094	± 0.126	± 0.083	± 0.077	± 0.086	± 0.058	± 0.019	± 0.023	± 0.029	± 0.035	± 0.090	± 0.069	± 0.014	± 0.068	± 0.016
	Acc.1	0.077	0.125	0.104	0.165	0.096	0.079	0.108	0.069	0.006	0.012	0.064	0.048	0.154	0.094	0.009	0.076	-0.019
		± 0.054	± 0.092	± 0.081	± 0.115	± 0.083	± 0.073	± 0.089	± 0.058	± 0.022	± 0.029	± 0.049	± 0.051	± 0.096	± 0.066	± 0.018	± 0.063	± 0.025
	Acc.2	0.115	0.189	0.140	0.226	0.132	0.109	0.168	0.089	0.019	0.029	0.096	0.061	0.213	0.100	0.017	0.090	-0.032
		± 0.071	± 0.127	± 0.095	± 0.143	± 0.100	± 0.087	± 0.134	± 0.081	± 0.033	± 0.027	± 0.071	± 0.052	± 0.118	± 0.069	± 0.026	± 0.065	± 0.035
Subject34	κ	0.133	0.130	0.103	0.191	0.104	0.090	0.104	0.067	0.010	0.015	0.032	0.030	0.112	0.092	0.004	0.089	0.011
		± 0.091	± 0.090	± 0.085	± 0.124	± 0.077	± 0.061	± 0.074	± 0.060	± 0.017	± 0.022	± 0.023	± 0.043	± 0.071	± 0.065	± 0.016	± 0.067	± 0.017
	AUC	0.115	0.128	0.123	0.151	0.133	0.058	0.106	0.057	0.043	0.030	0.133	0.037	0.127	0.039	0.027	0.048	0.061
		± 0.068	± 0.063	± 0.060	± 0.069	± 0.059	± 0.033	± 0.052	± 0.040	± 0.040	± 0.020	± 0.056	± 0.024	± 0.048	± 0.025	± 0.037	± 0.028	± 0.033
	BAcc	0.130	0.127	0.101	0.186	0.102	0.088	0.101	0.066	0.009	0.015	0.031	0.030	0.109	0.090	0.004	0.086	0.011
		± 0.088	± 0.088	± 0.083	± 0.121	± 0.075	± 0.060	± 0.072	± 0.059	± 0.017	± 0.022	± 0.022	± 0.041	± 0.069	± 0.063	± 0.016	± 0.065	± 0.016
	Acc.1	0.130	0.127	0.101	0.177	0.102	0.065	0.101	0.074	0.009	0.011	0.050	0.030	0.099	0.069	-0.017	0.081	0.002
		± 0.088	± 0.088	± 0.083	± 0.122	± 0.075	± 0.056	± 0.073	± 0.060	± 0.022	± 0.029	± 0.031	± 0.044	± 0.065	± 0.060	± 0.024	± 0.068	± 0.018
	Acc.2	0.185	0.177	0.147	0.232	0.151	0.106	0.170	0.099	0.015	0.019	0.081	0.034	0.140	0.071	-0.019	0.098	0.002
		± 0.108	± 0.111	± 0.101	± 0.147	± 0.096	± 0.078	± 0.106	± 0.072	± 0.036	± 0.035	± 0.048	± 0.044	± 0.098	± 0.054	± 0.038	± 0.069	± 0.030
	κ	0.143	0.150	0.131	0.218	0.111	0.104	0.114	0.098	0.012	0.025	0.033	0.051	0.150	0.121	0.003	0.117	0.010
		± 0.094	± 0.105	± 0.093	± 0.139	± 0.090	± 0.073	± 0.085	± 0.085	± 0.017	± 0.018	± 0.021	± 0.047	± 0.104	± 0.064	± 0.016	± 0.079	± 0.018
	AUC	0.142	0.165	0.166	0.173	0.134	0.042	0.142	0.067	0.049	0.044	0.156	0.057	0.230	0.048	0.021	0.060	0.066
		± 0.058	± 0.058	± 0.065	± 0.062	± 0.056	± 0.026	± 0.057	± 0.044	± 0.040	± 0.021	± 0.045	± 0.025	± 0.049	± 0.025	± 0.029	± 0.031	± 0.039
	BAcc	0.140	0.146	0.128	0.212	0.108	0.101	0.112	0.096	0.011	0.025	0.032	0.049	0.146	0.118	0.003	0.114	0.010
		± 0.092	± 0.102	± 0.090	± 0.135	± 0.088	± 0.071	± 0.083	± 0.083	± 0.016	± 0.018	± 0.021	± 0.046	± 0.101	± 0.063	± 0.016	± 0.077	± 0.018

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject4	Acc.1	0.140 ±0.092	0.146 ±0.102	0.134 ±0.086	0.222 ±0.135	0.108 ±0.088	0.106 ±0.074	0.122 ±0.094	0.112 ±0.083	0.014 ±0.017	0.030 ±0.031	0.055 ±0.035	0.067 ±0.054	0.167 ±0.115	0.146 ±0.077	0.005 ± 0.023	0.143 ±0.096	0.001 ± 0.019
		0.194 ±0.122	0.216 ±0.137	0.188 ±0.112	0.311 ±0.180	0.148 ±0.109	0.128 ±0.076	0.198 ±0.130	0.155 ±0.105	0.024 ±0.030	0.056 ±0.040	0.091 ±0.055	0.088 ±0.066	0.240 ±0.140	0.173 ±0.082	0.009 ± 0.033	0.170 ±0.093	0.009 ± 0.032
	κ	0.201 ±0.129	0.130 ±0.096	0.137 ±0.100	0.207 ±0.132	0.133 ±0.102	0.080 ±0.058	0.099 ±0.071	0.071 ±0.069	0.008 ±0.020	0.007 ± 0.021	0.014 ±0.023	0.021 ±0.030	0.124 ±0.102	0.089 ±0.061	0.008 ± 0.017	0.096 ±0.060	0.013 ±0.020
		0.173 ±0.066	0.129 ±0.052	0.155 ±0.055	0.177 ±0.061	0.182 ±0.080	0.050 ±0.028	0.114 ±0.041	0.056 ±0.037	0.041 ±0.046	0.014 ± 0.020	0.092 ±0.045	0.016 ± 0.017	0.114 ±0.043	0.044 ±0.022	0.024 ±0.027	0.060 ±0.034	0.055 ±0.033
	BAcc	0.196 ±0.126	0.127 ±0.094	0.134 ±0.097	0.202 ±0.129	0.130 ±0.100	0.078 ±0.056	0.096 ±0.070	0.069 ±0.067	0.008 ±0.020	0.007 ± 0.021	0.013 ±0.023	0.021 ±0.029	0.121 ±0.100	0.086 ±0.059	0.007 ± 0.017	0.094 ±0.058	0.013 ±0.020
		0.196 ±0.126	0.122 ±0.090	0.147 ±0.105	0.201 ±0.126	0.130 ±0.100	0.089 ±0.059	0.092 ±0.070	0.058 ±0.064	0.006 ± 0.024	0.003 ± 0.026	0.014 ±0.030	0.017 ±0.033	0.109 ±0.107	0.087 ±0.056	0.011 ±0.019	0.109 ±0.060	0.013 ±0.022
Subject5	Acc.1	0.276 ±0.158	0.175 ±0.111	0.212 ±0.127	0.284 ±0.170	0.186 ±0.139	0.114 ±0.080	0.153 ±0.100	0.079 ±0.070	0.014 ± 0.034	0.014 ± 0.036	0.028 ±0.036	0.018 ±0.038	0.147 ±0.126	0.110 ±0.058	0.023 ±0.027	0.129 ±0.070	0.022 ±0.028
		0.121 ±0.106	0.098 ±0.083	0.075 ±0.076	0.174 ±0.132	0.092 ±0.082	0.064 ±0.052	0.098 ±0.070	0.030 ±0.051	0.004 ± 0.013	0.008 ±0.024	0.022 ±0.022	0.023 ±0.038	0.115 ±0.085	0.055 ±0.044	0.008 ± 0.020	0.062 ±0.054	0.010 ±0.016
	AUC	0.117 ±0.068	0.112 ±0.058	0.099 ±0.068	0.145 ±0.060	0.124 ±0.069	0.045 ±0.023	0.123 ±0.043	0.022 ±0.030	0.028 ±0.038	0.021 ± 0.022	0.100 ±0.035	0.024 ±0.024	0.126 ±0.039	0.018 ± 0.015	0.023 ±0.024	0.030 ±0.024	0.064 ±0.031
		0.118 ±0.103	0.095 ±0.080	0.073 ±0.074	0.170 ±0.129	0.089 ±0.080	0.062 ±0.051	0.096 ±0.068	0.029 ±0.050	0.004 ± 0.013	0.008 ± 0.023	0.021 ±0.022	0.022 ±0.038	0.113 ±0.083	0.054 ±0.043	0.008 ±0.019	0.060 ±0.052	0.010 ±0.015
	Acc.2	0.118 ±0.103	0.095 ±0.080	0.073 ±0.074	0.170 ±0.129	0.089 ±0.080	0.084 ±0.058	0.110 ±0.067	0.033 ±0.049	0.008 ± 0.021	0.015 ±0.028	0.025 ±0.029	0.034 ±0.040	0.128 ±0.092	0.069 ±0.049	0.007 ± 0.027	0.092 ±0.078	0.011 ±0.017
		0.172 ±0.121	0.147 ±0.109	0.107 ±0.083	0.240 ±0.155	0.130 ±0.100	0.094 ±0.054	0.179 ±0.107	0.044 ±0.050	0.014 ± 0.025	0.027 ±0.030	0.047 ±0.040	0.040 ±0.048	0.185 ±0.114	0.084 ±0.055	0.005 ± 0.038	0.098 ±0.083	0.019 ±0.026
Subject6	κ	0.131 ±0.091	0.107 ±0.078	0.102 ±0.075	0.177 ±0.122	0.085 ±0.067	0.067 ±0.057	0.103 ±0.079	0.022 ±0.038	0.007 ±0.018	0.006 ± 0.018	0.012 ±0.021	0.007 ±0.023	0.100 ±0.073	0.053 ±0.053	0.005 ± 0.018	0.100 ±0.064	0.010 ±0.017
		0.102 ±0.058	0.110 ±0.062	0.111 ±0.062	0.133 ±0.061	0.097 ±0.062	0.030 ±0.024	0.108 ±0.046	0.015 ±0.022	0.032 ±0.033	0.004 ± 0.021	0.066 ±0.036	0.005 ± 0.017	0.085 ±0.033	0.030 ±0.025	0.019 ±0.029	0.064 ±0.031	0.033 ±0.030
	BAcc	0.127 ±0.089	0.105 ±0.076	0.099 ±0.073	0.173 ±0.119	0.083 ±0.065	0.065 ±0.056	0.100 ±0.077	0.021 ±0.037	0.007 ±0.018	0.005 ± 0.017	0.012 ±0.021	0.007 ±0.022	0.097 ±0.072	0.052 ±0.052	0.005 ± 0.017	0.098 ±0.063	0.009 ±0.016
		0.127 ±0.089	0.105 ±0.076	0.099 ±0.073	0.173 ±0.119	0.083 ±0.065	0.053 ±0.051	0.103 ±0.083	0.020 ±0.046	0.002 ± 0.023	0.005 ±0.026	0.029 ±0.032	0.002 ±0.035	0.104 ±0.076	0.052 ±0.059	0.002 ±0.022	0.083 ±0.068	0.000 ± 0.018
	Acc.1	0.127 ±0.089	0.105 ±0.076	0.099 ±0.073	0.173 ±0.119	0.083 ±0.065	0.053 ±0.051	0.103 ±0.083	0.020 ±0.046	0.002 ± 0.023	0.005 ±0.026	0.029 ±0.032	0.002 ±0.035	0.104 ±0.076	0.052 ±0.059	0.002 ±0.022	0.083 ±0.068	0.000 ± 0.018

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject7	Acc.2	0.179 ±0.102	0.151 ±0.103	0.141 ±0.094	0.244 ±0.147	0.114 ±0.082	0.056 ±0.063	0.149 ±0.106	0.031 ±0.047	0.005 ±0.036	−0.000 ±0.037	0.052 ±0.038	−0.000 ±0.031	0.132 ±0.079	0.058 ±0.056	0.001 ±0.034	0.106 ±0.075	0.009 ±0.025
	κ	0.087 ±0.061	0.116 ±0.087	0.120 ±0.075	0.184 ±0.119	0.100 ±0.073	0.098 ±0.069	0.098 ±0.072	0.047 ±0.058	0.009 ±0.012	0.010 ±0.020	0.024 ±0.021	0.024 ±0.032	0.119 ±0.087	0.078 ±0.056	0.001 ±0.014	0.100 ±0.071	0.007 ±0.021
	AUC	0.118 ±0.051	0.119 ±0.043	0.135 ±0.067	0.131 ±0.042	0.126 ±0.077	0.063 ±0.031	0.113 ±0.040	0.037 ±0.030	0.040 ±0.042	0.012 ±0.019	0.082 ±0.045	−0.002 ±0.025	0.103 ±0.045	0.030 ±0.020	0.012 ±0.028	0.056 ±0.029	0.035 ±0.029
	BAcc	0.084 ±0.059	0.114 ±0.085	0.117 ±0.073	0.180 ±0.116	0.098 ±0.071	0.096 ±0.068	0.095 ±0.070	0.046 ±0.057	0.009 ±0.011	0.010 ±0.020	0.023 ±0.020	0.024 ±0.031	0.116 ±0.085	0.076 ±0.055	0.001 ±0.014	0.097 ±0.069	0.007 ±0.021
	Acc.1	0.084 ±0.059	0.111 ±0.081	0.117 ±0.073	0.185 ±0.122	0.098 ±0.071	0.123 ±0.080	0.109 ±0.071	0.042 ±0.056	0.008 ±0.015	0.010 ±0.026	0.026 ±0.025	0.028 ±0.032	0.143 ±0.100	0.075 ±0.064	−0.002 ±0.017	0.105 ±0.079	0.008 ±0.025
	Acc.2	0.125 ±0.074	0.156 ±0.101	0.164 ±0.093	0.266 ±0.150	0.146 ±0.099	0.165 ±0.083	0.195 ±0.125	0.058 ±0.067	0.005 ±0.031	0.016 ±0.036	0.035 ±0.038	0.030 ±0.042	0.204 ±0.123	0.099 ±0.062	−0.002 ±0.027	0.132 ±0.087	0.022 ±0.037
	κ	0.138 ±0.097	0.118 ±0.092	0.099 ±0.066	0.186 ±0.116	0.073 ±0.062	0.081 ±0.052	0.100 ±0.068	0.039 ±0.043	0.009 ±0.017	0.011 ±0.020	0.026 ±0.016	0.025 ±0.038	0.109 ±0.066	0.090 ±0.051	0.009 ±0.019	0.083 ±0.053	0.011 ±0.019
	AUC	0.116 ±0.073	0.123 ±0.055	0.109 ±0.071	0.149 ±0.062	0.092 ±0.059	0.048 ±0.030	0.114 ±0.041	0.034 ±0.034	0.042 ±0.045	0.027 ±0.020	0.136 ±0.047	0.035 ±0.015	0.110 ±0.034	0.050 ±0.014	0.027 ±0.031	0.044 ±0.028	0.064 ±0.038
	BAcc	0.135 ±0.095	0.115 ±0.090	0.097 ±0.064	0.182 ±0.113	0.071 ±0.061	0.079 ±0.051	0.098 ±0.067	0.038 ±0.042	0.009 ±0.017	0.011 ±0.020	0.025 ±0.016	0.024 ±0.037	0.107 ±0.064	0.087 ±0.050	0.008 ±0.018	0.081 ±0.052	0.011 ±0.018
	Acc.1	0.135 ±0.095	0.115 ±0.090	0.097 ±0.064	0.199 ±0.123	0.071 ±0.061	0.097 ±0.051	0.107 ±0.079	0.047 ±0.049	0.009 ±0.022	0.007 ±0.027	0.029 ±0.025	0.027 ±0.037	0.118 ±0.069	0.095 ±0.053	0.004 ±0.017	0.097 ±0.057	0.003 ±0.025
	Acc.2	0.183 ±0.117	0.174 ±0.111	0.129 ±0.079	0.280 ±0.164	0.109 ±0.080	0.112 ±0.056	0.168 ±0.111	0.059 ±0.062	0.012 ±0.034	0.018 ±0.041	0.043 ±0.035	0.035 ±0.039	0.159 ±0.087	0.102 ±0.045	0.008 ±0.026	0.118 ±0.072	0.007 ±0.032
Subject9	κ	0.154 ±0.117	0.137 ±0.098	0.109 ±0.090	0.195 ±0.138	0.078 ±0.065	0.080 ±0.057	0.106 ±0.079	0.037 ±0.049	0.009 ±0.018	0.014 ±0.022	0.025 ±0.022	0.035 ±0.037	0.140 ±0.100	0.086 ±0.051	0.012 ±0.018	0.091 ±0.071	0.010 ±0.018
	AUC	0.124 ±0.050	0.135 ±0.047	0.129 ±0.053	0.139 ±0.049	0.107 ±0.047	0.044 ±0.027	0.122 ±0.045	0.028 ±0.029	0.043 ±0.031	0.035 ±0.020	0.126 ±0.037	0.035 ±0.022	0.214 ±0.046	0.052 ±0.020	0.029 ±0.030	0.043 ±0.031	0.066 ±0.030
	BAcc	0.150 ±0.114	0.133 ±0.096	0.107 ±0.088	0.190 ±0.135	0.076 ±0.063	0.078 ±0.055	0.104 ±0.077	0.036 ±0.047	0.008 ±0.017	0.014 ±0.021	0.024 ±0.021	0.035 ±0.036	0.137 ±0.097	0.083 ±0.049	0.011 ±0.017	0.089 ±0.069	0.010 ±0.018
	Acc.1	0.150 ±0.114	0.133 ±0.096	0.107 ±0.088	0.202 ±0.137	0.076 ±0.063	0.084 ±0.061	0.108 ±0.093	0.042 ±0.050	0.009 ±0.017	0.020 ±0.027	0.040 ±0.028	0.038 ±0.041	0.141 ±0.108	0.094 ±0.057	−0.000 ±0.024	0.081 ±0.073	−0.007 ±0.025
	Acc.2	0.212 ±0.139	0.197 ±0.122	0.157 ±0.103	0.284 ±0.176	0.112 ±0.093	0.095 ±0.069	0.174 ±0.124	0.056 ±0.056	0.015 ±0.023	0.037 ±0.036	0.076 ±0.042	0.048 ±0.053	0.218 ±0.129	0.108 ±0.059	0.002 ±0.035	0.100 ±0.078	−0.005 ±0.037

F.3.2 ASYNCHRONOUS DECODING RESULTS

Leave-One-Out Zero-Shot Evaluation

Table 69: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.173	0.806	0.194	0.194	0.298
DeepConvnet	± 0.123	± 0.086	± 0.120	± 0.120	± 0.156
	0.224	0.829	0.243	0.243	0.368
EEGNet	± 0.148	± 0.105	± 0.144	± 0.144	± 0.193
	0.143	0.775	0.165	0.164	0.264
Conformer	± 0.112	± 0.100	± 0.109	± 0.109	± 0.148
	0.260	0.848	0.279	0.279	0.413
CTNet	± 0.180	± 0.114	± 0.175	± 0.175	± 0.227
	0.146	0.773	0.167	0.167	0.264
SSVEPDNN	± 0.102	± 0.092	± 0.100	± 0.100	± 0.136
	0.179	0.712	0.200	0.200	0.314
BIOT (f)	± 0.151	± 0.116	± 0.147	± 0.147	± 0.202
	0.176	0.790	0.197	0.196	0.335
BIOT (l)	± 0.133	± 0.139	± 0.130	± 0.129	± 0.206
	0.194	0.760	0.214	0.214	0.319
BENDR (f)	± 0.151	± 0.117	± 0.147	± 0.147	± 0.187
	0.030	0.645	0.054	0.054	0.104
BENDR (l)	± 0.012	± 0.043	± 0.012	± 0.012	± 0.021
	0.038	0.603	0.062	0.062	0.115
CBraMod (f)	± 0.017	± 0.031	± 0.016	± 0.016	± 0.024
	0.027	0.628	0.052	0.053	0.097
CBraMod (l)	± 0.014	± 0.059	± 0.014	± 0.015	± 0.028
	0.076	0.657	0.099	0.099	0.160
EEGPT (f)	± 0.069	± 0.079	± 0.067	± 0.068	± 0.091
	0.157	0.801	0.178	0.178	0.285
EEGPT (l)	± 0.108	± 0.090	± 0.105	± 0.105	± 0.144
	0.198	0.745	0.218	0.218	0.322
LaBraM (f)	± 0.149	± 0.106	± 0.145	± 0.145	± 0.178
	0.007	0.536	0.031	0.031	0.060
LaBraM (l)	± 0.005	± 0.020	± 0.005	± 0.005	± 0.008
	0.167	0.708	0.188	0.188	0.287
STEEGformer-s (f)	± 0.118	± 0.098	± 0.115	± 0.114	± 0.151
	0.011	0.600	0.036	0.036	0.070
STEEGformer-s (l)	± 0.010	± 0.039	± 0.010	± 0.010	± 0.015

Table 70: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1	κ	0.098 ± 0.061	0.117 ± 0.022	0.072 ± 0.030	0.169 ± 0.012	0.067 ± 0.019	0.102 ± 0.043	0.132 ± 0.043	0.090 ± 0.014	0.012 ± 0.010	0.005 ± 0.019	0.024 ± 0.020	0.025 ± 0.006	0.058 ± 0.031	0.143 ± 0.048	0.004 ± 0.007	0.146 ± 0.032	0.008 ± 0.022
	AUC	0.760 ± 0.052	0.754 ± 0.027	0.711 ± 0.034	0.823 ± 0.021	0.689 ± 0.022	0.660 ± 0.034	0.789 ± 0.041	0.671 ± 0.016	0.566 ± 0.028	0.559 ± 0.039	0.587 ± 0.048	0.586 ± 0.026	0.668 ± 0.025	0.707 ± 0.031	0.525 ± 0.022	0.715 ± 0.025	0.559 ± 0.025
	BAcc	0.120 ± 0.059	0.140 ± 0.021	0.095 ± 0.029	0.190 ± 0.012	0.090 ± 0.019	0.124 ± 0.042	0.154 ± 0.042	0.113 ± 0.014	0.037 ± 0.010	0.030 ± 0.018	0.048 ± 0.019	0.050 ± 0.006	0.081 ± 0.030	0.165 ± 0.047	0.029 ± 0.007	0.167 ± 0.031	0.033 ± 0.021
	Acc.1	0.120 ± 0.059	0.140 ± 0.021	0.095 ± 0.029	0.190 ± 0.012	0.090 ± 0.019	0.122 ± 0.041	0.154 ± 0.040	0.112 ± 0.014	0.037 ± 0.011	0.030 ± 0.019	0.049 ± 0.020	0.049 ± 0.006	0.081 ± 0.030	0.166 ± 0.045	0.029 ± 0.006	0.168 ± 0.030	0.034 ± 0.020
	Acc.2	0.217 ± 0.089	0.240 ± 0.035	0.168 ± 0.045	0.300 ± 0.022	0.163 ± 0.024	0.206 ± 0.042	0.282 ± 0.052	0.186 ± 0.024	0.072 ± 0.016	0.076 ± 0.027	0.085 ± 0.023	0.084 ± 0.009	0.140 ± 0.034	0.259 ± 0.045	0.053 ± 0.008	0.269 ± 0.039	0.061 ± 0.029
Subject10	κ	0.042 ± 0.022	0.027 ± 0.030	0.031 ± 0.040	0.037 ± 0.022	0.027 ± 0.013	0.015 ± 0.012	0.014 ± 0.011	0.034 ± 0.019	0.022 ± 0.012	0.027 ± 0.019	0.022 ± 0.010	0.022 ± 0.014	0.041 ± 0.023	0.040 ± 0.020	0.009 ± 0.010	0.047 ± 0.015	0.020 ± 0.009
	AUC	0.682 ± 0.046	0.644 ± 0.035	0.639 ± 0.057	0.643 ± 0.038	0.617 ± 0.036	0.570 ± 0.027	0.568 ± 0.020	0.587 ± 0.035	0.619 ± 0.031	0.543 ± 0.028	0.639 ± 0.031	0.559 ± 0.013	0.666 ± 0.043	0.576 ± 0.027	0.539 ± 0.016	0.599 ± 0.015	0.629 ± 0.019
	BAcc	0.066 ± 0.022	0.051 ± 0.030	0.055 ± 0.039	0.061 ± 0.021	0.051 ± 0.012	0.040 ± 0.012	0.038 ± 0.010	0.059 ± 0.018	0.046 ± 0.011	0.051 ± 0.018	0.046 ± 0.009	0.046 ± 0.013	0.065 ± 0.022	0.064 ± 0.019	0.034 ± 0.010	0.070 ± 0.014	0.045 ± 0.009
	Acc.1	0.066 ± 0.022	0.051 ± 0.030	0.055 ± 0.039	0.061 ± 0.021	0.051 ± 0.012	0.040 ± 0.012	0.037 ± 0.010	0.060 ± 0.020	0.046 ± 0.011	0.051 ± 0.018	0.048 ± 0.009	0.047 ± 0.013	0.065 ± 0.022	0.064 ± 0.019	0.034 ± 0.008	0.072 ± 0.014	0.044 ± 0.008
	Acc.2	0.124 ± 0.031	0.100 ± 0.031	0.108 ± 0.057	0.110 ± 0.036	0.096 ± 0.018	0.085 ± 0.022	0.074 ± 0.012	0.110 ± 0.025	0.090 ± 0.019	0.090 ± 0.023	0.092 ± 0.015	0.077 ± 0.014	0.113 ± 0.038	0.117 ± 0.021	0.061 ± 0.013	0.122 ± 0.022	0.082 ± 0.013
Subject11	κ	0.101 ± 0.024	0.118 ± 0.047	0.063 ± 0.026	0.140 ± 0.052	0.090 ± 0.031	0.077 ± 0.027	0.100 ± 0.021	0.082 ± 0.017	0.018 ± 0.012	0.021 ± 0.016	0.023 ± 0.019	0.019 ± 0.014	0.080 ± 0.039	0.081 ± 0.031	0.007 ± 0.004	0.084 ± 0.022	0.009 ± 0.016
	AUC	0.761 ± 0.033	0.778 ± 0.017	0.698 ± 0.038	0.794 ± 0.023	0.723 ± 0.024	0.621 ± 0.009	0.726 ± 0.042	0.671 ± 0.028	0.582 ± 0.011	0.551 ± 0.030	0.596 ± 0.053	0.581 ± 0.017	0.729 ± 0.033	0.665 ± 0.029	0.531 ± 0.029	0.638 ± 0.032	0.540 ± 0.026
	BAcc	0.124 ± 0.024	0.140 ± 0.046	0.087 ± 0.026	0.162 ± 0.051	0.113 ± 0.030	0.100 ± 0.027	0.122 ± 0.020	0.105 ± 0.017	0.043 ± 0.011	0.045 ± 0.016	0.047 ± 0.018	0.043 ± 0.014	0.103 ± 0.038	0.104 ± 0.030	0.031 ± 0.004	0.107 ± 0.021	0.034 ± 0.016
	Acc.1	0.124 ± 0.024	0.140 ± 0.046	0.087 ± 0.026	0.160 ± 0.050	0.113 ± 0.030	0.100 ± 0.028	0.122 ± 0.019	0.105 ± 0.016	0.043 ± 0.012	0.044 ± 0.015	0.048 ± 0.019	0.043 ± 0.013	0.102 ± 0.038	0.103 ± 0.031	0.031 ± 0.004	0.107 ± 0.020	0.033 ± 0.015
	Acc.2	0.227 ± 0.041	0.245 ± 0.046	0.158 ± 0.041	0.257 ± 0.058	0.193 ± 0.029	0.162 ± 0.026	0.215 ± 0.040	0.172 ± 0.018	0.078 ± 0.019	0.091 ± 0.026	0.092 ± 0.033	0.082 ± 0.025	0.179 ± 0.047	0.173 ± 0.034	0.052 ± 0.009	0.172 ± 0.032	0.053 ± 0.018

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
Subject12	κ	0.029 ± 0.026	0.015 ± 0.010	0.031 ± 0.035	0.005 ± 0.013	0.025 ± 0.021	0.001 ± 0.007	0.003 ± 0.007	0.014 ± 0.015	0.020 ± 0.012	0.041 ± 0.013	0.027 ± 0.021	0.005 ± 0.010	0.028 ± 0.029	0.024 ± 0.035	0.002 ± 0.008	0.019 ± 0.025	-0.004 ± 0.009
	AUC	0.665 ± 0.029	0.643 ± 0.034	0.617 ± 0.033	0.654 ± 0.041	0.629 ± 0.039	0.525 ± 0.022	0.509 ± 0.014	0.562 ± 0.030	0.629 ± 0.034	0.610 ± 0.038	0.662 ± 0.027	0.555 ± 0.019	0.655 ± 0.027	0.586 ± 0.036	0.503 ± 0.025	0.551 ± 0.028	0.517 ± 0.029
	BAcc	0.053 ± 0.026	0.040 ± 0.010	0.055 ± 0.034	0.030 ± 0.013	0.050 ± 0.020	0.026 ± 0.007	0.028 ± 0.007	0.039 ± 0.015	0.045 ± 0.012	0.065 ± 0.013	0.051 ± 0.021	0.030 ± 0.010	0.053 ± 0.028	0.049 ± 0.034	0.027 ± 0.008	0.043 ± 0.024	0.021 ± 0.008
	Acc.1	0.053 ± 0.025	0.040 ± 0.010	0.054 ± 0.033	0.029 ± 0.013	0.050 ± 0.020	0.027 ± 0.008	0.027 ± 0.007	0.039 ± 0.015	0.044 ± 0.012	0.066 ± 0.013	0.052 ± 0.023	0.031 ± 0.009	0.052 ± 0.028	0.049 ± 0.035	0.027 ± 0.008	0.042 ± 0.023	0.021 ± 0.008
	Acc.2	0.104 ± 0.033	0.092 ± 0.024	0.100 ± 0.041	0.078 ± 0.019	0.094 ± 0.025	0.056 ± 0.013	0.051 ± 0.012	0.075 ± 0.025	0.086 ± 0.017	0.124 ± 0.017	0.098 ± 0.022	0.067 ± 0.012	0.101 ± 0.043	0.102 ± 0.041	0.050 ± 0.012	0.088 ± 0.028	0.051 ± 0.011
Subject13	κ	0.224 ± 0.067	0.322 ± 0.034	0.169 ± 0.075	0.409 ± 0.091	0.205 ± 0.084	0.158 ± 0.045	0.135 ± 0.038	0.257 ± 0.036	0.049 ± 0.012	0.061 ± 0.022	0.004 ± 0.010	0.091 ± 0.020	0.247 ± 0.030	0.196 ± 0.039	0.000 ± 0.003	0.200 ± 0.072	0.004 ± 0.013
	AUC	0.883 ± 0.056	0.915 ± 0.013	0.837 ± 0.064	0.940 ± 0.012	0.853 ± 0.042	0.722 ± 0.036	0.811 ± 0.035	0.835 ± 0.011	0.740 ± 0.015	0.642 ± 0.039	0.528 ± 0.052	0.723 ± 0.022	0.906 ± 0.014	0.781 ± 0.015	0.526 ± 0.010	0.749 ± 0.048	0.617 ± 0.039
	BAcc	0.244 ± 0.065	0.339 ± 0.033	0.190 ± 0.073	0.424 ± 0.088	0.225 ± 0.082	0.179 ± 0.044	0.157 ± 0.038	0.276 ± 0.035	0.072 ± 0.012	0.085 ± 0.021	0.029 ± 0.009	0.114 ± 0.019	0.266 ± 0.029	0.216 ± 0.038	0.025 ± 0.003	0.220 ± 0.070	0.029 ± 0.013
	Acc.1	0.244 ± 0.065	0.339 ± 0.033	0.190 ± 0.073	0.424 ± 0.088	0.225 ± 0.082	0.179 ± 0.043	0.156 ± 0.038	0.278 ± 0.034	0.074 ± 0.011	0.090 ± 0.023	0.029 ± 0.010	0.115 ± 0.020	0.267 ± 0.031	0.218 ± 0.037	0.025 ± 0.004	0.224 ± 0.068	0.029 ± 0.014
	Acc.2	0.371 ± 0.084	0.496 ± 0.051	0.297 ± 0.081	0.605 ± 0.073	0.347 ± 0.080	0.292 ± 0.054	0.290 ± 0.039	0.405 ± 0.037	0.146 ± 0.019	0.152 ± 0.022	0.055 ± 0.005	0.198 ± 0.034	0.422 ± 0.036	0.342 ± 0.035	0.053 ± 0.006	0.349 ± 0.103	0.070 ± 0.017
Subject14	κ	0.338 ± 0.128	0.412 ± 0.039	0.156 ± 0.029	0.442 ± 0.073	0.261 ± 0.057	0.334 ± 0.034	0.306 ± 0.036	0.385 ± 0.018	0.055 ± 0.024	0.068 ± 0.050	0.053 ± 0.014	0.148 ± 0.030	0.314 ± 0.012	0.479 ± 0.052	0.010 ± 0.009	0.414 ± 0.034	0.023 ± 0.010
	AUC	0.936 ± 0.034	0.940 ± 0.014	0.870 ± 0.005	0.961 ± 0.009	0.880 ± 0.032	0.842 ± 0.009	0.931 ± 0.007	0.913 ± 0.011	0.710 ± 0.008	0.687 ± 0.043	0.742 ± 0.031	0.758 ± 0.024	0.920 ± 0.008	0.932 ± 0.019	0.562 ± 0.016	0.866 ± 0.021	0.666 ± 0.037
	BAcc	0.355 ± 0.124	0.427 ± 0.038	0.177 ± 0.028	0.456 ± 0.071	0.280 ± 0.055	0.350 ± 0.034	0.323 ± 0.035	0.400 ± 0.017	0.079 ± 0.024	0.091 ± 0.049	0.076 ± 0.013	0.170 ± 0.029	0.331 ± 0.011	0.492 ± 0.051	0.035 ± 0.009	0.429 ± 0.033	0.048 ± 0.010
	Acc.1	0.355 ± 0.124	0.427 ± 0.038	0.177 ± 0.028	0.452 ± 0.072	0.280 ± 0.056	0.349 ± 0.031	0.321 ± 0.033	0.400 ± 0.018	0.080 ± 0.024	0.090 ± 0.049	0.080 ± 0.014	0.171 ± 0.030	0.332 ± 0.010	0.492 ± 0.049	0.035 ± 0.009	0.429 ± 0.032	0.047 ± 0.009
	Acc.2	0.516 ± 0.150	0.615 ± 0.041	0.321 ± 0.028	0.617 ± 0.080	0.404 ± 0.066	0.508 ± 0.018	0.526 ± 0.026	0.555 ± 0.020	0.149 ± 0.028	0.162 ± 0.061	0.152 ± 0.027	0.263 ± 0.030	0.492 ± 0.027	0.650 ± 0.047	0.068 ± 0.008	0.575 ± 0.025	0.081 ± 0.020
Subject15	κ	0.222 ± 0.039	0.248 ± 0.096	0.128 ± 0.053	0.288 ± 0.081	0.213 ± 0.082	0.211 ± 0.078	0.191 ± 0.039	0.214 ± 0.080	0.028 ± 0.012	0.018 ± 0.016	0.012 ± 0.014	0.076 ± 0.015	0.162 ± 0.059	0.135 ± 0.060	0.002 ± 0.006	0.186 ± 0.066	-0.007 ± 0.011

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
	AUC	0.834 ±0.033	0.862 ± 0.056	0.765 ±0.064	0.874 ± 0.055	0.822 ±0.066	0.745 ±0.064	0.836 ±0.074	0.802 ±0.067	0.631 ±0.016	0.578 ±0.039	0.593 ±0.027	0.665 ±0.019	0.830 ±0.048	0.702 ±0.048	0.512 ±0.018	0.713 ±0.047	0.565 ±0.016
		0.242 ±0.038	0.266 ± 0.093	0.150 ±0.051	0.305 ± 0.079	0.233 ±0.080	0.230 ±0.076	0.211 ±0.038	0.234 ±0.078	0.052 ±0.012	0.042 ±0.016	0.037 ±0.014	0.099 ±0.015	0.183 ±0.057	0.156 ±0.059	0.027 ±0.006	0.207 ±0.065	0.018 ±0.011
	Acc.1	0.242 ±0.038	0.266 ± 0.093	0.151 ±0.053	0.307 ± 0.078	0.233 ±0.080	0.229 ±0.075	0.210 ±0.036	0.232 ±0.078	0.052 ±0.012	0.044 ±0.016	0.038 ±0.017	0.099 ±0.016	0.185 ±0.056	0.158 ±0.059	0.028 ±0.006	0.206 ±0.064	0.019 ±0.011
		0.356 ±0.055	0.428 ± 0.115	0.256 ±0.062	0.456 ± 0.114	0.336 ±0.098	0.340 ±0.115	0.366 ±0.090	0.342 ±0.098	0.102 ±0.017	0.089 ±0.025	0.077 ±0.031	0.162 ±0.018	0.300 ±0.069	0.242 ±0.065	0.053 ±0.006	0.307 ±0.088	0.048 ±0.014
	κ	0.161 ±0.134	0.273 ± 0.063	0.114 ±0.020	0.280 ± 0.051	0.164 ±0.041	0.125 ±0.042	0.124 ±0.049	0.189 ±0.047	0.032 ±0.017	0.033 ±0.012	0.037 ±0.028	0.067 ±0.017	0.138 ±0.022	0.195 ±0.026	0.001 ±0.015	0.172 ±0.028	0.000 ±0.013
		0.795 ±0.101	0.877 ± 0.031	0.767 ±0.037	0.891 ± 0.019	0.795 ±0.058	0.714 ±0.033	0.833 ±0.024	0.800 ±0.028	0.658 ±0.032	0.621 ±0.023	0.661 ±0.034	0.658 ±0.027	0.809 ±0.036	0.774 ±0.028	0.517 ±0.024	0.733 ±0.009	0.577 ±0.028
	BAcc	0.182 ±0.131	0.291 ± 0.062	0.136 ±0.020	0.298 ± 0.050	0.185 ±0.040	0.147 ±0.041	0.146 ±0.048	0.209 ±0.046	0.056 ±0.016	0.058 ±0.012	0.061 ±0.027	0.090 ±0.017	0.159 ±0.021	0.215 ±0.025	0.026 ±0.015	0.193 ±0.027	0.025 ±0.012
		0.182 ±0.131	0.291 ± 0.062	0.136 ±0.020	0.298 ± 0.050	0.185 ±0.040	0.147 ±0.043	0.144 ±0.047	0.210 ±0.044	0.057 ±0.015	0.059 ±0.012	0.063 ±0.028	0.089 ±0.017	0.160 ±0.022	0.215 ±0.027	0.026 ±0.015	0.191 ±0.025	0.025 ±0.012
	Acc.2	0.296 ±0.190	0.440 ± 0.080	0.235 ±0.031	0.476 ± 0.061	0.294 ±0.079	0.257 ±0.057	0.288 ±0.058	0.322 ±0.065	0.107 ±0.028	0.116 ±0.010	0.114 ±0.040	0.151 ±0.019	0.261 ±0.036	0.324 ±0.025	0.050 ±0.016	0.298 ±0.027	0.049 ±0.010
		0.193 ±0.176	0.296 ± 0.013	0.176 ±0.036	0.304 ± 0.056	0.171 ±0.099	0.270 ±0.056	0.294 ±0.058	0.225 ±0.026	0.028 ±0.008	0.019 ±0.015	0.014 ±0.020	0.083 ±0.032	0.155 ±0.026	0.205 ±0.020	0.005 ±0.005	0.236 ±0.044	0.019 ±0.012
Subject16	AUC	0.812 ±0.152	0.913 ±0.022	0.826 ±0.022	0.920 ± 0.016	0.807 ±0.172	0.821 ±0.027	0.923 ± 0.014	0.833 ±0.008	0.612 ±0.014	0.578 ±0.037	0.589 ±0.024	0.686 ±0.026	0.830 ±0.029	0.747 ±0.031	0.519 ±0.023	0.775 ±0.014	0.569 ±0.036
		0.213 ±0.172	0.313 ± 0.012	0.197 ±0.035	0.321 ± 0.055	0.191 ±0.097	0.289 ±0.055	0.312 ±0.057	0.244 ±0.026	0.052 ±0.008	0.044 ±0.015	0.039 ±0.020	0.106 ±0.031	0.176 ±0.026	0.225 ±0.020	0.030 ±0.005	0.256 ±0.043	0.044 ±0.011
	BAcc	0.213 ±0.172	0.313 ± 0.012	0.197 ±0.035	0.323 ± 0.056	0.191 ±0.097	0.291 ±0.054	0.311 ±0.058	0.243 ±0.025	0.052 ±0.007	0.045 ±0.015	0.039 ±0.019	0.106 ±0.032	0.177 ±0.025	0.226 ±0.019	0.030 ±0.005	0.258 ±0.043	0.043 ±0.011
		0.318 ±0.237	0.481 ±0.031	0.303 ±0.037	0.513 ± 0.084	0.327 ±0.159	0.461 ±0.051	0.504 ± 0.073	0.386 ±0.017	0.094 ±0.010	0.084 ±0.021	0.073 ±0.022	0.180 ±0.029	0.283 ±0.033	0.340 ±0.036	0.061 ±0.009	0.385 ±0.045	0.072 ±0.018
	Acc.1	0.119 ±0.015	0.181 ±0.036	0.079 ±0.015	0.187 ±0.058	0.112 ±0.061	0.286 ± 0.042	0.271 ±0.050	0.194 ±0.036	0.028 ±0.012	0.058 ±0.027	0.034 ±0.019	0.040 ±0.017	0.053 ±0.027	0.349 ± 0.034	0.015 ±0.006	0.224 ±0.035	0.010 ±0.012
		0.857 ±0.017	0.846 ±0.029	0.757 ±0.028	0.911 ± 0.010	0.790 ±0.062	0.821 ±0.033	0.914 ± 0.029	0.790 ±0.029	0.627 ±0.013	0.611 ±0.029	0.668 ±0.022	0.633 ±0.018	0.801 ±0.019	0.880 ±0.010	0.557 ±0.014	0.771 ±0.038	0.627 ±0.043
Subject17	AUC	0.857 ±0.017	0.846 ±0.029	0.757 ±0.028	0.911 ± 0.010	0.790 ±0.062	0.821 ±0.033	0.914 ± 0.029	0.790 ±0.029	0.627 ±0.013	0.611 ±0.029	0.668 ±0.022	0.633 ±0.018	0.801 ±0.019	0.880 ±0.010	0.557 ±0.014	0.771 ±0.038	0.627 ±0.043
		0.857 ±0.017	0.846 ±0.029	0.757 ±0.028	0.911 ± 0.010	0.790 ±0.062	0.821 ±0.033	0.914 ± 0.029	0.790 ±0.029	0.627 ±0.013	0.611 ±0.029	0.668 ±0.022	0.633 ±0.018	0.801 ±0.019	0.880 ±0.010	0.557 ±0.014	0.771 ±0.038	0.627 ±0.043

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1	BAcc	0.141	0.202	0.102	0.207	0.134	0.304	0.289	0.214	0.053	0.081	0.058	0.064	0.076	0.365	0.040	0.244	0.035
		± 0.015	± 0.035	± 0.015	± 0.056	± 0.059	± 0.041	± 0.049	± 0.035	± 0.011	± 0.026	± 0.019	± 0.016	± 0.027	± 0.033	± 0.006	± 0.034	± 0.012
	Acc.1	0.141	0.202	0.102	0.207	0.134	0.301	0.286	0.212	0.052	0.081	0.061	0.063	0.075	0.362	0.039	0.241	0.034
		± 0.015	± 0.035	± 0.015	± 0.056	± 0.059	± 0.041	± 0.049	± 0.035	± 0.011	± 0.026	± 0.018	± 0.016	± 0.026	± 0.034	± 0.007	± 0.035	± 0.011
	Acc.2	0.243	0.320	0.190	0.332	0.228	0.468	0.476	0.324	0.092	0.134	0.112	0.113	0.151	0.530	0.068	0.377	0.064
		± 0.033	± 0.037	± 0.026	± 0.071	± 0.085	± 0.061	± 0.059	± 0.048	± 0.011	± 0.036	± 0.023	± 0.011	± 0.034	± 0.044	± 0.008	± 0.070	± 0.011
Subject19	κ	0.065	0.146	0.051	0.124	0.072	0.106	0.096	0.080	0.027	0.028	0.029	0.036	0.063	0.104	0.003	0.083	0.014
		± 0.036	± 0.031	± 0.019	± 0.025	± 0.037	± 0.020	± 0.023	± 0.020	± 0.008	± 0.014	± 0.021	± 0.017	± 0.013	± 0.020	± 0.010	± 0.023	± 0.005
	AUC	0.792	0.805	0.729	0.849	0.760	0.646	0.748	0.692	0.652	0.598	0.686	0.617	0.760	0.703	0.546	0.655	0.644
		± 0.050	± 0.029	± 0.034	± 0.026	± 0.022	± 0.021	± 0.023	± 0.011	± 0.005	± 0.051	± 0.026	± 0.020	± 0.015	± 0.033	± 0.025	± 0.016	± 0.034
	BAcc	0.089	0.167	0.075	0.146	0.095	0.129	0.119	0.103	0.051	0.052	0.054	0.060	0.087	0.127	0.028	0.105	0.039
		± 0.035	± 0.030	± 0.019	± 0.024	± 0.036	± 0.020	± 0.023	± 0.020	± 0.008	± 0.014	± 0.021	± 0.017	± 0.013	± 0.019	± 0.010	± 0.022	± 0.005
Subject2	Acc.1	0.088	0.167	0.075	0.146	0.095	0.129	0.117	0.103	0.051	0.051	0.054	0.060	0.087	0.128	0.028	0.105	0.038
		± 0.035	± 0.030	± 0.019	± 0.026	± 0.036	± 0.020	± 0.022	± 0.020	± 0.008	± 0.013	± 0.022	± 0.016	± 0.013	± 0.020	± 0.010	± 0.023	± 0.004
	Acc.2	0.153	0.277	0.146	0.251	0.175	0.196	0.219	0.185	0.107	0.091	0.113	0.116	0.170	0.223	0.057	0.196	0.067
		± 0.045	± 0.025	± 0.018	± 0.046	± 0.044	± 0.019	± 0.039	± 0.024	± 0.014	± 0.015	± 0.031	± 0.028	± 0.029	± 0.033	± 0.013	± 0.037	± 0.009
	κ	0.034	0.057	0.062	0.086	0.049	0.081	0.076	0.041	0.014	0.027	0.025	0.024	0.064	0.094	0.014	0.073	0.008
		± 0.011	± 0.044	± 0.033	± 0.037	± 0.011	± 0.033	± 0.049	± 0.011	± 0.002	± 0.029	± 0.017	± 0.013	± 0.022	± 0.031	± 0.014	± 0.041	± 0.011
Subject20	AUC	0.706	0.699	0.715	0.757	0.681	0.648	0.715	0.608	0.580	0.583	0.622	0.573	0.712	0.660	0.521	0.632	0.586
		± 0.027	± 0.038	± 0.021	± 0.042	± 0.033	± 0.034	± 0.047	± 0.032	± 0.032	± 0.034	± 0.042	± 0.025	± 0.050	± 0.026	± 0.027	± 0.047	± 0.034
	BAcc	0.058	0.080	0.086	0.109	0.073	0.104	0.099	0.065	0.039	0.051	0.050	0.049	0.088	0.117	0.038	0.096	0.033
		± 0.011	± 0.043	± 0.032	± 0.036	± 0.010	± 0.032	± 0.048	± 0.011	± 0.002	± 0.028	± 0.017	± 0.013	± 0.022	± 0.031	± 0.013	± 0.040	± 0.011
	Acc.1	0.058	0.080	0.086	0.108	0.073	0.105	0.098	0.065	0.039	0.053	0.051	0.049	0.088	0.119	0.038	0.100	0.033
		± 0.011	± 0.043	± 0.032	± 0.038	± 0.010	± 0.032	± 0.047	± 0.011	± 0.002	± 0.030	± 0.019	± 0.013	± 0.021	± 0.033	± 0.013	± 0.045	± 0.011
Subject20	Acc.2	0.112	0.163	0.156	0.194	0.136	0.184	0.182	0.114	0.077	0.100	0.096	0.088	0.164	0.186	0.065	0.156	0.072
		± 0.030	± 0.061	± 0.038	± 0.058	± 0.020	± 0.040	± 0.052	± 0.023	± 0.013	± 0.032	± 0.026	± 0.027	± 0.036	± 0.037	± 0.013	± 0.054	± 0.010
	κ	0.093	0.229	0.080	0.227	0.147	0.246	0.265	0.157	0.052	0.035	0.054	0.092	0.193	0.266	0.010	0.242	0.022
		± 0.026	± 0.049	± 0.029	± 0.094	± 0.037	± 0.046	± 0.044	± 0.015	± 0.014	± 0.033	± 0.027	± 0.026	± 0.040	± 0.058	± 0.011	± 0.077	± 0.021
	AUC	0.831	0.866	0.768	0.894	0.811	0.798	0.893	0.743	0.693	0.627	0.700	0.677	0.856	0.791	0.564	0.774	0.651
		± 0.018	± 0.011	± 0.041	± 0.015	± 0.010	± 0.013	± 0.020	± 0.016	± 0.016	± 0.030	± 0.037	± 0.022	± 0.006	± 0.046	± 0.032	± 0.032	± 0.021
Subject20	BAcc	0.116	0.249	0.103	0.246	0.168	0.265	0.283	0.178	0.076	0.059	0.077	0.115	0.213	0.285	0.035	0.261	0.046
		± 0.025	± 0.048	± 0.028	± 0.092	± 0.036	± 0.045	± 0.043	± 0.014	± 0.013	± 0.032	± 0.026	± 0.026	± 0.039	± 0.056	± 0.011	± 0.075	± 0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.1	0.116 ±0.025	0.249 ±0.048	0.102 ±0.027	0.248 ±0.093	0.168 ±0.036	0.265 ±0.048	0.282 ± 0.043	0.179 ±0.014	0.076 ±0.014	0.059 ±0.032	0.078 ±0.026	0.115 ±0.025	0.211 ±0.040	0.288 ± 0.058	0.035 ±0.011	0.263 ±0.078	0.046 ±0.020
	Acc.2	0.217 ±0.024	0.359 ±0.022	0.194 ±0.054	0.387 ±0.087	0.266 ±0.043	0.406 ± 0.055	0.468 ± 0.045	0.272 ±0.014	0.141 ±0.020	0.124 ±0.058	0.138 ±0.030	0.182 ±0.032	0.338 ±0.035	0.403 ±0.072	0.071 ±0.018	0.380 ±0.082	0.083 ±0.028
Subject21	κ	0.257 ±0.184	0.367 ± 0.033	0.203 ±0.063	0.388 ± 0.039	0.216 ±0.031	0.228 ±0.051	0.278 ±0.060	0.238 ±0.021	0.028 ±0.016	0.037 ±0.033	0.007 ±0.014	0.093 ±0.008	0.282 ±0.019	0.174 ±0.038	0.007 ±0.012	0.263 ±0.016	0.037 ±0.018
	AUC	0.875 ±0.092	0.930 ± 0.015	0.861 ±0.030	0.943 ± 0.015	0.880 ±0.023	0.784 ±0.045	0.904 ±0.021	0.819 ±0.014	0.676 ±0.017	0.619 ±0.046	0.533 ±0.040	0.707 ±0.026	0.899 ±0.008	0.784 ±0.016	0.531 ±0.017	0.803 ±0.021	0.670 ±0.035
	BAcc	0.276 ±0.179	0.383 ± 0.032	0.223 ±0.061	0.404 ± 0.038	0.236 ±0.030	0.247 ±0.050	0.296 ±0.058	0.257 ±0.021	0.053 ±0.015	0.061 ±0.032	0.032 ±0.014	0.116 ±0.008	0.300 ±0.019	0.195 ±0.037	0.032 ±0.012	0.282 ±0.016	0.061 ±0.018
	Acc.1	0.276 ±0.180	0.380 ± 0.033	0.220 ±0.061	0.406 ± 0.039	0.236 ±0.030	0.246 ±0.052	0.293 ±0.058	0.256 ±0.022	0.053 ±0.015	0.063 ±0.033	0.032 ±0.014	0.117 ±0.007	0.301 ±0.018	0.197 ±0.038	0.032 ±0.012	0.281 ±0.019	0.061 ±0.019
	Acc.2	0.406 ±0.227	0.548 ± 0.048	0.359 ±0.068	0.580 ± 0.047	0.386 ±0.029	0.401 ±0.036	0.461 ±0.047	0.382 ±0.037	0.107 ±0.024	0.122 ±0.040	0.060 ±0.007	0.176 ±0.009	0.451 ±0.029	0.321 ±0.051	0.057 ±0.016	0.424 ±0.047	0.108 ±0.027
	κ	0.346 ±0.295	0.492 ± 0.031	0.363 ±0.035	0.577 ± 0.069	0.325 ±0.060	0.420 ±0.072	0.413 ±0.019	0.367 ±0.047	0.049 ±0.012	0.044 ±0.028	0.032 ±0.011	0.131 ±0.028	0.390 ±0.031	0.368 ±0.038	0.019 ±0.007	0.259 ±0.033	0.024 ±0.013
	AUC	0.894 ±0.105	0.960 ±0.008	0.920 ±0.019	0.970 ± 0.007	0.906 ±0.018	0.891 ±0.039	0.963 ± 0.004	0.908 ±0.007	0.692 ±0.018	0.619 ±0.026	0.655 ±0.019	0.724 ±0.024	0.926 ±0.007	0.857 ±0.021	0.577 ±0.027	0.796 ±0.028	0.644 ±0.036
Subject22	BAcc	0.362 ±0.287	0.505 ± 0.031	0.379 ±0.034	0.587 ± 0.067	0.342 ±0.059	0.435 ±0.071	0.428 ±0.018	0.383 ±0.046	0.073 ±0.011	0.068 ±0.027	0.056 ±0.011	0.153 ±0.027	0.405 ±0.030	0.384 ±0.037	0.044 ±0.007	0.277 ±0.033	0.048 ±0.013
	Acc.1	0.362 ±0.287	0.505 ± 0.031	0.379 ±0.034	0.587 ± 0.067	0.342 ±0.059	0.436 ±0.070	0.427 ±0.021	0.384 ±0.044	0.073 ±0.012	0.070 ±0.028	0.058 ±0.013	0.153 ±0.027	0.406 ±0.028	0.388 ±0.034	0.044 ±0.008	0.282 ±0.029	0.047 ±0.013
	Acc.2	0.493 ±0.344	0.688 ±0.024	0.545 ±0.049	0.773 ± 0.072	0.496 ±0.071	0.664 ±0.076	0.701 ± 0.028	0.549 ±0.025	0.131 ±0.021	0.143 ±0.025	0.111 ±0.009	0.235 ±0.024	0.572 ±0.033	0.509 ±0.036	0.079 ±0.010	0.406 ±0.049	0.088 ±0.017
	κ	0.021 ±0.010	0.028 ±0.020	0.021 ±0.015	0.045 ± 0.024	0.026 ±0.019	0.008 ±0.010	0.002 ±0.008	0.034 ±0.004	0.028 ±0.011	0.033 ±0.020	0.029 ±0.009	0.023 ±0.019	0.045 ± 0.006	0.034 ±0.016	0.003 ±0.008	0.005 ±0.011	0.003 ±0.018
	AUC	0.659 ±0.026	0.669 ± 0.034	0.633 ±0.053	0.644 ±0.021	0.648 ±0.035	0.532 ±0.030	0.514 ±0.023	0.582 ±0.019	0.657 ±0.013	0.604 ±0.042	0.669 ±0.020	0.575 ±0.019	0.680 ± 0.025	0.601 ±0.024	0.523 ±0.012	0.556 ±0.012	0.541 ±0.019
Subject23	BAcc	0.046 ±0.009	0.053 ±0.020	0.045 ±0.015	0.069 ± 0.023	0.050 ±0.018	0.033 ±0.010	0.027 ±0.008	0.058 ±0.003	0.053 ±0.011	0.057 ±0.019	0.054 ±0.009	0.048 ±0.018	0.069 ± 0.006	0.059 ±0.016	0.028 ±0.008	0.030 ±0.010	0.028 ±0.018
	Acc.1	0.046 ±0.009	0.053 ±0.020	0.045 ±0.015	0.068 ± 0.023	0.050 ±0.018	0.033 ±0.010	0.028 ±0.010	0.057 ±0.004	0.054 ±0.011	0.058 ±0.019	0.055 ±0.010	0.048 ±0.019	0.072 ± 0.006	0.061 ±0.014	0.028 ±0.007	0.031 ±0.011	0.028 ±0.017

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
	Acc.2	0.091 ±0.013	0.098 ±0.025	0.087 ±0.032	0.106 ±0.023	0.092 ±0.028	0.070 ±0.020	0.059 ±0.014	0.103 ±0.004	0.108 ±0.003	0.105 ±0.030	0.110 ±0.015	0.085 ±0.025	0.137 ±0.013	0.119 ±0.021	0.059 ±0.011	0.069 ±0.020	0.056 ±0.017
Subject24	κ	0.026 ±0.010	0.042 ±0.016	0.032 ±0.023	0.041 ±0.012	0.042 ±0.010	0.033 ±0.015	0.029 ±0.009	0.040 ±0.021	0.021 ±0.008	0.035 ±0.015	0.027 ±0.013	0.039 ±0.015	0.067 ±0.019	0.062 ±0.016	0.005 ±0.010	0.031 ±0.013	0.020 ±0.017
	AUC	0.686 ±0.041	0.690 ±0.033	0.653 ±0.025	0.719 ±0.022	0.642 ±0.023	0.573 ±0.014	0.628 ±0.011	0.621 ±0.026	0.621 ±0.029	0.621 ±0.032	0.668 ±0.010	0.600 ±0.016	0.743 ±0.021	0.653 ±0.028	0.543 ±0.022	0.570 ±0.015	0.617 ±0.041
	BAcc	0.050 ±0.010	0.066 ±0.015	0.056 ±0.022	0.065 ±0.012	0.066 ±0.010	0.057 ±0.015	0.054 ±0.009	0.064 ±0.021	0.045 ±0.008	0.059 ±0.014	0.051 ±0.013	0.063 ±0.015	0.090 ±0.019	0.086 ±0.015	0.030 ±0.009	0.055 ±0.013	0.044 ±0.017
	Acc.1	0.050 ±0.010	0.066 ±0.015	0.056 ±0.022	0.064 ±0.012	0.066 ±0.010	0.056 ±0.015	0.053 ±0.009	0.064 ±0.022	0.046 ±0.007	0.060 ±0.014	0.054 ±0.015	0.063 ±0.014	0.090 ±0.020	0.085 ±0.016	0.029 ±0.010	0.055 ±0.013	0.043 ±0.016
	Acc.2	0.101 ±0.026	0.126 ±0.016	0.117 ±0.026	0.106 ±0.014	0.118 ±0.008	0.106 ±0.015	0.104 ±0.020	0.120 ±0.022	0.094 ±0.013	0.114 ±0.012	0.105 ±0.019	0.108 ±0.015	0.159 ±0.019	0.155 ±0.026	0.058 ±0.004	0.103 ±0.031	0.069 ±0.012
	κ	0.021 ±0.016	0.015 ±0.009	0.009 ±0.007	0.010 ±0.012	0.016 ±0.002	0.028 ±0.016	0.007 ±0.008	0.035 ±0.014	0.002 ±0.014	0.049 ±0.016	0.036 ±0.015	0.014 ±0.004	0.028 ±0.010	0.065 ±0.022	0.005 ±0.007	0.037 ±0.010	0.006 ±0.018
Subject25	AUC	0.651 ±0.019	0.624 ±0.018	0.577 ±0.018	0.566 ±0.018	0.634 ±0.024	0.567 ±0.028	0.528 ±0.058	0.611 ±0.020	0.537 ±0.013	0.622 ±0.038	0.652 ±0.015	0.566 ±0.012	0.638 ±0.008	0.614 ±0.034	0.553 ±0.044	0.593 ±0.022	0.606 ±0.046
	BAcc	0.045 ±0.016	0.040 ±0.009	0.034 ±0.007	0.035 ±0.012	0.040 ±0.002	0.053 ±0.016	0.032 ±0.008	0.059 ±0.014	0.027 ±0.014	0.073 ±0.015	0.060 ±0.014	0.039 ±0.004	0.053 ±0.009	0.088 ±0.021	0.030 ±0.007	0.061 ±0.009	0.030 ±0.018
	Acc.1	0.045 ±0.016	0.040 ±0.009	0.034 ±0.007	0.037 ±0.011	0.040 ±0.002	0.053 ±0.016	0.033 ±0.008	0.059 ±0.013	0.027 ±0.014	0.074 ±0.017	0.064 ±0.017	0.040 ±0.005	0.055 ±0.009	0.088 ±0.021	0.030 ±0.006	0.062 ±0.010	0.030 ±0.017
	Acc.2	0.084 ±0.008	0.074 ±0.013	0.064 ±0.007	0.072 ±0.021	0.085 ±0.008	0.099 ±0.033	0.058 ±0.009	0.114 ±0.022	0.059 ±0.015	0.141 ±0.011	0.116 ±0.020	0.074 ±0.008	0.093 ±0.013	0.165 ±0.021	0.065 ±0.016	0.115 ±0.011	0.074 ±0.016
	κ	0.118 ±0.029	0.117 ±0.026	0.106 ±0.025	0.189 ±0.016	0.090 ±0.017	0.142 ±0.042	0.135 ±0.044	0.079 ±0.017	0.034 ±0.013	0.030 ±0.020	0.034 ±0.015	0.030 ±0.011	0.072 ±0.021	0.100 ±0.018	0.003 ±0.008	0.107 ±0.040	0.011 ±0.005
	AUC	0.799 ±0.013	0.792 ±0.022	0.770 ±0.028	0.852 ±0.005	0.761 ±0.016	0.706 ±0.040	0.767 ±0.042	0.679 ±0.019	0.667 ±0.016	0.610 ±0.038	0.653 ±0.019	0.623 ±0.015	0.774 ±0.019	0.671 ±0.024	0.541 ±0.012	0.671 ±0.038	0.590 ±0.021
Subject26	BAcc	0.140 ±0.029	0.140 ±0.026	0.129 ±0.024	0.209 ±0.015	0.113 ±0.017	0.163 ±0.041	0.156 ±0.043	0.102 ±0.017	0.058 ±0.013	0.055 ±0.019	0.059 ±0.014	0.054 ±0.011	0.095 ±0.020	0.123 ±0.017	0.028 ±0.008	0.130 ±0.039	0.036 ±0.005
	Acc.1	0.140 ±0.029	0.140 ±0.026	0.129 ±0.024	0.209 ±0.015	0.113 ±0.017	0.163 ±0.042	0.156 ±0.043	0.102 ±0.018	0.058 ±0.013	0.056 ±0.018	0.059 ±0.015	0.054 ±0.011	0.097 ±0.020	0.123 ±0.018	0.029 ±0.007	0.129 ±0.040	0.036 ±0.005
	Acc.2	0.230 ±0.034	0.213 ±0.029	0.221 ±0.028	0.340 ±0.033	0.195 ±0.033	0.260 ±0.044	0.259 ±0.078	0.169 ±0.029	0.107 ±0.016	0.107 ±0.021	0.112 ±0.022	0.108 ±0.016	0.190 ±0.027	0.208 ±0.038	0.058 ±0.016	0.208 ±0.043	0.077 ±0.013

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject27	κ	0.059 ± 0.018	0.107 ± 0.038	0.042 ± 0.013	0.098 ± 0.016	0.042 ± 0.023	0.028 ± 0.019	0.052 ± 0.016	0.088 ± 0.031	0.024 ± 0.011	0.021 ± 0.015	0.025 ± 0.016	0.025 ± 0.011	0.084 ± 0.027	0.087 ± 0.024	-0.002 ± 0.009	0.044 ± 0.033	-0.006 ± 0.016
	AUC	0.743 ± 0.016	0.757 ± 0.027	0.683 ± 0.029	0.761 ± 0.012	0.689 ± 0.016	0.584 ± 0.024	0.692 ± 0.047	0.664 ± 0.034	0.624 ± 0.024	0.558 ± 0.020	0.633 ± 0.019	0.603 ± 0.015	0.734 ± 0.032	0.662 ± 0.022	0.501 ± 0.007	0.592 ± 0.041	0.550 ± 0.031
	BAcc	0.082 ± 0.017	0.129 ± 0.037	0.066 ± 0.012	0.121 ± 0.016	0.066 ± 0.023	0.052 ± 0.019	0.076 ± 0.015	0.111 ± 0.030	0.048 ± 0.010	0.045 ± 0.015	0.050 ± 0.016	0.049 ± 0.011	0.107 ± 0.026	0.110 ± 0.023	0.023 ± 0.009	0.068 ± 0.032	0.019 ± 0.015
	Acc.1	0.082 ± 0.017	0.129 ± 0.037	0.066 ± 0.012	0.123 ± 0.018	0.066 ± 0.023	0.054 ± 0.019	0.076 ± 0.015	0.111 ± 0.030	0.048 ± 0.010	0.044 ± 0.014	0.049 ± 0.016	0.049 ± 0.011	0.106 ± 0.025	0.109 ± 0.023	0.024 ± 0.009	0.068 ± 0.033	0.020 ± 0.015
	Acc.2	0.154 ± 0.020	0.222 ± 0.040	0.109 ± 0.032	0.208 ± 0.038	0.122 ± 0.027	0.117 ± 0.041	0.143 ± 0.034	0.185 ± 0.045	0.098 ± 0.022	0.079 ± 0.007	0.091 ± 0.013	0.094 ± 0.015	0.177 ± 0.038	0.191 ± 0.039	0.048 ± 0.015	0.123 ± 0.037	0.047 ± 0.016
Subject28	κ	0.137 ± 0.087	0.111 ± 0.068	0.119 ± 0.032	0.154 ± 0.044	0.063 ± 0.017	0.066 ± 0.029	0.061 ± 0.033	0.087 ± 0.027	0.034 ± 0.012	0.029 ± 0.012	0.003 ± 0.020	0.022 ± 0.022	0.073 ± 0.038	0.067 ± 0.026	-0.002 ± 0.008	0.070 ± 0.030	0.020 ± 0.014
	AUC	0.782 ± 0.062	0.763 ± 0.041	0.752 ± 0.041	0.788 ± 0.047	0.691 ± 0.029	0.609 ± 0.046	0.693 ± 0.034	0.690 ± 0.040	0.636 ± 0.010	0.580 ± 0.037	0.508 ± 0.031	0.588 ± 0.033	0.735 ± 0.036	0.647 ± 0.017	0.532 ± 0.037	0.632 ± 0.031	0.621 ± 0.021
	BAcc	0.159 ± 0.085	0.133 ± 0.066	0.141 ± 0.032	0.175 ± 0.043	0.087 ± 0.017	0.090 ± 0.028	0.085 ± 0.032	0.110 ± 0.026	0.059 ± 0.011	0.053 ± 0.012	0.028 ± 0.020	0.046 ± 0.021	0.096 ± 0.037	0.090 ± 0.025	0.023 ± 0.008	0.093 ± 0.029	0.045 ± 0.013
	Acc.1	0.159 ± 0.085	0.133 ± 0.066	0.140 ± 0.032	0.174 ± 0.043	0.087 ± 0.017	0.090 ± 0.028	0.084 ± 0.032	0.109 ± 0.027	0.058 ± 0.011	0.054 ± 0.012	0.029 ± 0.020	0.046 ± 0.021	0.096 ± 0.037	0.090 ± 0.024	0.022 ± 0.008	0.093 ± 0.029	0.044 ± 0.013
	Acc.2	0.261 ± 0.123	0.214 ± 0.085	0.233 ± 0.043	0.275 ± 0.065	0.152 ± 0.021	0.160 ± 0.042	0.167 ± 0.044	0.183 ± 0.034	0.106 ± 0.011	0.094 ± 0.016	0.055 ± 0.017	0.083 ± 0.024	0.181 ± 0.041	0.150 ± 0.023	0.054 ± 0.008	0.157 ± 0.058	0.086 ± 0.025
Subject29	κ	0.021 ± 0.010	0.042 ± 0.020	0.022 ± 0.020	0.031 ± 0.019	0.031 ± 0.017	0.019 ± 0.015	0.014 ± 0.015	0.026 ± 0.014	0.016 ± 0.011	0.031 ± 0.017	0.039 ± 0.017	0.029 ± 0.017	0.051 ± 0.010	0.022 ± 0.019	0.003 ± 0.009	0.026 ± 0.009	0.011 ± 0.011
	AUC	0.632 ± 0.027	0.648 ± 0.045	0.604 ± 0.028	0.617 ± 0.021	0.622 ± 0.019	0.549 ± 0.018	0.535 ± 0.023	0.580 ± 0.016	0.588 ± 0.023	0.597 ± 0.034	0.636 ± 0.031	0.587 ± 0.027	0.672 ± 0.019	0.560 ± 0.032	0.516 ± 0.020	0.549 ± 0.022	0.560 ± 0.027
	BAcc	0.046 ± 0.010	0.066 ± 0.020	0.046 ± 0.020	0.055 ± 0.019	0.055 ± 0.017	0.043 ± 0.015	0.038 ± 0.014	0.050 ± 0.014	0.041 ± 0.011	0.055 ± 0.017	0.063 ± 0.017	0.053 ± 0.017	0.075 ± 0.010	0.046 ± 0.018	0.028 ± 0.009	0.050 ± 0.009	0.035 ± 0.011
	Acc.1	0.046 ± 0.010	0.066 ± 0.020	0.046 ± 0.020	0.056 ± 0.018	0.055 ± 0.017	0.045 ± 0.014	0.038 ± 0.014	0.050 ± 0.014	0.041 ± 0.011	0.057 ± 0.016	0.064 ± 0.017	0.054 ± 0.017	0.075 ± 0.010	0.047 ± 0.018	0.028 ± 0.009	0.054 ± 0.011	0.036 ± 0.011
	Acc.2	0.074 ± 0.023	0.116 ± 0.026	0.084 ± 0.027	0.099 ± 0.026	0.096 ± 0.019	0.100 ± 0.015	0.074 ± 0.024	0.093 ± 0.025	0.077 ± 0.013	0.110 ± 0.030	0.115 ± 0.021	0.097 ± 0.027	0.130 ± 0.013	0.093 ± 0.029	0.051 ± 0.011	0.103 ± 0.018	0.065 ± 0.020
Subject3	κ	0.361 ± 0.311	0.503 ± 0.105	0.407 ± 0.048	0.615 ± 0.031	0.404 ± 0.049	0.560 ± 0.095	0.463 ± 0.063	0.601 ± 0.047	0.040 ± 0.014	0.045 ± 0.018	0.056 ± 0.015	0.296 ± 0.064	0.362 ± 0.036	0.607 ± 0.049	0.006 ± 0.007	0.455 ± 0.073	0.008 ± 0.016

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
	AUC	0.883	0.970	0.950	0.987	0.942	0.934	0.974	0.967	0.683	0.635	0.690	0.864	0.949	0.953	0.551	0.899	0.605
		± 0.142	± 0.023	± 0.019	± 0.007	± 0.019	± 0.031	± 0.012	± 0.016	± 0.021	± 0.032	± 0.025	± 0.026	± 0.011	± 0.017	± 0.029	± 0.015	± 0.037
	BAcc	0.377	0.516	0.421	0.625	0.419	0.571	0.477	0.611	0.064	0.069	0.080	0.313	0.378	0.617	0.031	0.469	0.033
		± 0.303	± 0.102	± 0.047	± 0.030	± 0.047	± 0.093	± 0.062	± 0.046	± 0.014	± 0.017	± 0.014	± 0.062	± 0.035	± 0.048	± 0.007	± 0.071	± 0.016
	Acc.1	0.377	0.516	0.421	0.627	0.419	0.569	0.477	0.611	0.065	0.069	0.082	0.313	0.381	0.617	0.031	0.473	0.033
		± 0.303	± 0.102	± 0.047	± 0.032	± 0.047	± 0.091	± 0.063	± 0.046	± 0.015	± 0.016	± 0.016	± 0.063	± 0.032	± 0.049	± 0.008	± 0.072	± 0.015
	Acc.2	0.521	0.724	0.591	0.834	0.592	0.768	0.758	0.777	0.116	0.124	0.142	0.437	0.569	0.772	0.060	0.626	0.071
		± 0.387	± 0.103	± 0.062	± 0.056	± 0.057	± 0.087	± 0.081	± 0.040	± 0.017	± 0.026	± 0.027	± 0.076	± 0.036	± 0.060	± 0.006	± 0.063	± 0.024
	κ	0.141	0.137	0.118	0.187	0.113	0.124	0.106	0.118	0.041	0.050	0.047	0.057	0.104	0.146	0.004	0.089	0.016
		± 0.055	± 0.034	± 0.040	± 0.042	± 0.032	± 0.015	± 0.019	± 0.014	± 0.009	± 0.025	± 0.017	± 0.009	± 0.016	± 0.029	± 0.008	± 0.033	± 0.014
Subject30	AUC	0.805	0.823	0.772	0.831	0.772	0.687	0.752	0.740	0.673	0.634	0.696	0.649	0.793	0.740	0.525	0.649	0.592
		± 0.041	± 0.035	± 0.029	± 0.036	± 0.029	± 0.018	± 0.017	± 0.016	± 0.020	± 0.023	± 0.037	± 0.024	± 0.024	± 0.044	± 0.016	± 0.040	± 0.046
	BAcc	0.163	0.158	0.140	0.208	0.135	0.146	0.129	0.140	0.065	0.074	0.070	0.081	0.126	0.168	0.029	0.112	0.041
		± 0.054	± 0.033	± 0.039	± 0.041	± 0.032	± 0.015	± 0.018	± 0.014	± 0.009	± 0.024	± 0.017	± 0.009	± 0.016	± 0.028	± 0.008	± 0.033	± 0.013
	Acc.1	0.163	0.158	0.140	0.208	0.135	0.147	0.128	0.141	0.065	0.074	0.073	0.081	0.126	0.167	0.028	0.113	0.040
		± 0.054	± 0.033	± 0.039	± 0.041	± 0.032	± 0.015	± 0.018	± 0.013	± 0.009	± 0.024	± 0.017	± 0.008	± 0.016	± 0.028	± 0.008	± 0.032	± 0.013
Subject31	Acc.2	0.281	0.267	0.241	0.314	0.218	0.245	0.216	0.234	0.127	0.137	0.142	0.137	0.234	0.264	0.053	0.187	0.073
		± 0.059	± 0.031	± 0.055	± 0.048	± 0.038	± 0.025	± 0.024	± 0.026	± 0.013	± 0.031	± 0.017	± 0.009	± 0.023	± 0.050	± 0.010	± 0.048	± 0.022
	κ	0.211	0.196	0.156	0.221	0.090	0.069	0.094	0.138	0.029	0.029	0.003	0.074	0.140	0.130	0.004	0.106	0.013
		± 0.097	± 0.043	± 0.052	± 0.016	± 0.039	± 0.017	± 0.027	± 0.022	± 0.005	± 0.022	± 0.010	± 0.021	± 0.044	± 0.031	± 0.009	± 0.015	± 0.011
	AUC	0.842	0.845	0.787	0.862	0.775	0.618	0.726	0.750	0.653	0.601	0.489	0.651	0.807	0.714	0.520	0.671	0.614
		± 0.052	± 0.039	± 0.037	± 0.029	± 0.029	± 0.029	± 0.033	± 0.020	± 0.016	± 0.047	± 0.028	± 0.023	± 0.036	± 0.034	± 0.019	± 0.034	± 0.054
Subject32	BAcc	0.230	0.216	0.177	0.240	0.113	0.093	0.117	0.159	0.054	0.054	0.028	0.097	0.161	0.151	0.029	0.128	0.037
		± 0.095	± 0.042	± 0.050	± 0.016	± 0.038	± 0.017	± 0.027	± 0.022	± 0.005	± 0.021	± 0.009	± 0.020	± 0.043	± 0.030	± 0.009	± 0.015	± 0.011
	Acc.1	0.230	0.216	0.179	0.240	0.113	0.093	0.117	0.160	0.054	0.054	0.028	0.097	0.162	0.152	0.028	0.132	0.037
		± 0.095	± 0.042	± 0.049	± 0.016	± 0.038	± 0.017	± 0.027	± 0.023	± 0.005	± 0.022	± 0.009	± 0.021	± 0.042	± 0.031	± 0.010	± 0.015	± 0.010
	Acc.2	0.350	0.354	0.273	0.390	0.200	0.156	0.199	0.257	0.108	0.101	0.041	0.158	0.271	0.232	0.058	0.217	0.073
		± 0.117	± 0.049	± 0.053	± 0.031	± 0.051	± 0.027	± 0.047	± 0.039	± 0.011	± 0.031	± 0.009	± 0.022	± 0.058	± 0.035	± 0.007	± 0.035	± 0.010
Subject32	κ	0.169	0.426	0.306	0.544	0.295	0.480	0.407	0.432	0.021	0.030	0.015	0.152	0.306	0.414	0.013	0.312	0.008
		± 0.197	± 0.044	± 0.016	± 0.054	± 0.047	± 0.068	± 0.031	± 0.031	± 0.011	± 0.023	± 0.013	± 0.024	± 0.038	± 0.048	± 0.011	± 0.031	± 0.015
	AUC	0.819	0.964	0.926	0.983	0.909	0.930	0.974	0.931	0.648	0.589	0.589	0.751	0.896	0.893	0.565	0.847	0.613
		± 0.140	± 0.008	± 0.008	± 0.004	± 0.043	± 0.023	± 0.004	± 0.009	± 0.013	± 0.041	± 0.013	± 0.023	± 0.008	± 0.021	± 0.012	± 0.018	± 0.050

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject33	BAcc	0.190	0.440	0.323	0.555	0.313	0.493	0.422	0.446	0.046	0.054	0.040	0.173	0.324	0.428	0.038	0.329	0.033
		± 0.192	± 0.043	± 0.016	± 0.053	± 0.046	± 0.067	± 0.031	± 0.030	± 0.011	± 0.022	± 0.012	± 0.023	± 0.037	± 0.047	± 0.011	± 0.030	± 0.015
	Acc.1	0.190	0.440	0.322	0.552	0.313	0.494	0.421	0.443	0.046	0.054	0.040	0.172	0.322	0.427	0.039	0.324	0.034
		± 0.192	± 0.043	± 0.016	± 0.053	± 0.046	± 0.065	± 0.031	± 0.029	± 0.011	± 0.024	± 0.013	± 0.024	± 0.037	± 0.049	± 0.011	± 0.030	± 0.015
	Acc.2	0.302	0.655	0.492	0.758	0.470	0.762	0.710	0.624	0.094	0.106	0.083	0.267	0.471	0.586	0.070	0.476	0.069
		± 0.278	± 0.043	± 0.013	± 0.037	± 0.079	± 0.061	± 0.022	± 0.028	± 0.007	± 0.033	± 0.009	± 0.038	± 0.036	± 0.052	± 0.010	± 0.032	± 0.014
	κ	0.157	0.327	0.125	0.345	0.184	0.178	0.157	0.248	0.036	0.062	0.020	0.049	0.138	0.215	0.003	0.243	0.011
		± 0.166	± 0.035	± 0.040	± 0.047	± 0.027	± 0.043	± 0.019	± 0.030	± 0.019	± 0.016	± 0.016	± 0.013	± 0.016	± 0.036	± 0.008	± 0.057	± 0.011
Subject34	AUC	0.779	0.905	0.813	0.926	0.808	0.732	0.840	0.831	0.670	0.594	0.613	0.629	0.805	0.831	0.543	0.759	0.659
		± 0.114	± 0.009	± 0.030	± 0.011	± 0.034	± 0.014	± 0.019	± 0.027	± 0.028	± 0.021	± 0.040	± 0.034	± 0.010	± 0.008	± 0.004	± 0.028	± 0.014
	BAcc	0.178	0.344	0.147	0.361	0.205	0.198	0.178	0.267	0.060	0.086	0.045	0.073	0.159	0.235	0.028	0.262	0.035
		± 0.162	± 0.034	± 0.039	± 0.045	± 0.027	± 0.042	± 0.019	± 0.030	± 0.018	± 0.015	± 0.016	± 0.012	± 0.016	± 0.035	± 0.008	± 0.056	± 0.011
	Acc.1	0.178	0.344	0.145	0.358	0.205	0.198	0.178	0.266	0.060	0.084	0.044	0.072	0.158	0.234	0.028	0.260	0.035
		± 0.162	± 0.034	± 0.038	± 0.045	± 0.027	± 0.042	± 0.018	± 0.030	± 0.019	± 0.015	± 0.015	± 0.013	± 0.017	± 0.038	± 0.007	± 0.054	± 0.011
	Acc.2	0.258	0.505	0.255	0.533	0.316	0.322	0.300	0.389	0.123	0.133	0.069	0.122	0.264	0.364	0.055	0.373	0.076
		± 0.225	± 0.030	± 0.051	± 0.045	± 0.037	± 0.032	± 0.029	± 0.028	± 0.021	± 0.016	± 0.024	± 0.019	± 0.025	± 0.026	± 0.011	± 0.054	± 0.007
Subject35	κ	0.199	0.231	0.109	0.213	0.132	0.062	0.104	0.234	0.029	0.022	0.023	0.074	0.212	0.169	0.004	0.168	0.006
		± 0.070	± 0.061	± 0.018	± 0.085	± 0.039	± 0.022	± 0.045	± 0.035	± 0.009	± 0.028	± 0.019	± 0.012	± 0.047	± 0.030	± 0.011	± 0.030	± 0.018
	AUC	0.849	0.850	0.734	0.859	0.782	0.634	0.730	0.821	0.648	0.561	0.603	0.674	0.846	0.767	0.508	0.743	0.574
		± 0.044	± 0.031	± 0.024	± 0.030	± 0.027	± 0.030	± 0.055	± 0.018	± 0.021	± 0.043	± 0.019	± 0.019	± 0.035	± 0.032	± 0.039	± 0.037	± 0.025
	BAcc	0.219	0.250	0.131	0.232	0.154	0.085	0.127	0.253	0.053	0.046	0.047	0.097	0.231	0.190	0.029	0.189	0.031
		± 0.068	± 0.059	± 0.017	± 0.083	± 0.038	± 0.021	± 0.044	± 0.034	± 0.008	± 0.028	± 0.018	± 0.011	± 0.046	± 0.029	± 0.011	± 0.029	± 0.018
	Acc.1	0.219	0.250	0.131	0.231	0.154	0.086	0.126	0.255	0.056	0.047	0.049	0.097	0.233	0.190	0.028	0.189	0.030
		± 0.068	± 0.059	± 0.017	± 0.082	± 0.038	± 0.021	± 0.043	± 0.032	± 0.008	± 0.029	± 0.021	± 0.011	± 0.047	± 0.030	± 0.011	± 0.028	± 0.018
Subject35	Acc.2	0.338	0.374	0.213	0.363	0.259	0.161	0.224	0.384	0.108	0.095	0.085	0.158	0.353	0.295	0.050	0.303	0.055
		± 0.097	± 0.078	± 0.028	± 0.109	± 0.054	± 0.034	± 0.063	± 0.030	± 0.011	± 0.042	± 0.024	± 0.017	± 0.054	± 0.041	± 0.009	± 0.045	± 0.016
	κ	0.143	0.194	0.125	0.221	0.141	0.164	0.147	0.154	0.034	0.037	0.009	0.032	0.103	0.131	0.006	0.095	0.011
		± 0.054	± 0.037	± 0.050	± 0.030	± 0.027	± 0.050	± 0.055	± 0.037	± 0.012	± 0.025	± 0.007	± 0.010	± 0.023	± 0.042	± 0.003	± 0.029	± 0.024
Subject35	AUC	0.810	0.834	0.788	0.855	0.806	0.697	0.821	0.793	0.681	0.598	0.596	0.604	0.788	0.687	0.525	0.672	0.569
		± 0.030	± 0.035	± 0.039	± 0.032	± 0.022	± 0.035	± 0.039	± 0.024	± 0.015	± 0.016	± 0.044	± 0.019	± 0.027	± 0.043	± 0.016	± 0.024	± 0.033
	BAcc	0.164	0.214	0.147	0.241	0.163	0.185	0.169	0.175	0.058	0.061	0.034	0.056	0.126	0.152	0.031	0.118	0.036
		± 0.052	± 0.036	± 0.049	± 0.029	± 0.026	± 0.048	± 0.053	± 0.036	± 0.011	± 0.024	± 0.007	± 0.010	± 0.022	± 0.041	± 0.003	± 0.028	± 0.023

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject1	Acc.1	0.164	0.214	0.147	0.242	0.163	0.183	0.167	0.175	0.059	0.060	0.035	0.057	0.126	0.151	0.031	0.117	0.036
		± 0.052	$\pm \mathbf{0.036}$	± 0.047	± 0.029	± 0.026	± 0.048	± 0.053	± 0.034	± 0.012	± 0.024	± 0.008	± 0.010	± 0.022	± 0.039	± 0.003	± 0.030	± 0.023
	Acc.2	0.268	0.325	0.244	0.367	0.275	0.296	0.313	0.293	0.113	0.109	0.074	0.104	0.223	0.245	0.062	0.206	0.076
		± 0.084	$\pm \mathbf{0.059}$	± 0.047	± 0.055	± 0.019	± 0.064	± 0.056	± 0.035	± 0.007	± 0.024	± 0.010	± 0.013	± 0.025	± 0.054	± 0.010	± 0.039	± 0.032
	κ	0.187	0.179	0.128	0.218	0.128	0.168	0.164	0.120	0.028	0.017	0.030	0.051	0.115	0.168	0.008	0.088	0.000
		$\pm \mathbf{0.028}$	± 0.026	± 0.034	± 0.044	± 0.043	± 0.052	± 0.028	± 0.033	± 0.011	± 0.012	± 0.021	± 0.017	± 0.021	± 0.019	± 0.009	± 0.028	± 0.013
Subject4	AUC	0.807	0.784	0.757	0.831	0.751	0.718	0.811	0.700	0.606	0.556	0.627	0.628	0.749	0.716	0.527	0.623	0.551
		± 0.032	± 0.033	± 0.026	± 0.020	± 0.031	± 0.034	$\pm \mathbf{0.037}$	± 0.040	± 0.008	± 0.028	± 0.020	± 0.023	± 0.041	± 0.013	± 0.016	± 0.037	± 0.026
	BAcc	0.207	0.200	0.150	0.238	0.150	0.189	0.185	0.142	0.052	0.042	0.055	0.075	0.137	0.189	0.033	0.111	0.025
		$\pm \mathbf{0.027}$	± 0.025	± 0.033	± 0.043	± 0.042	± 0.051	± 0.027	± 0.032	± 0.011	± 0.011	± 0.020	± 0.017	± 0.021	± 0.019	± 0.008	± 0.027	± 0.013
	Acc.1	0.207	0.199	0.150	0.239	0.150	0.188	0.183	0.143	0.052	0.042	0.055	0.075	0.139	0.188	0.034	0.112	0.025
		$\pm \mathbf{0.027}$	± 0.025	± 0.033	± 0.042	± 0.042	± 0.051	± 0.028	± 0.033	± 0.012	± 0.012	± 0.020	± 0.018	± 0.023	± 0.018	± 0.008	± 0.027	± 0.013
Subject5	Acc.2	0.322	0.302	0.240	0.385	0.240	0.291	0.337	0.229	0.094	0.074	0.095	0.122	0.231	0.277	0.056	0.183	0.056
		± 0.035	± 0.036	± 0.062	± 0.029	± 0.050	± 0.051	$\pm \mathbf{0.052}$	± 0.032	± 0.010	± 0.023	± 0.017	± 0.026	± 0.033	± 0.025	± 0.006	± 0.047	± 0.017
	κ	0.519	0.546	0.478	0.706	0.408	0.606	0.497	0.620	0.048	0.089	0.044	0.313	0.403	0.601	0.013	0.447	0.039
		± 0.264	± 0.077	± 0.030	± 0.028	± 0.101	± 0.028	± 0.062	$\pm \mathbf{0.031}$	± 0.014	± 0.026	± 0.025	± 0.029	± 0.047	± 0.050	± 0.007	± 0.071	± 0.018
	AUC	0.939	0.979	0.963	0.991	0.951	0.958	0.982	0.972	0.718	0.652	0.706	0.874	0.965	0.962	0.558	0.915	0.619
		± 0.106	± 0.009	± 0.008	± 0.002	± 0.021	± 0.008	$\pm \mathbf{0.004}$	± 0.005	± 0.018	± 0.027	± 0.022	± 0.015	± 0.007	± 0.008	± 0.026	± 0.028	± 0.024
Subject6	BAcc	0.531	0.557	0.491	0.714	0.423	0.615	0.510	0.629	0.072	0.112	0.068	0.330	0.418	0.611	0.037	0.461	0.063
		± 0.257	± 0.075	± 0.029	± 0.027	± 0.099	± 0.028	± 0.061	$\pm \mathbf{0.030}$	± 0.014	± 0.025	± 0.024	± 0.028	± 0.046	± 0.049	± 0.007	± 0.069	± 0.017
	Acc.1	0.531	0.557	0.491	0.714	0.423	0.615	0.508	0.630	0.073	0.112	0.069	0.330	0.419	0.611	0.036	0.458	0.064
		± 0.257	± 0.075	± 0.029	± 0.027	± 0.099	± 0.026	± 0.062	$\pm \mathbf{0.033}$	± 0.015	± 0.027	± 0.026	± 0.030	± 0.047	± 0.047	± 0.006	± 0.071	± 0.018
	Acc.2	0.700	0.758	0.685	0.923	0.613	0.842	0.816	0.806	0.132	0.172	0.137	0.459	0.606	0.803	0.067	0.656	0.113
		± 0.316	± 0.092	± 0.030	± 0.021	± 0.113	$\pm \mathbf{0.022}$	± 0.043	± 0.026	± 0.015	± 0.037	± 0.042	± 0.021	± 0.044	± 0.054	± 0.008	± 0.081	± 0.026
Subject6	κ	0.386	0.328	0.161	0.422	0.141	0.230	0.265	0.289	0.029	0.038	0.047	0.144	0.256	0.249	0.014	0.198	0.014
		$\pm \mathbf{0.067}$	± 0.037	± 0.025	± 0.053	± 0.109	± 0.014	± 0.043	± 0.024	± 0.008	± 0.024	± 0.015	± 0.020	± 0.057	± 0.052	± 0.011	± 0.036	± 0.011
	AUC	0.952	0.927	0.856	0.963	0.770	0.778	0.918	0.870	0.643	0.637	0.685	0.758	0.898	0.790	0.542	0.746	0.658
		$\pm \mathbf{0.019}$	± 0.021	± 0.006	± 0.009	± 0.161	± 0.018	± 0.016	± 0.010	± 0.029	± 0.031	± 0.034	± 0.017	± 0.017	± 0.047	± 0.006	± 0.027	± 0.025
	BAcc	0.401	0.345	0.182	0.437	0.163	0.250	0.283	0.307	0.054	0.062	0.071	0.165	0.275	0.268	0.039	0.218	0.038
		$\pm \mathbf{0.065}$	± 0.036	± 0.024	± 0.051	± 0.106	± 0.013	± 0.042	± 0.023	± 0.008	± 0.023	± 0.014	± 0.019	± 0.055	± 0.050	± 0.010	± 0.035	± 0.011
Subject6	Acc.1	0.401	0.345	0.182	0.437	0.163	0.248	0.282	0.306	0.054	0.062	0.071	0.165	0.273	0.268	0.039	0.217	0.038
		$\pm \mathbf{0.065}$	± 0.036	± 0.024	± 0.051	± 0.106	± 0.013	± 0.042	± 0.023	± 0.008	± 0.024	± 0.014	± 0.018	± 0.055	± 0.048	± 0.010	± 0.036	± 0.011

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	Acc.2	0.584 ± 0.094	0.523 ± 0.050	0.308 ± 0.022	0.645 ± 0.031	0.277 ± 0.153	0.393 ± 0.033	0.498 ± 0.068	0.469 ± 0.021	0.110 ± 0.024	0.121 ± 0.038	0.130 ± 0.019	0.254 ± 0.020	0.418 ± 0.067	0.380 ± 0.057	0.068 ± 0.015	0.321 ± 0.038	0.077 ± 0.013
Subject7	κ	0.193 ± 0.192	0.321 ± 0.039	0.310 ± 0.046	0.424 ± 0.085	0.199 ± 0.047	0.209 ± 0.077	0.253 ± 0.040	0.248 ± 0.013	0.021 ± 0.009	0.047 ± 0.028	0.038 ± 0.023	0.064 ± 0.034	0.197 ± 0.047	0.248 ± 0.064	0.021 ± 0.008	0.230 ± 0.041	0.003 ± 0.009
	AUC	0.842 ± 0.094	0.904 ± 0.025	0.895 ± 0.028	0.941 ± 0.028	0.834 ± 0.028	0.759 ± 0.052	0.897 ± 0.019	0.830 ± 0.030	0.650 ± 0.019	0.619 ± 0.050	0.634 ± 0.026	0.654 ± 0.037	0.859 ± 0.030	0.793 ± 0.038	0.574 ± 0.021	0.763 ± 0.042	0.634 ± 0.026
	BAcc	0.214 ± 0.187	0.338 ± 0.038	0.327 ± 0.045	0.438 ± 0.083	0.219 ± 0.046	0.229 ± 0.075	0.272 ± 0.039	0.267 ± 0.013	0.046 ± 0.009	0.071 ± 0.028	0.062 ± 0.022	0.088 ± 0.033	0.217 ± 0.046	0.267 ± 0.062	0.046 ± 0.007	0.249 ± 0.040	0.028 ± 0.008
	Acc.1	0.214 ± 0.187	0.338 ± 0.038	0.327 ± 0.045	0.440 ± 0.083	0.219 ± 0.046	0.230 ± 0.075	0.273 ± 0.040	0.267 ± 0.013	0.046 ± 0.009	0.072 ± 0.030	0.063 ± 0.022	0.087 ± 0.032	0.215 ± 0.045	0.264 ± 0.060	0.046 ± 0.008	0.247 ± 0.039	0.028 ± 0.009
	Acc.2	0.316 ± 0.240	0.494 ± 0.055	0.466 ± 0.054	0.629 ± 0.107	0.328 ± 0.059	0.368 ± 0.094	0.457 ± 0.046	0.397 ± 0.039	0.093 ± 0.017	0.128 ± 0.040	0.103 ± 0.038	0.156 ± 0.042	0.342 ± 0.054	0.390 ± 0.063	0.076 ± 0.011	0.377 ± 0.057	0.066 ± 0.021
	κ	0.299 ± 0.063	0.331 ± 0.066	0.221 ± 0.013	0.371 ± 0.051	0.169 ± 0.108	0.206 ± 0.041	0.285 ± 0.034	0.319 ± 0.048	0.019 ± 0.012	0.045 ± 0.023	0.023 ± 0.024	0.128 ± 0.015	0.270 ± 0.037	0.310 ± 0.041	0.005 ± 0.007	0.236 ± 0.043	0.008 ± 0.025
	AUC	0.917 ± 0.017	0.924 ± 0.024	0.855 ± 0.027	0.941 ± 0.018	0.772 ± 0.158	0.765 ± 0.033	0.908 ± 0.010	0.883 ± 0.015	0.638 ± 0.025	0.588 ± 0.051	0.634 ± 0.051	0.746 ± 0.017	0.880 ± 0.027	0.849 ± 0.017	0.545 ± 0.017	0.792 ± 0.032	0.587 ± 0.034
Subject8	BAcc	0.316 ± 0.061	0.347 ± 0.064	0.240 ± 0.012	0.387 ± 0.050	0.190 ± 0.105	0.225 ± 0.040	0.303 ± 0.033	0.336 ± 0.047	0.043 ± 0.012	0.069 ± 0.022	0.047 ± 0.024	0.150 ± 0.015	0.288 ± 0.037	0.327 ± 0.040	0.030 ± 0.007	0.255 ± 0.042	0.033 ± 0.025
	Acc.1	0.316 ± 0.061	0.347 ± 0.064	0.240 ± 0.012	0.392 ± 0.050	0.190 ± 0.105	0.225 ± 0.040	0.300 ± 0.033	0.337 ± 0.045	0.044 ± 0.013	0.070 ± 0.023	0.049 ± 0.025	0.150 ± 0.016	0.290 ± 0.039	0.329 ± 0.043	0.029 ± 0.006	0.258 ± 0.043	0.033 ± 0.025
	Acc.2	0.494 ± 0.083	0.525 ± 0.072	0.370 ± 0.015	0.606 ± 0.040	0.283 ± 0.143	0.386 ± 0.038	0.496 ± 0.034	0.508 ± 0.039	0.089 ± 0.013	0.130 ± 0.043	0.088 ± 0.031	0.246 ± 0.021	0.432 ± 0.053	0.472 ± 0.059	0.066 ± 0.012	0.415 ± 0.071	0.063 ± 0.042
	κ	0.369 ± 0.056	0.353 ± 0.045	0.240 ± 0.044	0.390 ± 0.040	0.238 ± 0.053	0.243 ± 0.041	0.221 ± 0.027	0.306 ± 0.030	0.044 ± 0.012	0.056 ± 0.027	0.006 ± 0.011	0.075 ± 0.012	0.198 ± 0.022	0.236 ± 0.017	0.005 ± 0.003	0.202 ± 0.015	0.008 ± 0.012
	AUC	0.927 ± 0.014	0.917 ± 0.020	0.885 ± 0.010	0.944 ± 0.011	0.863 ± 0.026	0.776 ± 0.027	0.891 ± 0.015	0.863 ± 0.023	0.679 ± 0.011	0.617 ± 0.055	0.524 ± 0.032	0.681 ± 0.010	0.846 ± 0.020	0.816 ± 0.025	0.531 ± 0.017	0.759 ± 0.022	0.587 ± 0.026
Subject9	BAcc	0.385 ± 0.055	0.369 ± 0.044	0.259 ± 0.043	0.405 ± 0.039	0.257 ± 0.051	0.262 ± 0.040	0.240 ± 0.026	0.324 ± 0.029	0.068 ± 0.012	0.079 ± 0.027	0.031 ± 0.010	0.098 ± 0.012	0.218 ± 0.021	0.255 ± 0.017	0.030 ± 0.003	0.222 ± 0.015	0.033 ± 0.012
	Acc.1	0.385 ± 0.055	0.369 ± 0.044	0.259 ± 0.043	0.410 ± 0.039	0.257 ± 0.051	0.262 ± 0.041	0.240 ± 0.024	0.325 ± 0.028	0.069 ± 0.011	0.079 ± 0.026	0.032 ± 0.010	0.097 ± 0.012	0.218 ± 0.020	0.255 ± 0.016	0.030 ± 0.004	0.223 ± 0.016	0.033 ± 0.012
	Acc.2	0.531 ± 0.052	0.523 ± 0.067	0.395 ± 0.043	0.586 ± 0.031	0.374 ± 0.057	0.395 ± 0.064	0.444 ± 0.032	0.461 ± 0.037	0.123 ± 0.009	0.133 ± 0.043	0.050 ± 0.014	0.155 ± 0.011	0.346 ± 0.039	0.377 ± 0.019	0.054 ± 0.006	0.337 ± 0.011	0.070 ± 0.008

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Leave-One-Out Fine-Tuning Results

Table 71: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.340	0.874	0.356	0.356	0.487
DeepConvnet	± 0.183	± 0.080	± 0.178	± 0.178	± 0.202
	0.301	0.864	0.318	0.318	0.458
EEGNet	± 0.175	± 0.095	± 0.170	± 0.170	± 0.208
	0.274	0.835	0.292	0.292	0.418
Conformer	± 0.190	± 0.111	± 0.185	± 0.185	± 0.223
	0.374	0.885	0.390	0.390	0.526
CTNet	± 0.212	± 0.096	± 0.207	± 0.207	± 0.232
	0.212	0.787	0.232	0.232	0.335
SSVEPDNN	± 0.146	± 0.100	± 0.143	± 0.143	± 0.173
	0.294	0.800	0.312	0.312	0.440
BIOT (f)	± 0.203	± 0.116	± 0.198	± 0.198	± 0.244
	0.202	0.781	0.222	0.222	0.340
BIOT (l)	± 0.154	± 0.120	± 0.150	± 0.151	± 0.200
	0.333	0.835	0.349	0.350	0.476
BENDR (f)	± 0.208	± 0.122	± 0.203	± 0.203	± 0.238
	0.023	0.589	0.047	0.047	0.088
BENDR (l)	± 0.011	± 0.033	± 0.011	± 0.011	± 0.018
	0.076	0.664	0.099	0.099	0.170
CBraMod (f)	± 0.032	± 0.047	± 0.031	± 0.031	± 0.047
	0.026	0.604	0.050	0.051	0.095
CBraMod (l)	± 0.019	± 0.046	± 0.019	± 0.019	± 0.031
	0.106	0.696	0.128	0.129	0.205
EEGPT (f)	± 0.096	± 0.089	± 0.094	± 0.094	± 0.123
	0.195	0.794	0.215	0.215	0.323
EEGPT (l)	± 0.154	± 0.103	± 0.150	± 0.150	± 0.190
	0.318	0.822	0.335	0.336	0.460
LaBraM (f)	± 0.185	± 0.100	± 0.180	± 0.180	± 0.205
	0.012	0.552	0.037	0.037	0.072
LaBraM (l)	± 0.009	± 0.029	± 0.009	± 0.009	± 0.014
	0.346	0.817	0.363	0.363	0.487
STEEGformer-s (f)	± 0.184	± 0.103	± 0.179	± 0.178	± 0.206
	0.022	0.603	0.047	0.047	0.089
STEEGformer-s (l)	± 0.014	± 0.046	± 0.013	± 0.013	± 0.022

Table 72: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers-s (f)	STEEGformers-s (l)
Subject1	κ	0.304 ± 0.181	0.180 ± 0.045	0.194 ± 0.019	0.291 ± 0.059	0.186 ± 0.032	0.183 ± 0.062	0.127 ± 0.027	0.211 ± 0.040	0.007 ± 0.004	0.056 ± 0.015	0.014 ± 0.016	0.035 ± 0.022	0.072 ± 0.026	0.261 ± 0.084	0.012 ± 0.004	0.307 ± 0.035	0.013 ± 0.016
	AUC	0.861 ± 0.124	0.830 ± 0.041	0.806 ± 0.017	0.900 ± 0.020	0.800 ± 0.016	0.757 ± 0.051	0.751 ± 0.023	0.790 ± 0.027	0.525 ± 0.016	0.618 ± 0.032	0.583 ± 0.031	0.605 ± 0.027	0.685 ± 0.047	0.821 ± 0.033	0.518 ± 0.044	0.822 ± 0.032	0.568 ± 0.053
	BAcc	0.321 ± 0.176	0.200 ± 0.043	0.215 ± 0.019	0.309 ± 0.057	0.206 ± 0.031	0.204 ± 0.060	0.149 ± 0.026	0.231 ± 0.039	0.032 ± 0.004	0.080 ± 0.014	0.038 ± 0.016	0.059 ± 0.022	0.095 ± 0.026	0.280 ± 0.082	0.037 ± 0.004	0.325 ± 0.034	0.038 ± 0.015
	Acc.1	0.321 ± 0.176	0.200 ± 0.043	0.215 ± 0.019	0.309 ± 0.057	0.206 ± 0.031	0.204 ± 0.059	0.148 ± 0.025	0.230 ± 0.038	0.032 ± 0.004	0.079 ± 0.013	0.039 ± 0.016	0.059 ± 0.022	0.096 ± 0.025	0.281 ± 0.081	0.037 ± 0.004	0.326 ± 0.037	0.038 ± 0.015
	Acc.2	0.457 ± 0.234	0.349 ± 0.063	0.310 ± 0.043	0.486 ± 0.059	0.319 ± 0.038	0.318 ± 0.073	0.255 ± 0.025	0.344 ± 0.048	0.064 ± 0.013	0.126 ± 0.021	0.077 ± 0.026	0.103 ± 0.028	0.166 ± 0.034	0.417 ± 0.083	0.072 ± 0.018	0.449 ± 0.044	0.066 ± 0.021
Subject10	κ	0.179 ± 0.065	0.148 ± 0.021	0.056 ± 0.040	0.137 ± 0.017	0.058 ± 0.024	0.043 ± 0.016	0.010 ± 0.015	0.069 ± 0.009	0.019 ± 0.011	0.048 ± 0.013	0.039 ± 0.008	0.012 ± 0.006	0.049 ± 0.024	0.161 ± 0.039	0.017 ± 0.016	0.123 ± 0.019	0.008 ± 0.013
	AUC	0.844 ± 0.041	0.787 ± 0.016	0.688 ± 0.022	0.793 ± 0.011	0.680 ± 0.025	0.627 ± 0.017	0.567 ± 0.027	0.662 ± 0.026	0.577 ± 0.008	0.637 ± 0.018	0.603 ± 0.036	0.574 ± 0.016	0.666 ± 0.022	0.734 ± 0.025	0.552 ± 0.021	0.674 ± 0.028	0.605 ± 0.044
	BAcc	0.200 ± 0.063	0.169 ± 0.021	0.080 ± 0.039	0.159 ± 0.017	0.081 ± 0.023	0.067 ± 0.016	0.035 ± 0.014	0.092 ± 0.009	0.044 ± 0.011	0.071 ± 0.013	0.063 ± 0.008	0.037 ± 0.006	0.073 ± 0.023	0.182 ± 0.038	0.041 ± 0.016	0.145 ± 0.019	0.033 ± 0.013
	Acc.1	0.200 ± 0.063	0.169 ± 0.021	0.080 ± 0.039	0.159 ± 0.017	0.081 ± 0.023	0.068 ± 0.018	0.036 ± 0.014	0.091 ± 0.009	0.044 ± 0.011	0.071 ± 0.012	0.063 ± 0.008	0.037 ± 0.006	0.073 ± 0.023	0.181 ± 0.040	0.042 ± 0.016	0.147 ± 0.019	0.034 ± 0.012
	Acc.2	0.331 ± 0.066	0.271 ± 0.009	0.150 ± 0.042	0.254 ± 0.016	0.147 ± 0.035	0.114 ± 0.023	0.073 ± 0.022	0.150 ± 0.011	0.079 ± 0.006	0.132 ± 0.016	0.094 ± 0.016	0.087 ± 0.017	0.134 ± 0.024	0.272 ± 0.039	0.080 ± 0.018	0.222 ± 0.042	0.068 ± 0.019
Subject11	κ	0.119 ± 0.037	0.087 ± 0.014	0.035 ± 0.009	0.099 ± 0.033	0.043 ± 0.033	0.056 ± 0.016	0.070 ± 0.018	0.092 ± 0.020	0.016 ± 0.011	0.024 ± 0.022	0.009 ± 0.011	0.026 ± 0.010	0.041 ± 0.014	0.093 ± 0.023	-0.002 ± 0.015	0.114 ± 0.020	0.004 ± 0.017
	AUC	0.785 ± 0.019	0.740 ± 0.023	0.635 ± 0.023	0.737 ± 0.024	0.634 ± 0.030	0.624 ± 0.027	0.658 ± 0.026	0.691 ± 0.025	0.545 ± 0.013	0.580 ± 0.047	0.551 ± 0.017	0.578 ± 0.024	0.605 ± 0.023	0.676 ± 0.020	0.518 ± 0.036	0.669 ± 0.014	0.531 ± 0.009
	BAcc	0.141 ± 0.036	0.110 ± 0.014	0.060 ± 0.009	0.121 ± 0.032	0.067 ± 0.032	0.080 ± 0.015	0.094 ± 0.018	0.115 ± 0.019	0.040 ± 0.011	0.049 ± 0.021	0.034 ± 0.011	0.050 ± 0.010	0.065 ± 0.014	0.116 ± 0.023	0.116 ± 0.014	0.136 ± 0.020	0.029 ± 0.017
	Acc.1	0.141 ± 0.036	0.110 ± 0.014	0.059 ± 0.008	0.121 ± 0.034	0.067 ± 0.032	0.079 ± 0.016	0.092 ± 0.017	0.114 ± 0.019	0.041 ± 0.011	0.049 ± 0.023	0.033 ± 0.010	0.049 ± 0.010	0.065 ± 0.014	0.114 ± 0.022	0.023 ± 0.014	0.134 ± 0.020	0.028 ± 0.017
	Acc.2	0.226 ± 0.042	0.203 ± 0.026	0.120 ± 0.010	0.209 ± 0.052	0.120 ± 0.037	0.133 ± 0.020	0.150 ± 0.022	0.192 ± 0.028	0.074 ± 0.009	0.092 ± 0.029	0.068 ± 0.019	0.088 ± 0.015	0.118 ± 0.027	0.197 ± 0.028	0.051 ± 0.016	0.219 ± 0.020	0.053 ± 0.023

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)	
Subject12	κ	0.127 ± 0.070	0.052 ± 0.016	0.021 ± 0.014	0.102 ± 0.038	0.047 ± 0.024	0.032 ± 0.015	0.039 ± 0.020	0.029 ± 0.008	0.014 ± 0.007	0.046 ± 0.019	0.002 ± 0.009	0.025 ± 0.021	0.068 ± 0.011	0.043 ± 0.004	-0.002 ± 0.009	0.071 ± 0.024	0.012 ± 0.009	
	AUC	0.761 ± 0.105	0.694 ± 0.026	0.620 ± 0.029	0.756 ± 0.016	0.648 ± 0.033	0.632 ± 0.039	0.616 ± 0.018	0.601 ± 0.032	0.559 ± 0.011	0.620 ± 0.030	0.560 ± 0.035	0.585 ± 0.018	0.711 ± 0.024	0.603 ± 0.024	0.512 ± 0.025	0.627 ± 0.037	0.500 ± 0.030	
	BAcc	0.149 ± 0.068	0.076 ± 0.015	0.045 ± 0.013	0.125 ± 0.037	0.071 ± 0.023	0.056 ± 0.014	0.063 ± 0.019	0.053 ± 0.008	0.039 ± 0.007	0.070 ± 0.018	0.027 ± 0.009	0.050 ± 0.020	0.091 ± 0.010	0.067 ± 0.004	0.023 ± 0.009	0.095 ± 0.023	0.036 ± 0.009	
	Acc.1	0.150 ± 0.068	0.075 ± 0.015	0.045 ± 0.013	0.123 ± 0.036	0.071 ± 0.023	0.055 ± 0.014	0.062 ± 0.019	0.054 ± 0.007	0.039 ± 0.007	0.070 ± 0.020	0.027 ± 0.009	0.049 ± 0.021	0.090 ± 0.010	0.067 ± 0.004	0.022 ± 0.008	0.093 ± 0.024	0.036 ± 0.009	
	Acc.2	0.245 ± 0.097	0.148 ± 0.020	0.088 ± 0.013	0.206 ± 0.036	0.119 ± 0.037	0.118 ± 0.014	0.116 ± 0.019	0.110 ± 0.013	0.074 ± 0.007	0.136 ± 0.029	0.067 ± 0.019	0.085 ± 0.029	0.165 ± 0.011	0.129 ± 0.008	0.051 ± 0.013	0.166 ± 0.022	0.062 ± 0.021	
Subject13	κ	0.626 ± 0.083	0.524 ± 0.062	0.502 ± 0.099	0.583 ± 0.090	0.317 ± 0.059	0.398 ± 0.059	0.179 ± 0.029	0.566 ± 0.040	0.052 ± 0.007	0.112 ± 0.026	0.002 ± 0.010	0.168 ± 0.034	0.449 ± 0.036	0.480 ± 0.072	0.016 ± 0.009	0.520 ± 0.111	0.049 ± 0.027	
	AUC	0.972 ± 0.015	0.950 ± 0.025	0.938 ± 0.038	0.966 ± 0.015	0.870 ± 0.029	0.870 ± 0.038	0.834 ± 0.042	0.950 ± 0.014	0.664 ± 0.019	0.713 ± 0.060	0.561 ± 0.026	0.789 ± 0.023	0.931 ± 0.018	0.926 ± 0.027	0.554 ± 0.021	0.902 ± 0.050	0.670 ± 0.039	
	BAcc	0.635 ± 0.081	0.535 ± 0.061	0.514 ± 0.096	0.594 ± 0.088	0.334 ± 0.058	0.413 ± 0.057	0.199 ± 0.029	0.577 ± 0.039	0.076 ± 0.007	0.134 ± 0.025	0.027 ± 0.010	0.189 ± 0.033	0.463 ± 0.035	0.493 ± 0.071	0.040 ± 0.009	0.532 ± 0.108	0.073 ± 0.027	
	Acc.1	0.635 ± 0.081	0.535 ± 0.061	0.514 ± 0.096	0.594 ± 0.088	0.334 ± 0.058	0.415 ± 0.057	0.199 ± 0.029	0.578 ± 0.040	0.078 ± 0.009	0.137 ± 0.028	0.027 ± 0.008	0.191 ± 0.033	0.464 ± 0.036	0.493 ± 0.069	0.040 ± 0.009	0.532 ± 0.108	0.072 ± 0.026	
	Acc.2	0.784 ± 0.080	0.682 ± 0.062	0.657 ± 0.097	0.746 ± 0.077	0.462 ± 0.058	0.565 ± 0.075	0.338 ± 0.062	0.735 ± 0.043	0.136 ± 0.012	0.225 ± 0.048	0.070 ± 0.022	0.300 ± 0.042	0.639 ± 0.029	0.636 ± 0.063	0.079 ± 0.008	0.680 ± 0.120	0.142 ± 0.033	
Subject14	κ	0.654 ± 0.082	0.493 ± 0.048	0.495 ± 0.048	0.565 ± 0.022	0.298 ± 0.039	0.468 ± 0.035	0.327 ± 0.053	0.582 ± 0.054	0.036 ± 0.015	0.118 ± 0.044	0.041 ± 0.021	0.189 ± 0.025	0.328 ± 0.024	0.578 ± 0.036	0.015 ± 0.014	0.658 ± 0.060	0.028 ± 0.030	
	AUC	0.982 ± 0.008	0.958 ± 0.008	0.963 ± 0.003	0.970 ± 0.006	0.863 ± 0.022	0.917 ± 0.012	0.904 ± 0.031	0.964 ± 0.010	0.629 ± 0.015	0.740 ± 0.038	0.660 ± 0.037	0.793 ± 0.017	0.918 ± 0.004	0.937 ± 0.008	0.584 ± 0.021	0.951 ± 0.013	0.673 ± 0.022	
	BAcc	0.662 ± 0.080	0.506 ± 0.046	0.507 ± 0.047	0.575 ± 0.022	0.315 ± 0.038	0.481 ± 0.035	0.344 ± 0.052	0.592 ± 0.053	0.060 ± 0.015	0.140 ± 0.043	0.065 ± 0.020	0.210 ± 0.024	0.345 ± 0.023	0.589 ± 0.035	0.040 ± 0.013	0.666 ± 0.059	0.052 ± 0.030	
	Acc.1	0.662 ± 0.080	0.506 ± 0.046	0.507 ± 0.047	0.577 ± 0.023	0.316 ± 0.036	0.478 ± 0.035	0.343 ± 0.055	0.594 ± 0.054	0.061 ± 0.014	0.138 ± 0.043	0.067 ± 0.022	0.210 ± 0.025	0.342 ± 0.023	0.590 ± 0.033	0.039 ± 0.013	0.668 ± 0.058	0.052 ± 0.031	
	Acc.2	0.817 ± 0.085	0.676 ± 0.045	0.687 ± 0.048	0.744 ± 0.017	0.431 ± 0.046	0.667 ± 0.042	0.507 ± 0.072	0.748 ± 0.049	0.104 ± 0.018	0.241 ± 0.064	0.123 ± 0.032	0.321 ± 0.016	0.511 ± 0.024	0.741 ± 0.053	0.078 ± 0.025	0.799 ± 0.039	0.112 ± 0.036	
Subject15	κ	0.304 ± 0.073	0.229 ± 0.060	0.150 ± 0.059	0.290 ± 0.086	0.208 ± 0.062	0.250 ± 0.070	0.167 ± 0.052	0.329 ± 0.113	0.015 ± 0.010	0.044 ± 0.019	0.018 ± 0.013	0.076 ± 0.016	0.124 ± 0.039	0.223 ± 0.088	0.006 ± 0.008	0.281 ± 0.125	-0.008 ± 0.009	
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	AUC	0.873 ± 0.031	0.851 ± 0.042	0.758 ± 0.055	0.875 ± 0.043	0.795 ± 0.070	0.792 ± 0.053	0.768 ± 0.078	0.861 ± 0.071	0.577 ± 0.012	0.631 ± 0.033	0.561 ± 0.050	0.682 ± 0.023	0.759 ± 0.038	0.791 ± 0.070	0.536 ± 0.044	0.791 ± 0.074	0.539 ± 0.023
	BACc	0.321 ± 0.071	0.248 ± 0.058	0.171 ± 0.057	0.308 ± 0.084	0.228 ± 0.061	0.269 ± 0.068	0.188 ± 0.051	0.345 ± 0.110	0.040 ± 0.010	0.068 ± 0.018	0.042 ± 0.013	0.100 ± 0.016	0.146 ± 0.038	0.242 ± 0.086	0.031 ± 0.008	0.299 ± 0.122	0.017 ± 0.009
	Acc.1	0.321 ± 0.071	0.248 ± 0.058	0.171 ± 0.058	0.309 ± 0.085	0.228 ± 0.061	0.270 ± 0.069	0.188 ± 0.050	0.344 ± 0.111	0.040 ± 0.010	0.069 ± 0.019	0.043 ± 0.011	0.099 ± 0.016	0.148 ± 0.040	0.243 ± 0.086	0.031 ± 0.007	0.298 ± 0.123	0.017 ± 0.009
	Acc.2	0.460 ± 0.068	0.378 ± 0.074	0.263 ± 0.059	0.441 ± 0.095	0.345 ± 0.082	0.390 ± 0.098	0.294 ± 0.074	0.477 ± 0.144	0.076 ± 0.013	0.129 ± 0.026	0.074 ± 0.021	0.171 ± 0.022	0.241 ± 0.056	0.357 ± 0.096	0.058 ± 0.016	0.417 ± 0.150	0.037 ± 0.011
	κ	0.363 ± 0.290	0.441 ± 0.053	0.303 ± 0.068	0.480 ± 0.076	0.274 ± 0.069	0.291 ± 0.024	0.175 ± 0.070	0.414 ± 0.068	0.023 ± 0.007	0.057 ± 0.020	0.020 ± 0.014	0.079 ± 0.011	0.149 ± 0.019	0.359 ± 0.026	0.000 ± 0.010	0.453 ± 0.058	0.028 ± 0.013
	AUC	0.851 ± 0.153	0.938 ± 0.029	0.885 ± 0.025	0.946 ± 0.033	0.849 ± 0.043	0.848 ± 0.016	0.817 ± 0.034	0.906 ± 0.026	0.605 ± 0.014	0.661 ± 0.021	0.590 ± 0.032	0.689 ± 0.028	0.771 ± 0.012	0.870 ± 0.012	0.514 ± 0.026	0.884 ± 0.022	0.561 ± 0.034
	BACc	0.379 ± 0.283	0.455 ± 0.052	0.320 ± 0.067	0.493 ± 0.074	0.292 ± 0.067	0.309 ± 0.023	0.195 ± 0.068	0.429 ± 0.066	0.048 ± 0.007	0.081 ± 0.019	0.044 ± 0.014	0.102 ± 0.011	0.170 ± 0.018	0.375 ± 0.025	0.025 ± 0.010	0.467 ± 0.056	0.053 ± 0.012
	Acc.1	0.379 ± 0.283	0.455 ± 0.052	0.320 ± 0.067	0.493 ± 0.074	0.292 ± 0.067	0.307 ± 0.024	0.193 ± 0.068	0.430 ± 0.067	0.048 ± 0.006	0.082 ± 0.019	0.043 ± 0.014	0.102 ± 0.011	0.169 ± 0.019	0.376 ± 0.025	0.025 ± 0.010	0.465 ± 0.057	0.053 ± 0.012
Subject16	Acc.2	0.491 ± 0.331	0.647 ± 0.080	0.463 ± 0.068	0.660 ± 0.074	0.430 ± 0.093	0.483 ± 0.036	0.333 ± 0.056	0.585 ± 0.082	0.093 ± 0.010	0.154 ± 0.021	0.091 ± 0.017	0.177 ± 0.018	0.255 ± 0.028	0.519 ± 0.038	0.054 ± 0.020	0.618 ± 0.057	0.090 ± 0.009
	κ	0.413 ± 0.257	0.399 ± 0.023	0.410 ± 0.031	0.525 ± 0.041	0.337 ± 0.191	0.440 ± 0.111	0.324 ± 0.031	0.451 ± 0.059	0.016 ± 0.004	0.049 ± 0.024	0.012 ± 0.008	0.148 ± 0.025	0.161 ± 0.047	0.393 ± 0.035	0.013 ± 0.005	0.438 ± 0.064	0.008 ± 0.019
	AUC	0.903 ± 0.118	0.942 ± 0.012	0.926 ± 0.015	0.967 ± 0.010	0.841 ± 0.191	0.903 ± 0.034	0.895 ± 0.031	0.933 ± 0.019	0.573 ± 0.011	0.663 ± 0.027	0.569 ± 0.022	0.749 ± 0.024	0.824 ± 0.038	0.875 ± 0.029	0.563 ± 0.017	0.892 ± 0.024	0.571 ± 0.029
	BACc	0.427 ± 0.250	0.414 ± 0.022	0.425 ± 0.030	0.537 ± 0.040	0.354 ± 0.186	0.454 ± 0.108	0.340 ± 0.030	0.465 ± 0.057	0.040 ± 0.004	0.073 ± 0.023	0.037 ± 0.008	0.169 ± 0.024	0.182 ± 0.046	0.408 ± 0.034	0.037 ± 0.004	0.452 ± 0.062	0.033 ± 0.019
	Acc.1	0.427 ± 0.250	0.414 ± 0.022	0.425 ± 0.030	0.536 ± 0.044	0.354 ± 0.186	0.454 ± 0.105	0.340 ± 0.030	0.466 ± 0.056	0.041 ± 0.004	0.075 ± 0.024	0.037 ± 0.007	0.168 ± 0.023	0.182 ± 0.044	0.408 ± 0.033	0.037 ± 0.005	0.451 ± 0.062	0.032 ± 0.018
	Acc.2	0.560 ± 0.296	0.607 ± 0.037	0.576 ± 0.032	0.705 ± 0.061	0.469 ± 0.237	0.660 ± 0.086	0.495 ± 0.024	0.641 ± 0.075	0.089 ± 0.006	0.141 ± 0.043	0.077 ± 0.008	0.253 ± 0.035	0.302 ± 0.064	0.557 ± 0.037	0.069 ± 0.009	0.611 ± 0.064	0.064 ± 0.019
	κ	0.638 ± 0.047	0.413 ± 0.069	0.491 ± 0.022	0.640 ± 0.034	0.478 ± 0.081	0.555 ± 0.070	0.406 ± 0.063	0.473 ± 0.044	0.014 ± 0.009	0.049 ± 0.024	0.027 ± 0.021	0.082 ± 0.016	0.165 ± 0.035	0.561 ± 0.045	0.016 ± 0.007	0.540 ± 0.069	0.022 ± 0.009
	AUC	0.986 ± 0.004	0.950 ± 0.015	0.963 ± 0.005	0.983 ± 0.005	0.940 ± 0.030	0.951 ± 0.020	0.934 ± 0.021	0.944 ± 0.013	0.553 ± 0.015	0.641 ± 0.031	0.618 ± 0.041	0.799 ± 0.021	0.941 ± 0.030	0.941 ± 0.013	0.540 ± 0.023	0.934 ± 0.019	0.640 ± 0.037

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	BAcc	0.647 ± 0.046	0.428 ± 0.067	0.504 ± 0.022	0.649 ± 0.033	0.491 ± 0.079	0.566 ± 0.068	0.421 ± 0.062	0.486 ± 0.043	0.038 ± 0.009	0.073 ± 0.024	0.051 ± 0.020	0.105 ± 0.015	0.185 ± 0.034	0.572 ± 0.044	0.040 ± 0.007	0.551 ± 0.067	0.047 ± 0.008
	Acc.1	0.647 ± 0.046	0.428 ± 0.067	0.504 ± 0.022	0.649 ± 0.033	0.491 ± 0.079	0.564 ± 0.071	0.420 ± 0.062	0.484 ± 0.045	0.039 ± 0.008	0.073 ± 0.024	0.055 ± 0.021	0.104 ± 0.016	0.186 ± 0.035	0.575 ± 0.045	0.041 ± 0.007	0.551 ± 0.064	0.047 ± 0.009
	Acc.2	0.831 ± 0.045	0.630 ± 0.084	0.696 ± 0.025	0.823 ± 0.037	0.646 ± 0.101	0.820 ± 0.072	0.628 ± 0.058	0.666 ± 0.042	0.070 ± 0.013	0.128 ± 0.041	0.104 ± 0.027	0.178 ± 0.026	0.295 ± 0.043	0.731 ± 0.046	0.071 ± 0.011	0.700 ± 0.047	0.097 ± 0.013
	κ	0.285 ± 0.113	0.200 ± 0.028	0.180 ± 0.027	0.334 ± 0.037	0.108 ± 0.024	0.250 ± 0.028	0.113 ± 0.042	0.234 ± 0.018	0.018 ± 0.009	0.100 ± 0.044	0.013 ± 0.020	0.065 ± 0.022	0.072 ± 0.020	0.209 ± 0.035	0.017 ± 0.014	0.293 ± 0.020	0.028 ± 0.018
Subject19	AUC	0.872 ± 0.063	0.845 ± 0.022	0.817 ± 0.023	0.899 ± 0.023	0.756 ± 0.037	0.809 ± 0.018	0.730 ± 0.039	0.821 ± 0.022	0.592 ± 0.024	0.715 ± 0.068	0.623 ± 0.010	0.657 ± 0.026	0.731 ± 0.029	0.781 ± 0.028	0.540 ± 0.015	0.821 ± 0.015	0.641 ± 0.027
	BAcc	0.303 ± 0.110	0.220 ± 0.027	0.201 ± 0.027	0.350 ± 0.036	0.130 ± 0.023	0.269 ± 0.027	0.135 ± 0.041	0.253 ± 0.018	0.043 ± 0.008	0.123 ± 0.043	0.037 ± 0.019	0.089 ± 0.022	0.095 ± 0.019	0.229 ± 0.034	0.042 ± 0.013	0.311 ± 0.020	0.053 ± 0.018
	Acc.1	0.303 ± 0.110	0.220 ± 0.027	0.201 ± 0.027	0.348 ± 0.038	0.130 ± 0.023	0.269 ± 0.025	0.135 ± 0.042	0.254 ± 0.017	0.043 ± 0.009	0.121 ± 0.042	0.038 ± 0.020	0.089 ± 0.022	0.095 ± 0.020	0.228 ± 0.033	0.042 ± 0.013	0.309 ± 0.016	0.052 ± 0.018
	Acc.2	0.426 ± 0.137	0.357 ± 0.033	0.321 ± 0.016	0.477 ± 0.041	0.219 ± 0.031	0.383 ± 0.035	0.227 ± 0.063	0.378 ± 0.039	0.082 ± 0.011	0.208 ± 0.060	0.078 ± 0.020	0.156 ± 0.039	0.167 ± 0.027	0.350 ± 0.042	0.079 ± 0.015	0.442 ± 0.031	0.093 ± 0.017
Subject2	κ	0.131 ± 0.111	0.101 ± 0.028	0.106 ± 0.032	0.173 ± 0.051	0.077 ± 0.019	0.129 ± 0.034	0.097 ± 0.035	0.074 ± 0.018	0.005 ± 0.008	0.051 ± 0.025	0.021 ± 0.024	0.028 ± 0.016	0.046 ± 0.022	0.146 ± 0.035	0.012 ± 0.012	0.150 ± 0.032	0.024 ± 0.014
	AUC	0.786 ± 0.092	0.738 ± 0.027	0.738 ± 0.043	0.837 ± 0.014	0.693 ± 0.029	0.723 ± 0.019	0.707 ± 0.021	0.634 ± 0.026	0.533 ± 0.012	0.619 ± 0.026	0.589 ± 0.030	0.590 ± 0.040	0.625 ± 0.051	0.734 ± 0.022	0.553 ± 0.020	0.719 ± 0.011	0.602 ± 0.031
	BAcc	0.153 ± 0.109	0.124 ± 0.027	0.128 ± 0.031	0.194 ± 0.049	0.100 ± 0.018	0.151 ± 0.033	0.119 ± 0.035	0.097 ± 0.018	0.030 ± 0.007	0.075 ± 0.025	0.045 ± 0.023	0.052 ± 0.015	0.070 ± 0.022	0.168 ± 0.034	0.037 ± 0.012	0.171 ± 0.031	0.048 ± 0.014
	Acc.1	0.153 ± 0.109	0.124 ± 0.027	0.128 ± 0.031	0.195 ± 0.049	0.100 ± 0.018	0.152 ± 0.035	0.118 ± 0.034	0.097 ± 0.019	0.030 ± 0.008	0.077 ± 0.026	0.046 ± 0.023	0.053 ± 0.015	0.069 ± 0.021	0.169 ± 0.035	0.038 ± 0.012	0.172 ± 0.032	0.050 ± 0.013
Subject20	Acc.2	0.245 ± 0.121	0.208 ± 0.035	0.205 ± 0.041	0.304 ± 0.057	0.177 ± 0.030	0.249 ± 0.033	0.197 ± 0.048	0.156 ± 0.025	0.064 ± 0.008	0.129 ± 0.026	0.090 ± 0.031	0.097 ± 0.016	0.129 ± 0.022	0.268 ± 0.033	0.071 ± 0.011	0.267 ± 0.033	0.091 ± 0.030
	κ	0.523 ± 0.055	0.371 ± 0.020	0.337 ± 0.029	0.428 ± 0.066	0.282 ± 0.051	0.415 ± 0.046	0.262 ± 0.039	0.417 ± 0.036	0.033 ± 0.008	0.112 ± 0.032	0.067 ± 0.033	0.139 ± 0.028	0.289 ± 0.029	0.515 ± 0.084	0.003 ± 0.015	0.531 ± 0.037	0.027 ± 0.014
	AUC	0.954 ± 0.009	0.920 ± 0.010	0.892 ± 0.022	0.927 ± 0.012	0.868 ± 0.027	0.880 ± 0.014	0.862 ± 0.018	0.902 ± 0.013	0.616 ± 0.019	0.703 ± 0.029	0.675 ± 0.035	0.744 ± 0.039	0.877 ± 0.007	0.919 ± 0.032	0.554 ± 0.040	0.910 ± 0.026	0.629 ± 0.043
	BAcc	0.535 ± 0.053	0.386 ± 0.020	0.353 ± 0.028	0.443 ± 0.064	0.300 ± 0.050	0.430 ± 0.045	0.281 ± 0.038	0.431 ± 0.035	0.057 ± 0.007	0.134 ± 0.031	0.090 ± 0.032	0.160 ± 0.027	0.307 ± 0.029	0.527 ± 0.081	0.028 ± 0.015	0.543 ± 0.036	0.051 ± 0.014

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Subject		Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
		Acc.1	0.535 ± 0.053	0.386 ± 0.020	0.352 ± 0.029	0.440 ± 0.064	0.300 ± 0.050	0.433 ± 0.048	0.283 ± 0.044	0.432 ± 0.038	0.057 ± 0.008	0.135 ± 0.031	0.089 ± 0.033	0.161 ± 0.029	0.306 ± 0.028	0.531 ± 0.081	0.029 ± 0.016	0.545 ± 0.035	0.050 ± 0.014
		Acc.2	0.679 ± 0.043	0.534 ± 0.018	0.535 ± 0.033	0.609 ± 0.057	0.451 ± 0.064	0.575 ± 0.059	0.453 ± 0.048	0.573 ± 0.046	0.109 ± 0.016	0.229 ± 0.029	0.159 ± 0.047	0.256 ± 0.047	0.444 ± 0.033	0.660 ± 0.083	0.065 ± 0.022	0.669 ± 0.032	0.103 ± 0.039
Subject21	κ		0.375 ± 0.258	0.464 ± 0.076	0.418 ± 0.057	0.503 ± 0.098	0.297 ± 0.047	0.344 ± 0.039	0.261 ± 0.049	0.488 ± 0.055	0.032 ± 0.017	0.098 ± 0.030	0.010 ± 0.019	0.124 ± 0.024	0.348 ± 0.051	0.430 ± 0.035	0.028 ± 0.020	0.541 ± 0.060	0.042 ± 0.018
		AUC	0.905 ± 0.094	0.954 ± 0.010	0.931 ± 0.015	0.954 ± 0.017	0.894 ± 0.011	0.869 ± 0.017	0.851 ± 0.040	0.935 ± 0.016	0.601 ± 0.014	0.713 ± 0.038	0.602 ± 0.064	0.741 ± 0.025	0.920 ± 0.016	0.918 ± 0.008	0.618 ± 0.022	0.916 ± 0.018	0.637 ± 0.042
	BAcc		0.390 ± 0.252	0.477 ± 0.074	0.432 ± 0.055	0.516 ± 0.096	0.315 ± 0.046	0.360 ± 0.038	0.280 ± 0.048	0.501 ± 0.054	0.056 ± 0.017	0.121 ± 0.029	0.035 ± 0.019	0.146 ± 0.023	0.365 ± 0.050	0.445 ± 0.034	0.053 ± 0.020	0.552 ± 0.058	0.066 ± 0.018
		Acc.1	0.389 ± 0.251	0.478 ± 0.074	0.430 ± 0.057	0.515 ± 0.097	0.315 ± 0.046	0.357 ± 0.038	0.276 ± 0.048	0.501 ± 0.054	0.056 ± 0.018	0.120 ± 0.029	0.034 ± 0.018	0.146 ± 0.023	0.363 ± 0.051	0.444 ± 0.033	0.053 ± 0.020	0.549 ± 0.056	0.065 ± 0.017
	Acc.2		0.532 ± 0.286	0.667 ± 0.051	0.598 ± 0.065	0.680 ± 0.098	0.472 ± 0.041	0.533 ± 0.048	0.418 ± 0.040	0.657 ± 0.059	0.098 ± 0.015	0.206 ± 0.052	0.077 ± 0.028	0.235 ± 0.031	0.528 ± 0.056	0.607 ± 0.012	0.102 ± 0.023	0.697 ± 0.044	0.118 ± 0.034
		κ	0.529 ± 0.257	0.610 ± 0.056	0.580 ± 0.057	0.701 ± 0.041	0.401 ± 0.024	0.634 ± 0.044	0.490 ± 0.041	0.638 ± 0.026	0.031 ± 0.017	0.108 ± 0.043	0.039 ± 0.010	0.214 ± 0.036	0.441 ± 0.049	0.536 ± 0.059	0.020 ± 0.007	0.564 ± 0.050	0.026 ± 0.022
		AUC	0.944 ± 0.064	0.978 ± 0.006	0.976 ± 0.005	0.989 ± 0.003	0.908 ± 0.016	0.958 ± 0.014	0.959 ± 0.013	0.973 ± 0.008	0.629 ± 0.010	0.702 ± 0.018	0.655 ± 0.021	0.793 ± 0.025	0.940 ± 0.008	0.929 ± 0.011	0.584 ± 0.023	0.933 ± 0.014	0.667 ± 0.027
Subject22	BAcc		0.540 ± 0.251	0.620 ± 0.055	0.590 ± 0.056	0.708 ± 0.040	0.416 ± 0.024	0.644 ± 0.043	0.503 ± 0.040	0.647 ± 0.026	0.055 ± 0.017	0.130 ± 0.042	0.063 ± 0.010	0.233 ± 0.035	0.455 ± 0.048	0.548 ± 0.058	0.044 ± 0.007	0.575 ± 0.049	0.050 ± 0.022
		Acc.1	0.540 ± 0.251	0.620 ± 0.055	0.590 ± 0.056	0.708 ± 0.040	0.416 ± 0.024	0.648 ± 0.042	0.505 ± 0.040	0.649 ± 0.026	0.057 ± 0.017	0.131 ± 0.039	0.065 ± 0.011	0.234 ± 0.035	0.456 ± 0.050	0.551 ± 0.059	0.045 ± 0.006	0.575 ± 0.051	0.050 ± 0.023
	Acc.2		0.688 ± 0.245	0.794 ± 0.052	0.755 ± 0.042	0.863 ± 0.017	0.574 ± 0.026	0.839 ± 0.039	0.694 ± 0.056	0.808 ± 0.020	0.104 ± 0.017	0.209 ± 0.043	0.108 ± 0.021	0.352 ± 0.032	0.629 ± 0.040	0.695 ± 0.069	0.083 ± 0.010	0.747 ± 0.032	0.102 ± 0.047
		κ	0.100 ± 0.028	0.049 ± 0.022	0.058 ± 0.030	0.079 ± 0.023	0.032 ± 0.013	0.069 ± 0.034	0.067 ± 0.037	0.042 ± 0.009	0.014 ± 0.013	0.063 ± 0.009	0.027 ± 0.021	0.025 ± 0.014	0.064 ± 0.016	0.044 ± 0.023	0.003 ± 0.005	0.077 ± 0.053	0.029 ± 0.021
		AUC	0.766 ± 0.023	0.666 ± 0.042	0.695 ± 0.023	0.728 ± 0.044	0.618 ± 0.030	0.667 ± 0.030	0.638 ± 0.042	0.631 ± 0.026	0.574 ± 0.012	0.640 ± 0.040	0.570 ± 0.029	0.606 ± 0.017	0.728 ± 0.020	0.638 ± 0.035	0.544 ± 0.018	0.663 ± 0.054	0.589 ± 0.058
Subject23	BAcc		0.122 ± 0.027	0.073 ± 0.021	0.081 ± 0.029	0.102 ± 0.023	0.056 ± 0.013	0.092 ± 0.033	0.090 ± 0.036	0.066 ± 0.008	0.038 ± 0.013	0.086 ± 0.009	0.051 ± 0.020	0.050 ± 0.013	0.088 ± 0.015	0.068 ± 0.022	0.028 ± 0.004	0.100 ± 0.052	0.053 ± 0.021
		Acc.1	0.122 ± 0.027	0.073 ± 0.021	0.081 ± 0.029	0.102 ± 0.022	0.056 ± 0.013	0.091 ± 0.034	0.090 ± 0.037	0.066 ± 0.009	0.039 ± 0.013	0.085 ± 0.009	0.052 ± 0.021	0.049 ± 0.013	0.087 ± 0.015	0.068 ± 0.022	0.029 ± 0.005	0.099 ± 0.053	0.052 ± 0.021

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject24	Acc.2	0.214 ± 0.034	0.127 ±0.029	0.157 ±0.051	0.175 ±0.031	0.100 ±0.012	0.161 ±0.047	0.142 ±0.043	0.121 ±0.017	0.069 ±0.006	0.150 ±0.025	0.089 ±0.027	0.090 ±0.019	0.164 ±0.020	0.138 ±0.042	0.062 ±0.008	0.175 ± 0.062	0.090 ±0.021
	κ	0.182 ±0.093	0.156 ±0.069	0.120 ±0.022	0.229 ±0.024	0.089 ±0.021	0.110 ±0.025	0.090 ±0.012	0.077 ±0.012	0.011 ±0.009	0.067 ±0.027	0.040 ±0.020	0.043 ±0.007	0.085 ±0.028	0.241 ± 0.050	0.012 ±0.009	0.259 ± 0.048	0.047 ±0.023
	AUC	0.830 ± 0.088	0.807 ±0.031	0.773 ±0.028	0.849 ± 0.023	0.701 ±0.007	0.700 ±0.019	0.705 ±0.018	0.656 ±0.020	0.561 ±0.018	0.662 ±0.034	0.609 ±0.019	0.631 ±0.022	0.748 ±0.033	0.804 ±0.019	0.537 ±0.017	0.788 ±0.027	0.615 ±0.029
	BAcc	0.202 ±0.090	0.177 ±0.067	0.142 ±0.021	0.248 ±0.023	0.112 ±0.021	0.133 ±0.024	0.112 ±0.012	0.100 ±0.012	0.036 ±0.009	0.090 ±0.026	0.064 ±0.020	0.067 ±0.007	0.108 ±0.027	0.260 ± 0.049	0.036 ±0.009	0.277 ± 0.047	0.071 ±0.023
	Acc.1	0.202 ±0.090	0.177 ±0.067	0.142 ±0.021	0.248 ±0.023	0.112 ±0.021	0.134 ±0.027	0.111 ±0.012	0.101 ±0.013	0.036 ±0.008	0.094 ±0.027	0.067 ±0.020	0.068 ±0.006	0.111 ±0.030	0.262 ± 0.049	0.037 ±0.009	0.278 ± 0.050	0.070 ±0.022
	Acc.2	0.317 ±0.124	0.272 ±0.082	0.250 ±0.029	0.378 ±0.034	0.185 ±0.022	0.219 ±0.024	0.191 ±0.005	0.170 ±0.020	0.072 ±0.014	0.164 ±0.030	0.115 ±0.020	0.118 ±0.012	0.197 ±0.038	0.394 ± 0.062	0.066 ±0.010	0.402 ± 0.052	0.113 ±0.030
	κ	0.134 ±0.049	0.124 ±0.024	0.060 ±0.032	0.103 ±0.021	0.155 ±0.017	0.123 ±0.030	0.066 ±0.016	0.158 ±0.023	0.036 ±0.013	0.156 ±0.020	0.075 ±0.012	0.055 ±0.011	0.127 ±0.042	0.171 ± 0.013	0.030 ±0.013	0.216 ± 0.017	0.044 ±0.020
	AUC	0.791 ±0.039	0.806 ± 0.016	0.741 ±0.015	0.753 ±0.021	0.774 ±0.030	0.705 ±0.021	0.682 ±0.025	0.745 ±0.015	0.648 ±0.016	0.767 ±0.029	0.729 ±0.020	0.667 ±0.018	0.807 ± 0.049	0.756 ±0.023	0.615 ±0.055	0.779 ±0.013	0.673 ±0.039
Subject25	BAcc	0.155 ±0.048	0.146 ±0.023	0.084 ±0.031	0.125 ±0.021	0.176 ±0.017	0.145 ±0.029	0.089 ±0.016	0.179 ±0.022	0.060 ±0.012	0.177 ±0.019	0.098 ±0.012	0.079 ±0.011	0.149 ±0.041	0.191 ± 0.013	0.054 ±0.013	0.236 ± 0.017	0.068 ±0.020
	Acc.1	0.155 ±0.048	0.146 ±0.023	0.084 ±0.031	0.127 ±0.019	0.176 ±0.017	0.146 ±0.027	0.088 ±0.015	0.181 ±0.020	0.061 ±0.013	0.178 ±0.016	0.099 ±0.016	0.081 ±0.012	0.153 ±0.043	0.194 ± 0.014	0.054 ±0.012	0.236 ± 0.019	0.067 ±0.019
	Acc.2	0.261 ±0.052	0.245 ±0.026	0.179 ±0.043	0.222 ±0.028	0.273 ±0.027	0.226 ±0.034	0.162 ±0.023	0.271 ±0.029	0.116 ±0.017	0.297 ± 0.049	0.189 ±0.021	0.139 ±0.019	0.247 ±0.060	0.294 ±0.016	0.111 ±0.027	0.353 ± 0.016	0.119 ±0.022
	κ	0.446 ± 0.205	0.308 ±0.085	0.321 ±0.060	0.479 ± 0.064	0.276 ±0.027	0.433 ±0.039	0.285 ±0.048	0.373 ±0.041	0.024 ±0.012	0.057 ±0.018	0.031 ±0.021	0.045 ±0.025	0.140 ±0.017	0.263 ±0.031	0.012 ±0.012	0.357 ±0.035	0.005 ±0.015
	AUC	0.928 ± 0.097	0.904 ±0.041	0.916 ±0.015	0.953 ± 0.012	0.880 ±0.010	0.896 ±0.017	0.875 ±0.024	0.898 ±0.012	0.601 ±0.016	0.658 ±0.031	0.669 ±0.035	0.652 ±0.019	0.779 ±0.017	0.826 ±0.025	0.539 ±0.026	0.854 ±0.012	0.580 ±0.047
	BAcc	0.460 ± 0.200	0.325 ±0.083	0.338 ±0.059	0.492 ± 0.062	0.294 ±0.026	0.447 ±0.038	0.303 ±0.046	0.388 ±0.040	0.048 ±0.011	0.081 ±0.018	0.056 ±0.020	0.069 ±0.024	0.162 ±0.016	0.282 ±0.030	0.037 ±0.011	0.373 ±0.034	0.030 ±0.014
	Acc.1	0.460 ± 0.200	0.325 ±0.083	0.338 ±0.059	0.492 ± 0.062	0.294 ±0.026	0.445 ±0.035	0.302 ±0.049	0.386 ±0.040	0.048 ±0.012	0.081 ±0.017	0.056 ±0.020	0.069 ±0.025	0.160 ±0.016	0.282 ±0.029	0.037 ±0.011	0.372 ±0.036	0.029 ±0.015
	Acc.2	0.617 ±0.242	0.482 ±0.093	0.506 ±0.066	0.644 ± 0.058	0.435 ±0.007	0.624 ± 0.039	0.471 ±0.075	0.541 ±0.039	0.091 ±0.023	0.153 ±0.031	0.109 ±0.034	0.131 ±0.023	0.262 ±0.027	0.426 ±0.057	0.072 ±0.021	0.513 ±0.042	0.065 ±0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
Subject27	κ	0.380 ± 0.053	0.229 ± 0.044	0.142 ± 0.025	0.279 ± 0.012	0.040 ± 0.026	0.126 ± 0.036	0.076 ± 0.022	0.185 ± 0.047	0.015 ± 0.011	0.041 ± 0.024	0.027 ± 0.013	0.032 ± 0.014	0.092 ± 0.043	0.171 ± 0.046	0.012 ± 0.015	0.188 ± 0.029	0.004 ± 0.007
	AUC	0.916 ± 0.016	0.853 ± 0.021	0.756 ± 0.024	0.864 ± 0.015	0.660 ± 0.046	0.712 ± 0.028	0.696 ± 0.029	0.787 ± 0.032	0.573 ± 0.023	0.615 ± 0.027	0.581 ± 0.029	0.632 ± 0.016	0.736 ± 0.019	0.749 ± 0.024	0.528 ± 0.021	0.726 ± 0.024	0.551 ± 0.035
	BAcc	0.396 ± 0.051	0.249 ± 0.043	0.164 ± 0.024	0.297 ± 0.012	0.064 ± 0.025	0.148 ± 0.035	0.099 ± 0.022	0.206 ± 0.046	0.040 ± 0.011	0.065 ± 0.023	0.052 ± 0.013	0.056 ± 0.014	0.115 ± 0.042	0.192 ± 0.045	0.036 ± 0.014	0.208 ± 0.029	0.029 ± 0.007
	Acc.1	0.396 ± 0.051	0.249 ± 0.043	0.164 ± 0.024	0.297 ± 0.011	0.064 ± 0.025	0.147 ± 0.035	0.098 ± 0.022	0.207 ± 0.046	0.040 ± 0.011	0.065 ± 0.023	0.051 ± 0.013	0.057 ± 0.014	0.114 ± 0.043	0.191 ± 0.045	0.037 ± 0.015	0.206 ± 0.029	0.028 ± 0.007
	Acc.2	0.555 ± 0.042	0.387 ± 0.031	0.269 ± 0.022	0.437 ± 0.019	0.121 ± 0.027	0.225 ± 0.044	0.171 ± 0.020	0.321 ± 0.054	0.078 ± 0.018	0.123 ± 0.032	0.093 ± 0.014	0.104 ± 0.013	0.186 ± 0.046	0.298 ± 0.039	0.070 ± 0.016	0.308 ± 0.030	0.059 ± 0.008
	Subject28	κ	0.112 ± 0.034	0.116 ± 0.045	0.067 ± 0.017	0.107 ± 0.035	0.049 ± 0.015	0.096 ± 0.051	0.047 ± 0.025	0.097 ± 0.025	0.027 ± 0.009	0.074 ± 0.026	0.014 ± 0.018	0.028 ± 0.010	0.021 ± 0.008	0.118 ± 0.038	0.021 ± 0.015	0.106 ± 0.063
AUC		0.782 ± 0.056	0.771 ± 0.028	0.729 ± 0.032	0.757 ± 0.038	0.679 ± 0.041	0.671 ± 0.045	0.622 ± 0.051	0.706 ± 0.001	0.578 ± 0.019	0.643 ± 0.025	0.590 ± 0.032	0.608 ± 0.030	0.661 ± 0.027	0.712 ± 0.036	0.588 ± 0.052	0.667 ± 0.051	0.636 ± 0.035
BAcc		0.134 ± 0.033	0.138 ± 0.044	0.090 ± 0.016	0.129 ± 0.034	0.073 ± 0.015	0.118 ± 0.050	0.071 ± 0.025	0.119 ± 0.024	0.051 ± 0.008	0.097 ± 0.025	0.038 ± 0.017	0.053 ± 0.010	0.045 ± 0.008	0.140 ± 0.037	0.045 ± 0.014	0.128 ± 0.061	0.027 ± 0.017
Acc.1		0.134 ± 0.033	0.138 ± 0.044	0.090 ± 0.017	0.128 ± 0.033	0.073 ± 0.015	0.121 ± 0.051	0.071 ± 0.024	0.120 ± 0.025	0.051 ± 0.008	0.100 ± 0.023	0.040 ± 0.019	0.052 ± 0.010	0.044 ± 0.008	0.144 ± 0.041	0.047 ± 0.014	0.129 ± 0.062	0.028 ± 0.018
Acc.2		0.229 ± 0.050	0.236 ± 0.059	0.176 ± 0.021	0.222 ± 0.049	0.140 ± 0.015	0.185 ± 0.065	0.117 ± 0.024	0.200 ± 0.027	0.092 ± 0.011	0.164 ± 0.028	0.083 ± 0.030	0.095 ± 0.010	0.095 ± 0.017	0.224 ± 0.056	0.100 ± 0.028	0.202 ± 0.064	0.070 ± 0.032
Subject29		κ	0.046 ± 0.034	0.037 ± 0.034	0.028 ± 0.014	0.014 ± 0.018	0.032 ± 0.010	0.020 ± 0.015	0.018 ± 0.017	0.042 ± 0.012	0.014 ± 0.012	0.048 ± 0.031	0.014 ± 0.016	0.034 ± 0.030	0.049 ± 0.028	0.063 ± 0.028	0.008 ± 0.011	0.074 ± 0.040
	AUC	0.630 ± 0.047	0.619 ± 0.038	0.623 ± 0.011	0.579 ± 0.020	0.564 ± 0.043	0.541 ± 0.038	0.523 ± 0.018	0.602 ± 0.025	0.561 ± 0.020	0.591 ± 0.045	0.566 ± 0.024	0.606 ± 0.018	0.652 ± 0.034	0.633 ± 0.054	0.546 ± 0.023	0.609 ± 0.041	0.547 ± 0.049
	BAcc	0.070 ± 0.033	0.061 ± 0.033	0.052 ± 0.014	0.039 ± 0.018	0.056 ± 0.010	0.044 ± 0.014	0.043 ± 0.016	0.066 ± 0.012	0.039 ± 0.012	0.072 ± 0.030	0.039 ± 0.015	0.058 ± 0.029	0.072 ± 0.028	0.087 ± 0.027	0.033 ± 0.010	0.097 ± 0.039	0.045 ± 0.018
	Acc.1	0.070 ± 0.033	0.061 ± 0.033	0.052 ± 0.014	0.038 ± 0.018	0.056 ± 0.010	0.045 ± 0.014	0.043 ± 0.016	0.067 ± 0.012	0.039 ± 0.011	0.076 ± 0.031	0.038 ± 0.015	0.059 ± 0.030	0.073 ± 0.029	0.088 ± 0.025	0.033 ± 0.010	0.099 ± 0.037	0.045 ± 0.018
	Acc.2	0.121 ± 0.045	0.109 ± 0.043	0.107 ± 0.013	0.079 ± 0.024	0.095 ± 0.018	0.072 ± 0.018	0.075 ± 0.024	0.119 ± 0.017	0.074 ± 0.010	0.122 ± 0.037	0.072 ± 0.013	0.106 ± 0.026	0.124 ± 0.039	0.164 ± 0.040	0.074 ± 0.024	0.161 ± 0.055	0.079 ± 0.027
	Subject3	κ	0.505 ± 0.336	0.592 ± 0.081	0.558 ± 0.058	0.693 ± 0.044	0.438 ± 0.037	0.682 ± 0.116	0.519 ± 0.088	0.693 ± 0.039	0.025 ± 0.020	0.092 ± 0.030	0.056 ± 0.028	0.393 ± 0.087	0.544 ± 0.077	0.672 ± 0.065	0.008 ± 0.009	0.613 ± 0.043
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽¹⁾	BIOT ⁽¹⁾	BENDR ^(f)	BENDR ^(f)	CBraMod ^(f)	CBraMod ^(f)	EEGPT ^(f)	EEGPT ^(f)	LaBraM ^(f)	LaBraM ^(f)	STEEGformer-s ^(f)	STEEGformer-s ^(f)
	AUC	0.908 ±0.143	0.976 ±0.014	0.974 ±0.010	0.987 ±0.004	0.913 ±0.031	0.965 ±0.018	0.952 ±0.022	0.981 ± 0.007	0.603 ±0.023	0.683 ±0.047	0.655 ±0.022	0.903 ±0.035	0.964 ±0.013	0.964 ±0.019	0.573 ±0.011	0.943 ±0.015	0.647 ±0.031
	B _{Acc}	0.517 ±0.328	0.602 ±0.079	0.569 ±0.057	0.700 ±0.043	0.452 ±0.036	0.690 ±0.113	0.531 ±0.085	0.700 ± 0.038	0.050 ±0.020	0.115 ±0.030	0.080 ±0.028	0.408 ±0.085	0.555 ±0.075	0.680 ±0.063	0.033 ±0.009	0.623 ±0.042	0.056 ±0.018
	Acc ₁	0.517 ±0.328	0.602 ±0.079	0.569 ±0.057	0.699 ± 0.043	0.452 ±0.036	0.688 ±0.110	0.531 ±0.085	0.700 ± 0.037	0.050 ±0.020	0.114 ±0.028	0.081 ±0.029	0.407 ±0.085	0.555 ±0.075	0.681 ±0.064	0.034 ±0.009	0.619 ±0.038	0.055 ±0.018
	Acc ₂	0.655 ±0.360	0.779 ±0.068	0.744 ±0.061	0.856 ± 0.039	0.585 ±0.042	0.833 ±0.081	0.698 ±0.086	0.865 ± 0.031	0.095 ±0.018	0.197 ±0.035	0.142 ±0.026	0.557 ±0.095	0.723 ±0.061	0.821 ±0.058	0.073 ±0.016	0.782 ±0.035	0.114 ±0.014
	κ	0.165 ±0.098	0.147 ±0.020	0.092 ±0.026	0.210 ±0.043	0.091 ±0.017	0.137 ±0.038	0.089 ±0.036	0.185 ± 0.033	0.021 ±0.012	0.035 ±0.022	0.018 ±0.020	0.051 ±0.015	0.061 ±0.007	0.162 ±0.022	0.005 ±0.010	0.152 ±0.039	0.013 ±0.017
	AUC	0.792 ± 0.064	0.781 ±0.019	0.734 ±0.037	0.823 ±0.024	0.712 ±0.026	0.730 ±0.033	0.692 ±0.036	0.773 ±0.024	0.595 ±0.029	0.629 ±0.038	0.577 ±0.022	0.642 ±0.029	0.689 ±0.013	0.735 ±0.023	0.513 ±0.009	0.706 ±0.019	0.556 ±0.035
	B _{Acc}	0.186 ±0.095	0.169 ±0.019	0.115 ±0.026	0.230 ±0.042	0.114 ±0.016	0.159 ±0.037	0.112 ±0.035	0.205 ± 0.032	0.046 ±0.012	0.059 ±0.021	0.043 ±0.019	0.075 ±0.014	0.085 ±0.007	0.183 ±0.021	0.030 ±0.010	0.173 ±0.038	0.037 ±0.017
	Acc ₁	0.186 ±0.095	0.169 ±0.019	0.115 ±0.026	0.230 ±0.042	0.114 ±0.016	0.159 ±0.037	0.111 ±0.035	0.207 ± 0.029	0.046 ±0.011	0.061 ±0.021	0.042 ±0.019	0.075 ±0.014	0.084 ±0.007	0.184 ±0.023	0.030 ±0.010	0.175 ±0.037	0.037 ±0.016
	Acc ₂	0.277 ±0.116	0.265 ±0.023	0.196 ±0.047	0.353 ±0.049	0.189 ±0.023	0.249 ±0.053	0.187 ±0.043	0.319 ± 0.030	0.090 ±0.014	0.118 ±0.028	0.078 ±0.024	0.130 ±0.012	0.149 ±0.019	0.288 ±0.024	0.054 ±0.012	0.255 ±0.025	0.085 ±0.021
Subject31	κ	0.201 ±0.099	0.183 ±0.041	0.156 ±0.020	0.214 ± 0.040	0.110 ±0.021	0.105 ±0.031	0.061 ±0.027	0.209 ±0.021	0.022 ±0.007	0.078 ±0.029	0.003 ±0.007	0.076 ±0.027	0.105 ±0.013	0.182 ±0.036	-0.002 ±0.006	0.267 ± 0.030	0.022 ±0.023
	AUC	0.854 ± 0.053	0.826 ±0.039	0.777 ±0.024	0.843 ± 0.024	0.733 ±0.022	0.687 ±0.018	0.675 ±0.036	0.798 ±0.018	0.582 ±0.016	0.641 ±0.038	0.540 ±0.027	0.683 ±0.017	0.761 ±0.033	0.763 ±0.030	0.541 ±0.020	0.775 ±0.027	0.612 ±0.043
	B _{Acc}	0.221 ±0.097	0.204 ±0.040	0.177 ±0.019	0.234 ± 0.039	0.132 ±0.021	0.128 ±0.030	0.084 ±0.027	0.229 ±0.021	0.047 ±0.007	0.101 ±0.028	0.028 ±0.007	0.100 ±0.026	0.127 ±0.013	0.203 ±0.035	0.023 ±0.006	0.285 ± 0.029	0.046 ±0.022
	Acc ₁	0.221 ±0.097	0.204 ±0.040	0.178 ±0.017	0.234 ± 0.037	0.132 ±0.021	0.127 ±0.032	0.083 ±0.027	0.227 ±0.020	0.047 ±0.008	0.102 ±0.027	0.028 ±0.006	0.100 ±0.027	0.130 ±0.013	0.207 ±0.034	0.023 ±0.006	0.289 ± 0.024	0.050 ±0.023
	Acc ₂	0.366 ± 0.109	0.330 ±0.049	0.285 ±0.033	0.362 ±0.050	0.204 ±0.035	0.193 ±0.033	0.158 ±0.046	0.347 ±0.023	0.083 ±0.015	0.169 ±0.041	0.054 ±0.008	0.169 ±0.034	0.223 ±0.019	0.306 ±0.036	0.056 ±0.010	0.409 ± 0.027	0.091 ±0.030
Subject32	κ	0.517 ±0.298	0.596 ±0.045	0.668 ±0.040	0.803 ± 0.029	0.648 ±0.026	0.679 ±0.044	0.509 ±0.033	0.709 ± 0.029	0.029 ±0.006	0.090 ±0.031	0.040 ±0.007	0.269 ±0.030	0.491 ±0.024	0.637 ±0.052	0.022 ±0.005	0.600 ±0.055	0.033 ±0.014
	AUC	0.943 ±0.070	0.983 ±0.003	0.981 ±0.007	0.994 ± 0.003	0.978 ±0.003	0.974 ±0.008	0.964 ±0.010	0.984 ± 0.003	0.581 ±0.017	0.689 ±0.034	0.664 ±0.011	0.850 ±0.013	0.954 ±0.004	0.957 ±0.007	0.590 ±0.019	0.955 ±0.009	0.658 ±0.032

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
	BAcc	0.529	0.606	0.676	0.808	0.657	0.687	0.521	0.716	0.053	0.113	0.064	0.287	0.504	0.646	0.046	0.610	0.057
		± 0.290	± 0.044	± 0.039	± 0.029	± 0.025	± 0.043	± 0.032	± 0.028	± 0.005	± 0.030	± 0.007	± 0.029	± 0.023	± 0.051	± 0.005	± 0.053	± 0.014
	Acc.1	0.529	0.606	0.673	0.809	0.657	0.686	0.524	0.714	0.053	0.112	0.066	0.287	0.505	0.646	0.046	0.607	0.056
		± 0.290	± 0.044	± 0.040	± 0.027	± 0.025	± 0.044	± 0.032	± 0.025	± 0.006	± 0.030	± 0.007	± 0.028	± 0.023	± 0.048	± 0.005	± 0.054	± 0.014
	Acc.2	0.653	0.795	0.818	0.924	0.804	0.896	0.752	0.871	0.089	0.206	0.122	0.425	0.685	0.797	0.092	0.771	0.105
		± 0.273	± 0.029	± 0.042	± 0.025	± 0.030	± 0.028	± 0.035	± 0.021	± 0.012	± 0.036	± 0.003	± 0.024	± 0.021	± 0.048	± 0.007	± 0.037	± 0.006
	κ	0.229	0.363	0.260	0.498	0.217	0.367	0.228	0.448	0.034	0.111	-0.003	0.069	0.193	0.405	0.018	0.479	0.017
		± 0.266	± 0.018	± 0.036	± 0.042	± 0.039	± 0.023	± 0.036	± 0.066	± 0.012	± 0.035	± 0.018	± 0.023	± 0.018	± 0.038	± 0.016	± 0.058	± 0.015
Subject33	AUC	0.826	0.919	0.878	0.940	0.823	0.860	0.835	0.921	0.606	0.715	0.588	0.669	0.814	0.894	0.599	0.896	0.632
		± 0.123	± 0.020	± 0.032	± 0.010	± 0.029	± 0.021	± 0.027	± 0.016	± 0.025	± 0.019	± 0.033	± 0.026	± 0.029	± 0.018	± 0.011	± 0.014	± 0.016
	BAcc	0.248	0.379	0.279	0.511	0.236	0.383	0.247	0.461	0.059	0.134	0.022	0.092	0.213	0.420	0.043	0.492	0.042
		± 0.259	± 0.017	± 0.035	± 0.041	± 0.038	± 0.022	± 0.035	± 0.064	± 0.012	± 0.034	± 0.017	± 0.022	± 0.018	± 0.037	± 0.015	± 0.057	± 0.015
	Acc.1	0.248	0.379	0.277	0.510	0.236	0.381	0.246	0.461	0.059	0.135	0.022	0.091	0.212	0.421	0.042	0.489	0.041
		± 0.259	± 0.017	± 0.034	± 0.041	± 0.038	± 0.024	± 0.035	± 0.065	± 0.012	± 0.035	± 0.017	± 0.022	± 0.017	± 0.038	± 0.015	± 0.058	± 0.015
	Acc.2	0.356	0.539	0.427	0.646	0.353	0.539	0.370	0.612	0.107	0.214	0.056	0.157	0.326	0.573	0.074	0.633	0.086
		± 0.315	± 0.043	± 0.047	± 0.041	± 0.052	± 0.034	± 0.035	± 0.052	± 0.017	± 0.034	± 0.020	± 0.028	± 0.019	± 0.041	± 0.015	± 0.049	± 0.020
Subject34	κ	0.435	0.408	0.299	0.386	0.220	0.162	0.108	0.429	0.017	0.094	0.024	0.092	0.220	0.298	-0.004	0.304	0.028
		± 0.085	± 0.046	± 0.051	± 0.036	± 0.035	± 0.033	± 0.033	± 0.039	± 0.008	± 0.039	± 0.020	± 0.025	± 0.030	± 0.064	± 0.010	± 0.028	± 0.019
	AUC	0.938	0.918	0.865	0.909	0.811	0.746	0.718	0.913	0.588	0.640	0.567	0.698	0.840	0.825	0.514	0.814	0.540
		± 0.027	± 0.016	± 0.020	± 0.019	± 0.030	± 0.017	± 0.039	± 0.014	± 0.014	± 0.031	± 0.020	± 0.021	± 0.019	± 0.027	± 0.024	± 0.020	± 0.033
	BAcc	0.450	0.423	0.316	0.402	0.239	0.183	0.130	0.444	0.041	0.116	0.049	0.115	0.239	0.316	0.021	0.322	0.053
		± 0.083	± 0.044	± 0.050	± 0.035	± 0.034	± 0.032	± 0.032	± 0.038	± 0.007	± 0.038	± 0.020	± 0.024	± 0.029	± 0.062	± 0.010	± 0.027	± 0.019
	Acc.1	0.450	0.423	0.316	0.403	0.239	0.182	0.130	0.442	0.041	0.120	0.049	0.116	0.240	0.317	0.021	0.322	0.052
		± 0.083	± 0.044	± 0.050	± 0.036	± 0.034	± 0.031	± 0.032	± 0.038	± 0.007	± 0.037	± 0.020	± 0.024	± 0.032	± 0.062	± 0.010	± 0.028	± 0.018
Subject35	Acc.2	0.614	0.587	0.460	0.556	0.356	0.295	0.222	0.615	0.080	0.174	0.087	0.194	0.366	0.450	0.055	0.456	0.090
		± 0.107	± 0.057	± 0.045	± 0.049	± 0.062	± 0.046	± 0.056	± 0.048	± 0.014	± 0.043	± 0.018	± 0.019	± 0.039	± 0.063	± 0.017	± 0.038	± 0.034
	κ	0.272	0.233	0.219	0.279	0.213	0.188	0.111	0.313	0.032	0.097	0.034	0.058	0.153	0.215	0.028	0.236	0.012
		± 0.080	± 0.071	± 0.039	± 0.049	± 0.039	± 0.074	± 0.045	± 0.040	± 0.011	± 0.043	± 0.020	± 0.014	± 0.052	± 0.038	± 0.020	± 0.072	± 0.021
	AUC	0.873	0.862	0.834	0.880	0.812	0.746	0.729	0.865	0.628	0.697	0.627	0.678	0.780	0.803	0.570	0.782	0.584
		± 0.064	± 0.045	± 0.026	± 0.040	± 0.042	± 0.076	± 0.044	± 0.035	± 0.018	± 0.042	± 0.024	± 0.026	± 0.033	± 0.043	± 0.030	± 0.037	± 0.074
	BAcc	0.290	0.252	0.239	0.297	0.233	0.209	0.133	0.330	0.056	0.119	0.058	0.082	0.174	0.235	0.052	0.255	0.037
		± 0.078	± 0.070	± 0.038	± 0.048	± 0.038	± 0.072	± 0.044	± 0.039	± 0.010	± 0.042	± 0.019	± 0.014	± 0.051	± 0.037	± 0.020	± 0.070	± 0.020

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject4	Acc.1	0.290 ± 0.078	0.252 ± 0.070	0.238 ± 0.039	0.295 ± 0.048	0.233 ± 0.038	0.207 ± 0.071	0.132 ± 0.043	0.330 ± 0.039	0.057 ± 0.011	0.120 ± 0.042	0.058 ± 0.020	0.083 ± 0.014	0.176 ± 0.052	0.236 ± 0.039	0.051 ± 0.020	0.257 ± 0.073	0.040 ± 0.020
		0.447 ± 0.124	0.387 ± 0.087	0.363 ± 0.050	0.438 ± 0.064	0.341 ± 0.035	0.307 ± 0.094	0.217 ± 0.059	0.465 ± 0.064	0.101 ± 0.017	0.197 ± 0.057	0.100 ± 0.029	0.160 ± 0.027	0.271 ± 0.060	0.358 ± 0.061	0.094 ± 0.024	0.375 ± 0.076	0.082 ± 0.040
	κ	0.247 ± 0.041	0.188 ± 0.040	0.110 ± 0.033	0.218 ± 0.041	0.118 ± 0.029	0.217 ± 0.064	0.125 ± 0.008	0.169 ± 0.036	0.009 ± 0.005	0.023 ± 0.028	0.024 ± 0.022	0.048 ± 0.012	0.064 ± 0.023	0.225 ± 0.046	0.012 ± 0.014	0.225 ± 0.045	0.012 ± 0.018
		0.846 ± 0.028	0.801 ± 0.027	0.752 ± 0.022	0.816 ± 0.025	0.733 ± 0.023	0.768 ± 0.041	0.739 ± 0.023	0.752 ± 0.035	0.538 ± 0.018	0.569 ± 0.039	0.557 ± 0.016	0.638 ± 0.023	0.704 ± 0.006	0.771 ± 0.027	0.515 ± 0.021	0.748 ± 0.040	0.539 ± 0.017
	BAcc	0.266 ± 0.040	0.209 ± 0.039	0.133 ± 0.032	0.237 ± 0.040	0.140 ± 0.028	0.236 ± 0.062	0.147 ± 0.008	0.190 ± 0.035	0.034 ± 0.005	0.047 ± 0.028	0.049 ± 0.021	0.072 ± 0.011	0.087 ± 0.023	0.244 ± 0.045	0.037 ± 0.013	0.245 ± 0.044	0.036 ± 0.018
	Acc.1	0.266 ± 0.040	0.211 ± 0.039	0.133 ± 0.033	0.239 ± 0.043	0.140 ± 0.028	0.236 ± 0.064	0.146 ± 0.006	0.190 ± 0.035	0.035 ± 0.005	0.048 ± 0.029	0.048 ± 0.021	0.073 ± 0.013	0.086 ± 0.023	0.246 ± 0.045	0.036 ± 0.013	0.247 ± 0.044	0.037 ± 0.017
Subject5	Acc.2	0.386 ± 0.040	0.328 ± 0.034	0.231 ± 0.033	0.366 ± 0.061	0.240 ± 0.026	0.357 ± 0.073	0.245 ± 0.022	0.302 ± 0.046	0.061 ± 0.012	0.078 ± 0.033	0.080 ± 0.024	0.127 ± 0.021	0.157 ± 0.019	0.361 ± 0.047	0.066 ± 0.018	0.349 ± 0.061	0.065 ± 0.033
	κ	0.653 ± 0.222	0.632 ± 0.079	0.621 ± 0.042	0.755 ± 0.030	0.453 ± 0.050	0.764 ± 0.033	0.604 ± 0.051	0.743 ± 0.038	0.052 ± 0.016	0.123 ± 0.049	0.068 ± 0.034	0.412 ± 0.020	0.574 ± 0.062	0.697 ± 0.066	0.003 ± 0.011	0.666 ± 0.064	0.046 ± 0.039
		0.980 ± 0.027	0.980 ± 0.008	0.980 ± 0.003	0.991 ± 0.003	0.933 ± 0.015	0.984 ± 0.004	0.976 ± 0.011	0.985 ± 0.006	0.662 ± 0.016	0.750 ± 0.025	0.681 ± 0.031	0.911 ± 0.015	0.971 ± 0.008	0.972 ± 0.009	0.562 ± 0.041	0.959 ± 0.013	0.619 ± 0.033
	BAcc	0.661 ± 0.217	0.641 ± 0.077	0.631 ± 0.041	0.761 ± 0.029	0.467 ± 0.049	0.770 ± 0.033	0.614 ± 0.050	0.750 ± 0.037	0.075 ± 0.016	0.145 ± 0.048	0.091 ± 0.034	0.426 ± 0.020	0.585 ± 0.061	0.705 ± 0.065	0.028 ± 0.010	0.674 ± 0.062	0.070 ± 0.038
	Acc.1	0.661 ± 0.217	0.641 ± 0.077	0.631 ± 0.041	0.761 ± 0.029	0.467 ± 0.049	0.770 ± 0.035	0.614 ± 0.049	0.751 ± 0.038	0.076 ± 0.016	0.144 ± 0.046	0.092 ± 0.034	0.426 ± 0.020	0.585 ± 0.059	0.705 ± 0.064	0.028 ± 0.010	0.673 ± 0.063	0.068 ± 0.037
	Acc.2	0.820 ± 0.194	0.823 ± 0.054	0.810 ± 0.023	0.910 ± 0.023	0.609 ± 0.048	0.915 ± 0.027	0.812 ± 0.056	0.884 ± 0.021	0.133 ± 0.018	0.243 ± 0.043	0.158 ± 0.038	0.564 ± 0.029	0.764 ± 0.062	0.874 ± 0.053	0.066 ± 0.018	0.817 ± 0.054	0.115 ± 0.050
Subject6	κ	0.665 ± 0.048	0.483 ± 0.026	0.538 ± 0.043	0.629 ± 0.025	0.239 ± 0.139	0.493 ± 0.049	0.322 ± 0.045	0.536 ± 0.043	0.025 ± 0.015	0.115 ± 0.040	0.037 ± 0.017	0.198 ± 0.020	0.338 ± 0.030	0.554 ± 0.040	0.018 ± 0.009	0.605 ± 0.027	0.030 ± 0.015
		0.988 ± 0.004	0.968 ± 0.006	0.965 ± 0.008	0.979 ± 0.009	0.808 ± 0.173	0.916 ± 0.020	0.904 ± 0.023	0.952 ± 0.007	0.595 ± 0.009	0.708 ± 0.033	0.641 ± 0.012	0.806 ± 0.007	0.914 ± 0.009	0.940 ± 0.016	0.536 ± 0.026	0.949 ± 0.009	0.633 ± 0.049
	BAcc	0.673 ± 0.047	0.496 ± 0.025	0.550 ± 0.042	0.638 ± 0.024	0.258 ± 0.135	0.505 ± 0.047	0.339 ± 0.044	0.547 ± 0.042	0.049 ± 0.015	0.137 ± 0.039	0.061 ± 0.016	0.218 ± 0.020	0.354 ± 0.029	0.565 ± 0.039	0.043 ± 0.009	0.615 ± 0.026	0.054 ± 0.015
	Acc.1	0.673 ± 0.047	0.496 ± 0.025	0.550 ± 0.042	0.638 ± 0.024	0.258 ± 0.135	0.502 ± 0.048	0.338 ± 0.044	0.547 ± 0.042	0.049 ± 0.015	0.135 ± 0.038	0.060 ± 0.016	0.217 ± 0.018	0.351 ± 0.028	0.562 ± 0.040	0.042 ± 0.009	0.612 ± 0.027	0.053 ± 0.014

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ^(f)	BENDR ⁽ⁱ⁾	CBraMod ^(f)	CBraMod ⁽ⁱ⁾	EEGPT ^(f)	EEGPT ⁽ⁱ⁾	LaBraM ^(f)	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾
Subject7	Acc.2	0.838 ± 0.043	0.707 ±0.035	0.720 ±0.029	0.805 ± 0.012	0.371 ±0.182	0.682 ±0.057	0.518 ±0.033	0.716 ±0.024	0.091 ±0.015	0.211 ±0.045	0.108 ±0.021	0.341 ±0.017	0.512 ±0.037	0.706 ±0.045	0.074 ±0.012	0.781 ±0.028	0.083 ±0.018
	κ	0.196 ±0.167	0.298 ±0.067	0.335 ±0.043	0.430 ± 0.085	0.153 ±0.037	0.346 ±0.040	0.256 ±0.046	0.331 ±0.035	0.011 ±0.017	0.068 ±0.035	0.006 ±0.017	0.083 ±0.011	0.200 ±0.032	0.341 ±0.056	0.017 ±0.014	0.358 ± 0.078	0.028 ±0.014
	AUC	0.844 ±0.088	0.894 ±0.031	0.917 ± 0.023	0.945 ± 0.022	0.791 ±0.028	0.862 ±0.021	0.863 ±0.020	0.871 ±0.034	0.575 ±0.013	0.667 ±0.031	0.581 ±0.021	0.706 ±0.033	0.838 ±0.022	0.854 ±0.032	0.576 ±0.012	0.837 ±0.039	0.644 ±0.045
	BAcc	0.216 ±0.163	0.315 ±0.065	0.352 ±0.041	0.444 ± 0.083	0.174 ±0.036	0.363 ±0.039	0.275 ±0.045	0.348 ±0.034	0.036 ±0.016	0.091 ±0.034	0.031 ±0.017	0.105 ±0.011	0.220 ±0.032	0.358 ±0.054	0.042 ±0.014	0.374 ± 0.076	0.052 ±0.014
	Acc.1	0.216 ±0.163	0.315 ±0.066	0.352 ±0.041	0.445 ± 0.084	0.174 ±0.036	0.366 ±0.040	0.278 ±0.045	0.346 ±0.032	0.035 ±0.016	0.091 ±0.034	0.031 ±0.017	0.106 ±0.011	0.220 ±0.031	0.358 ±0.051	0.042 ±0.014	0.374 ± 0.074	0.052 ±0.013
	Acc.2	0.334 ±0.239	0.464 ±0.068	0.537 ± 0.056	0.621 ± 0.091	0.270 ±0.035	0.530 ±0.027	0.434 ±0.049	0.492 ±0.044	0.071 ±0.019	0.159 ±0.032	0.068 ±0.023	0.190 ±0.026	0.341 ±0.029	0.506 ±0.054	0.079 ±0.014	0.527 ±0.092	0.111 ±0.029
	κ	0.407 ± 0.063	0.354 ±0.042	0.319 ±0.070	0.405 ±0.071	0.187 ±0.111	0.317 ±0.074	0.252 ±0.044	0.436 ± 0.051	0.015 ±0.021	0.053 ±0.041	0.033 ±0.024	0.179 ±0.017	0.307 ±0.041	0.383 ±0.029	0.017 ±0.015	0.379 ±0.067	0.025 ±0.018
Subject8	AUC	0.942 ± 0.009	0.917 ±0.022	0.894 ±0.013	0.935 ± 0.021	0.775 ±0.154	0.834 ±0.043	0.851 ±0.041	0.930 ±0.016	0.572 ±0.026	0.642 ±0.051	0.596 ±0.033	0.790 ±0.018	0.900 ±0.015	0.881 ±0.013	0.569 ±0.034	0.856 ±0.042	0.625 ±0.043
	BAcc	0.422 ± 0.061	0.370 ±0.041	0.336 ±0.068	0.420 ±0.069	0.208 ±0.109	0.334 ±0.073	0.271 ±0.043	0.451 ± 0.050	0.039 ±0.020	0.077 ±0.040	0.057 ±0.023	0.199 ±0.016	0.325 ±0.040	0.398 ±0.028	0.042 ±0.014	0.394 ±0.065	0.050 ±0.018
	Acc.1	0.422 ± 0.061	0.370 ±0.041	0.336 ±0.068	0.420 ±0.070	0.208 ±0.109	0.330 ±0.072	0.268 ±0.043	0.452 ± 0.049	0.041 ±0.021	0.077 ±0.041	0.058 ±0.023	0.201 ±0.017	0.327 ±0.041	0.398 ±0.028	0.041 ±0.014	0.395 ±0.062	0.049 ±0.018
	Acc.2	0.601 ±0.067	0.525 ±0.054	0.482 ±0.059	0.614 ± 0.070	0.305 ±0.145	0.507 ±0.066	0.410 ±0.053	0.636 ± 0.053	0.076 ±0.028	0.140 ±0.048	0.112 ±0.032	0.303 ±0.016	0.489 ±0.046	0.555 ±0.031	0.081 ±0.031	0.540 ±0.086	0.092 ±0.020
	κ	0.432 ± 0.092	0.322 ±0.029	0.332 ±0.067	0.428 ± 0.047	0.249 ±0.033	0.381 ±0.024	0.195 ±0.042	0.406 ±0.033	0.022 ±0.011	0.085 ±0.022	0.002 ±0.012	0.110 ±0.015	0.180 ±0.028	0.287 ±0.034	0.003 ±0.008	0.379 ±0.045	0.027 ±0.009
	AUC	0.941 ± 0.035	0.911 ±0.012	0.899 ±0.022	0.944 ± 0.007	0.814 ±0.029	0.866 ±0.010	0.841 ±0.012	0.905 ±0.013	0.609 ±0.019	0.690 ±0.030	0.536 ±0.035	0.732 ±0.007	0.800 ±0.006	0.845 ±0.018	0.537 ±0.018	0.853 ±0.024	0.606 ±0.045
Subject9	BAcc	0.446 ± 0.089	0.339 ±0.028	0.349 ±0.065	0.443 ± 0.046	0.268 ±0.032	0.396 ±0.024	0.215 ±0.041	0.421 ±0.032	0.046 ±0.010	0.108 ±0.021	0.027 ±0.012	0.132 ±0.015	0.200 ±0.027	0.305 ±0.033	0.028 ±0.008	0.395 ±0.044	0.051 ±0.008
	Acc.1	0.446 ± 0.089	0.339 ±0.028	0.349 ±0.065	0.443 ± 0.047	0.268 ±0.032	0.398 ±0.023	0.216 ±0.040	0.422 ±0.033	0.047 ±0.010	0.108 ±0.022	0.026 ±0.012	0.133 ±0.016	0.200 ±0.028	0.303 ±0.030	0.028 ±0.008	0.394 ±0.045	0.051 ±0.008
	Acc.2	0.601 ± 0.084	0.496 ±0.054	0.488 ±0.066	0.609 ± 0.036	0.371 ±0.034	0.548 ±0.033	0.354 ±0.027	0.568 ±0.043	0.092 ±0.018	0.180 ±0.028	0.050 ±0.022	0.220 ±0.028	0.306 ±0.041	0.445 ±0.026	0.059 ±0.018	0.531 ±0.053	0.090 ±0.010

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Generalization Drop After Fine-Tuning

Table 73: Average Model Performance Drop

Model (Strategy)	κ	AUC	BAcc	Acc.1	Acc.2
	0.193	0.148	0.188	0.188	0.247
DeepConvnet	± 0.053	± 0.039	± 0.051	± 0.051	± 0.065
	0.186	0.147	0.181	0.181	0.245
EEGNet	± 0.031	± 0.038	± 0.030	± 0.030	± 0.044
	0.161	0.159	0.157	0.157	0.215
Conformer	± 0.037	± 0.047	± 0.036	± 0.036	± 0.051
	0.270	0.163	0.263	0.263	0.338
CTNet	± 0.032	± 0.039	± 0.031	± 0.031	± 0.046
	0.143	0.165	0.139	0.139	0.195
SSVEPDNN	± 0.025	± 0.037	± 0.024	± 0.024	± 0.035
	0.101	0.060	0.098	0.098	0.131
BIOT (f)	± 0.036	± 0.029	± 0.035	± 0.035	± 0.052
	0.131	0.130	0.128	0.128	0.206
BIOT (l)	± 0.025	± 0.035	± 0.024	± 0.024	± 0.037
	0.072	0.048	0.070	0.070	0.084
BENDR (f)	± 0.038	± 0.025	± 0.037	± 0.037	± 0.046
	0.016	0.083	0.015	0.016	0.028
BENDR (l)	± 0.004	± 0.012	± 0.004	± 0.004	± 0.006
	0.010	0.016	0.010	0.010	0.017
CBraMod (f)	± 0.005	± 0.007	± 0.005	± 0.005	± 0.007
	0.020	0.086	0.020	0.021	0.036
CBraMod (l)	± 0.004	± 0.017	± 0.004	± 0.004	± 0.007
	0.026	0.026	0.026	0.026	0.034
EEGPT (f)	± 0.014	± 0.018	± 0.013	± 0.013	± 0.019
	0.155	0.162	0.151	0.152	0.216
EEGPT (l)	± 0.020	± 0.038	± 0.020	± 0.020	± 0.030
	0.099	0.044	0.097	0.097	0.111
LaBraM (f)	± 0.033	± 0.019	± 0.032	± 0.032	± 0.039
	0.006	0.029	0.006	0.006	0.010
LaBraM (l)	± 0.001	± 0.005	± 0.001	± 0.001	± 0.002
	0.118	0.061	0.115	0.115	0.136
STEEGformer-s (f)	± 0.038	± 0.029	± 0.037	± 0.037	± 0.048
	0.012	0.056	0.012	0.012	0.021
STEEGformer-s (l)	± 0.002	± 0.011	± 0.002	± 0.002	± 0.003

Table 74: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)
Subject1	κ	0.224	0.201	0.180	0.291	0.159	0.085	0.119	0.102	0.018	0.013	0.023	0.049	0.175	0.109	0.006	0.144	0.012
		± 0.140	± 0.135	± 0.110	± 0.166	± 0.109	± 0.053	± 0.086	± 0.075	± 0.007	± 0.018	± 0.019	± 0.047	± 0.115	± 0.063	± 0.005	± 0.077	± 0.010
	AUC	0.171	0.162	0.176	0.163	0.199	0.042	0.108	0.070	0.101	0.009	0.094	0.056	0.216	0.040	0.029	0.077	0.053
		± 0.067	± 0.064	± 0.053	± 0.059	± 0.068	± 0.024	± 0.042	± 0.040	± 0.023	± 0.022	± 0.038	± 0.028	± 0.058	± 0.020	± 0.018	± 0.029	± 0.027
	BAcc	0.219	0.196	0.175	0.283	0.155	0.083	0.116	0.100	0.017	0.013	0.023	0.048	0.171	0.106	0.005	0.140	0.012
		± 0.136	± 0.132	± 0.107	± 0.161	± 0.106	± 0.052	± 0.084	± 0.073	± 0.007	± 0.018	± 0.019	± 0.046	± 0.112	± 0.061	± 0.005	± 0.075	± 0.010
Subject10	Acc.1	0.219	0.196	0.175	0.283	0.155	0.084	0.116	0.099	0.017	0.013	0.024	0.048	0.172	0.108	0.006	0.142	0.012
		± 0.136	± 0.132	± 0.107	± 0.161	± 0.106	± 0.052	± 0.084	± 0.073	± 0.007	± 0.018	± 0.019	± 0.046	± 0.112	± 0.062	± 0.005	± 0.076	± 0.011
	Acc.2	0.283	0.263	0.240	0.361	0.221	0.109	0.186	0.119	0.034	0.021	0.038	0.065	0.247	0.123	0.011	0.163	0.020
		± 0.156	± 0.162	± 0.131	± 0.185	± 0.136	± 0.056	± 0.120	± 0.082	± 0.012	± 0.025	± 0.026	± 0.056	± 0.144	± 0.061	± 0.008	± 0.079	± 0.017
Subject11	κ	0.247	0.235	0.209	0.318	0.178	0.108	0.148	0.137	0.016	0.006	0.019	0.047	0.173	0.133	0.006	0.149	0.010
		± 0.146	± 0.141	± 0.137	± 0.173	± 0.114	± 0.063	± 0.097	± 0.078	± 0.008	± 0.012	± 0.015	± 0.040	± 0.110	± 0.077	± 0.008	± 0.080	± 0.011
	AUC	0.199	0.194	0.218	0.206	0.211	0.061	0.140	0.090	0.088	0.019	0.085	0.054	0.196	0.064	0.025	0.089	0.045
		± 0.063	± 0.054	± 0.065	± 0.059	± 0.070	± 0.023	± 0.051	± 0.038	± 0.022	± 0.012	± 0.035	± 0.026	± 0.058	± 0.027	± 0.015	± 0.033	± 0.022
	BAcc	0.241	0.229	0.204	0.310	0.174	0.106	0.144	0.134	0.016	0.006	0.018	0.046	0.169	0.130	0.006	0.145	0.010
		± 0.142	± 0.137	± 0.133	± 0.169	± 0.111	± 0.062	± 0.094	± 0.076	± 0.008	± 0.012	± 0.015	± 0.039	± 0.107	± 0.075	± 0.008	± 0.078	± 0.011
Subject11	Acc.1	0.241	0.229	0.204	0.310	0.174	0.106	0.144	0.133	0.016	0.006	0.018	0.045	0.169	0.131	0.006	0.146	0.010
		± 0.142	± 0.137	± 0.133	± 0.169	± 0.111	± 0.062	± 0.095	± 0.076	± 0.008	± 0.011	± 0.015	± 0.039	± 0.107	± 0.076	± 0.008	± 0.078	± 0.011
	Acc.2	0.322	0.312	0.285	0.404	0.245	0.143	0.230	0.162	0.030	0.014	0.033	0.061	0.242	0.154	0.010	0.172	0.017
		± 0.169	± 0.168	± 0.167	± 0.199	± 0.140	± 0.071	± 0.141	± 0.089	± 0.012	± 0.016	± 0.022	± 0.047	± 0.138	± 0.075	± 0.010	± 0.079	± 0.016
Subject11	κ	0.218	0.194	0.190	0.278	0.155	0.094	0.129	0.062	0.019	0.010	0.022	0.030	0.162	0.100	0.006	0.118	0.011
		± 0.130	± 0.130	± 0.116	± 0.153	± 0.106	± 0.057	± 0.093	± 0.045	± 0.008	± 0.011	± 0.016	± 0.031	± 0.107	± 0.052	± 0.006	± 0.059	± 0.010
	AUC	0.136	0.145	0.196	0.165	0.169	0.049	0.117	0.041	0.096	0.014	0.098	0.029	0.189	0.045	0.027	0.056	0.066
		± 0.049	± 0.045	± 0.042	± 0.046	± 0.052	± 0.017	± 0.044	± 0.027	± 0.021	± 0.013	± 0.034	± 0.014	± 0.048	± 0.016	± 0.020	± 0.024	± 0.031
	BAcc	0.213	0.189	0.185	0.271	0.151	0.091	0.125	0.061	0.019	0.009	0.022	0.029	0.158	0.098	0.006	0.115	0.010
		± 0.127	± 0.126	± 0.113	± 0.149	± 0.103	± 0.055	± 0.091	± 0.044	± 0.008	± 0.011	± 0.016	± 0.030	± 0.104	± 0.051	± 0.006	± 0.057	± 0.010
Subject11	Acc.1	0.213	0.189	0.185	0.272	0.151	0.091	0.124	0.061	0.019	0.009	0.023	0.029	0.159	0.098	0.006	0.116	0.010
		± 0.127	± 0.126	± 0.113	± 0.150	± 0.103	± 0.055	± 0.090	± 0.044	± 0.008	± 0.011	± 0.016	± 0.030	± 0.104	± 0.051	± 0.006	± 0.058	± 0.009
	Acc.2	0.269	0.251	0.252	0.344	0.211	0.122	0.206	0.073	0.033	0.016	0.042	0.037	0.228	0.113	0.010	0.138	0.017
		± 0.137	± 0.151	± 0.130	± 0.171	± 0.128	± 0.061	± 0.138	± 0.051	± 0.013	± 0.015	± 0.024	± 0.033	± 0.131	± 0.048	± 0.009	± 0.060	± 0.014

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject12	κ	0.264 ± 0.157	0.249 ± 0.159	0.210 ± 0.135	0.329 ± 0.185	0.174 ± 0.116	0.197 ± 0.125	0.196 ± 0.143	0.153 ± 0.086	0.016 ± 0.010	0.011 ± 0.011	0.019 ± 0.015	0.052 ± 0.047	0.185 ± 0.123	0.192 ± 0.106	0.006 ± 0.005	0.234 ± 0.136	0.014 ± 0.011
	AUC	0.220 ± 0.057	0.239 ± 0.068	0.229 ± 0.062	0.243 ± 0.064	0.212 ± 0.068	0.148 ± 0.059	0.219 ± 0.086	0.110 ± 0.034	0.083 ± 0.022	0.018 ± 0.012	0.091 ± 0.032	0.057 ± 0.033	0.229 ± 0.075	0.106 ± 0.029	0.033 ± 0.018	0.166 ± 0.053	0.077 ± 0.029
	BAcc	0.257 ± 0.153	0.243 ± 0.155	0.205 ± 0.132	0.321 ± 0.180	0.170 ± 0.113	0.192 ± 0.121	0.191 ± 0.140	0.149 ± 0.084	0.016 ± 0.010	0.011 ± 0.011	0.019 ± 0.015	0.050 ± 0.046	0.181 ± 0.120	0.188 ± 0.103	0.005 ± 0.005	0.228 ± 0.133	0.014 ± 0.011
	Acc.1	0.258 ± 0.152	0.243 ± 0.154	0.206 ± 0.132	0.321 ± 0.179	0.170 ± 0.113	0.192 ± 0.121	0.191 ± 0.140	0.149 ± 0.084	0.016 ± 0.010	0.011 ± 0.011	0.020 ± 0.016	0.050 ± 0.046	0.181 ± 0.119	0.187 ± 0.102	0.006 ± 0.005	0.227 ± 0.132	0.014 ± 0.011
	Acc.2	0.341 ± 0.175	0.334 ± 0.188	0.288 ± 0.164	0.423 ± 0.210	0.241 ± 0.146	0.270 ± 0.150	0.301 ± 0.201	0.186 ± 0.094	0.027 ± 0.015	0.019 ± 0.016	0.034 ± 0.022	0.068 ± 0.058	0.264 ± 0.155	0.227 ± 0.103	0.011 ± 0.010	0.283 ± 0.140	0.024 ± 0.017
Subject13	κ	0.199 ± 0.118	0.184 ± 0.110	0.129 ± 0.085	0.259 ± 0.144	0.142 ± 0.085	0.080 ± 0.047	0.112 ± 0.072	0.054 ± 0.048	0.012 ± 0.005	0.009 ± 0.017	0.019 ± 0.016	0.009 ± 0.013	0.117 ± 0.069	0.068 ± 0.049	0.008 ± 0.007	0.099 ± 0.064	0.009 ± 0.010
	AUC	0.129 ± 0.062	0.148 ± 0.051	0.121 ± 0.054	0.162 ± 0.057	0.164 ± 0.047	0.048 ± 0.020	0.100 ± 0.042	0.039 ± 0.032	0.075 ± 0.016	0.010 ± 0.020	0.071 ± 0.029	0.005 ± 0.009	0.101 ± 0.035	0.032 ± 0.018	0.032 ± 0.022	0.047 ± 0.031	0.045 ± 0.027
	BAcc	0.194 ± 0.115	0.179 ± 0.108	0.126 ± 0.083	0.253 ± 0.141	0.138 ± 0.083	0.078 ± 0.046	0.109 ± 0.070	0.052 ± 0.047	0.012 ± 0.005	0.009 ± 0.017	0.019 ± 0.015	0.008 ± 0.013	0.114 ± 0.067	0.066 ± 0.048	0.007 ± 0.007	0.096 ± 0.063	0.009 ± 0.010
	Acc.1	0.194 ± 0.115	0.179 ± 0.108	0.126 ± 0.083	0.253 ± 0.141	0.138 ± 0.083	0.079 ± 0.046	0.109 ± 0.070	0.053 ± 0.047	0.012 ± 0.005	0.010 ± 0.017	0.020 ± 0.016	0.008 ± 0.013	0.114 ± 0.067	0.067 ± 0.048	0.008 ± 0.007	0.097 ± 0.062	0.009 ± 0.010
	Acc.2	0.250 ± 0.134	0.243 ± 0.130	0.176 ± 0.102	0.326 ± 0.164	0.194 ± 0.101	0.110 ± 0.056	0.174 ± 0.103	0.064 ± 0.058	0.025 ± 0.009	0.016 ± 0.021	0.034 ± 0.024	0.010 ± 0.015	0.161 ± 0.080	0.075 ± 0.049	0.013 ± 0.011	0.113 ± 0.066	0.016 ± 0.015
Subject14	κ	0.174 ± 0.124	0.141 ± 0.087	0.119 ± 0.091	0.228 ± 0.128	0.119 ± 0.080	0.078 ± 0.061	0.112 ± 0.080	0.067 ± 0.062	0.013 ± 0.009	0.002 ± 0.011	0.019 ± 0.015	0.023 ± 0.029	0.138 ± 0.094	0.078 ± 0.051	0.006 ± 0.006	0.096 ± 0.073	0.012 ± 0.013
	AUC	0.112 ± 0.061	0.105 ± 0.049	0.105 ± 0.049	0.126 ± 0.056	0.135 ± 0.047	0.038 ± 0.025	0.110 ± 0.048	0.046 ± 0.039	0.082 ± 0.021	0.002 ± 0.014	0.077 ± 0.039	0.020 ± 0.015	0.124 ± 0.040	0.042 ± 0.021	0.022 ± 0.017	0.043 ± 0.033	0.050 ± 0.025
	BAcc	0.169 ± 0.121	0.137 ± 0.085	0.116 ± 0.089	0.222 ± 0.125	0.116 ± 0.078	0.076 ± 0.060	0.109 ± 0.078	0.065 ± 0.061	0.013 ± 0.008	0.002 ± 0.011	0.019 ± 0.015	0.022 ± 0.028	0.135 ± 0.092	0.076 ± 0.049	0.006 ± 0.006	0.094 ± 0.071	0.011 ± 0.013
	Acc.1	0.169 ± 0.121	0.137 ± 0.085	0.116 ± 0.089	0.221 ± 0.124	0.116 ± 0.078	0.077 ± 0.060	0.110 ± 0.078	0.065 ± 0.060	0.013 ± 0.009	0.002 ± 0.011	0.020 ± 0.015	0.022 ± 0.028	0.136 ± 0.091	0.076 ± 0.049	0.006 ± 0.006	0.093 ± 0.070	0.011 ± 0.013
	Acc.2	0.217 ± 0.139	0.181 ± 0.103	0.156 ± 0.107	0.283 ± 0.149	0.162 ± 0.097	0.095 ± 0.064	0.177 ± 0.115	0.080 ± 0.074	0.025 ± 0.010	0.005 ± 0.017	0.033 ± 0.019	0.029 ± 0.034	0.190 ± 0.113	0.090 ± 0.045	0.009 ± 0.008	0.107 ± 0.071	0.020 ± 0.018
Subject15	κ	0.159 ± 0.102	0.150 ± 0.099	0.143 ± 0.094	0.245 ± 0.134	0.127 ± 0.088	0.091 ± 0.059	0.122 ± 0.086	0.049 ± 0.048	0.013 ± 0.007	0.011 ± 0.011	0.022 ± 0.019	0.015 ± 0.023	0.151 ± 0.108	0.087 ± 0.055	0.008 ± 0.007	0.093 ± 0.051	0.015 ± 0.012

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	AUC	0.110	0.105	0.135	0.138	0.150	0.050	0.121	0.035	0.077	0.016 ± 0.013	0.101	0.017	0.150	0.040	0.037	0.045	0.062
		±0.052	±0.041	±0.043	±0.050	±0.049	±0.020	±0.045	±0.033	±0.018	±0.035	±0.035	±0.011	±0.044	±0.013	±0.020	±0.025	±0.030
	BAcc	0.155	0.146	0.139	0.239	0.124	0.089	0.119	0.048	0.013	0.011	0.022	0.015	0.148	0.085	0.008 ± 0.006	0.091	0.015
		±0.099	±0.097	±0.092	±0.130	±0.086	±0.057	±0.084	±0.047	±0.007	±0.011	±0.018	±0.022	±0.105	±0.053	±0.050	±0.050	±0.012
	Acc.1	0.155	0.146	0.139	0.239	0.124	0.088	0.118	0.047	0.013	0.010	0.023	0.014	0.148	0.084	0.008 ± 0.006	0.091	0.015
		±0.099	±0.097	±0.091	±0.130	±0.086	±0.057	±0.084	±0.047	±0.007	±0.011	±0.018	±0.022	±0.105	±0.053	±0.049	±0.012	±0.012
	Acc.2	0.196	0.189	0.186	0.305	0.172	0.123	0.192	0.059	0.025	0.018	0.039	0.020	0.211	0.097	0.013 ± 0.010	0.107	0.026
		±0.112	±0.110	±0.107	±0.149	±0.109	±0.072	±0.119	±0.056	±0.009	±0.017	±0.030	±0.024	±0.134	±0.050	±0.054	±0.019	±0.019
	κ	0.138	0.181	0.137	0.253	0.116	0.085	0.131	0.047	0.011	0.009	0.021	0.020	0.152	0.076	0.008 ± 0.007	0.097	0.013
		±0.093	±0.123	±0.095	±0.151	±0.087	±0.063	±0.093	±0.047	±0.009	±0.011	±0.015	±0.024	±0.106	±0.053	±0.060	±0.012	±0.012
Subject16	AUC	0.111	0.121	0.119	0.133	0.136	0.050	0.095	0.029	0.078	0.008 ± 0.017	0.088	0.013	0.149	0.024	0.032	0.043	0.062
		±0.037	±0.040	±0.043	±0.045	±0.047	±0.025	±0.039	±0.032	±0.021	±0.035	±0.035	±0.013	±0.045	±0.016	±0.019	±0.023	±0.026
	BAcc	0.135	0.176	0.134	0.246	0.113	0.083	0.128	0.046	0.011	0.008	0.021	0.020	0.148	0.074	0.008 ± 0.007	0.095	0.013
		±0.090	±0.120	±0.093	±0.147	±0.085	±0.062	±0.090	±0.046	±0.009	±0.011	±0.015	±0.024	±0.104	±0.052	±0.058	±0.011	±0.011
	Acc.1	0.135	0.176	0.134	0.246	0.113	0.083	0.127	0.045	0.011	0.008	0.022	0.020	0.148	0.074	0.008 ± 0.007	0.093	0.013
		±0.090	±0.120	±0.093	±0.147	±0.085	±0.062	±0.090	±0.046	±0.009	±0.011	±0.015	±0.024	±0.103	±0.051	±0.057	±0.011	±0.011
	Acc.2	0.175	0.230	0.183	0.313	0.157	0.105	0.195	0.051	0.020	0.013	0.041	0.025	0.210	0.079	0.012 ± 0.010	0.107	0.023
		±0.101	±0.140	±0.109	±0.164	±0.105	±0.067	±0.123	±0.054	±0.013	±0.017	±0.023	±0.029	±0.129	±0.047	±0.059	±0.014	±0.014
	κ	0.147	0.156	0.134	0.242	0.108	0.073	0.104	0.041	0.014	0.011	0.015	0.016	0.149	0.071	0.005 ± 0.006	0.078	0.013
		±0.089	±0.098	±0.091	±0.134	±0.078	±0.049	±0.069	±0.038	±0.010	±0.011	±0.014	±0.021	±0.097	±0.041	±0.049	±0.012	±0.012
Subject17	AUC	0.143	0.112	0.123	0.131	0.123	0.045	0.099	0.029	0.077	0.018	0.080	0.009 ± 0.011	0.152	0.032	0.032	0.033	0.060
		±0.045	±0.045	±0.037	±0.044	±0.041	±0.014	±0.037	±0.024	±0.020	±0.012	±0.034	±0.033	±0.020	±0.021	±0.021	±0.021	±0.031
	BAcc	0.144	0.152	0.131	0.236	0.105	0.071	0.102	0.040	0.014	0.011	0.015	0.015	0.145	0.069	0.005 ± 0.006	0.076	0.012
		±0.086	±0.096	±0.089	±0.131	±0.076	±0.047	±0.068	±0.037	±0.010	±0.010	±0.013	±0.021	±0.094	±0.040	±0.048	±0.011	±0.011
	Acc.1	0.144	0.152	0.131	0.235	0.105	0.070	0.101	0.041	0.014	0.011	0.015	0.015	0.145	0.070	0.005 ± 0.006	0.076	0.012
		±0.086	±0.096	±0.088	±0.130	±0.076	±0.047	±0.067	±0.037	±0.010	±0.011	±0.013	±0.021	±0.094	±0.040	±0.047	±0.011	±0.011
	Acc.2	0.190	0.194	0.176	0.296	0.148	0.095	0.166	0.050	0.025	0.018	0.031	0.018	0.204	0.081	0.008 ± 0.009	0.091	0.019
		±0.100	±0.109	±0.098	±0.145	±0.093	±0.054	±0.097	±0.047	±0.014	±0.014	±0.022	±0.022	±0.116	±0.039	±0.051	±0.017	±0.017
	κ	0.206	0.166	0.135	0.235	0.136	0.078	0.126	0.034	0.014	0.008	0.017	0.017	0.163	0.054	0.005 ± 0.007	0.093	0.013
		±0.127	±0.109	±0.095	±0.128	±0.102	±0.048	±0.086	±0.030	±0.006	±0.012	±0.014	±0.023	±0.109	±0.029	±0.053	±0.012	±0.012
Subject18	AUC	0.114	0.115	0.114	0.120	0.164	0.045	0.128	0.022	0.080	0.016 ± 0.012	0.078	0.017	0.161	0.033	0.022	0.043	0.045
		±0.040	±0.033	±0.048	±0.040	±0.058	±0.017	±0.050	±0.017	±0.019	±0.031	±0.031	±0.013	±0.046	±0.014	±0.019	±0.020	±0.022

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	
Subject1	BAcc	0.201	0.162	0.132	0.229	0.133	0.076	0.123	0.033	0.014	0.008	0.016	0.016	0.159	0.053	0.005	0.090	0.012	
		± 0.123	± 0.106	± 0.093	± 0.125	± 0.100	± 0.047	± 0.084	± 0.030	± 0.006	± 0.011	± 0.013	± 0.023	± 0.106	± 0.028	± 0.007	± 0.051	± 0.011	
	Acc.1	0.201	0.162	0.132	0.229	0.133	0.075	0.121	0.032	0.014	0.007	0.016	0.016	0.158	0.051	0.005	0.088	0.011	
		± 0.123	± 0.106	± 0.093	± 0.125	± 0.100	± 0.047	± 0.083	± 0.029	± 0.006	± 0.012	± 0.013	± 0.023	± 0.106	± 0.028	± 0.007	± 0.051	± 0.012	
	Acc.2	0.256	0.209	0.172	0.290	0.187	0.088	0.193	0.036	0.028	0.011	0.029	0.021	0.226	0.062	0.007	0.102	0.021	
		± 0.133	± 0.125	± 0.101	± 0.134	± 0.124	± 0.045	± 0.122	± 0.034	± 0.010	± 0.014	± 0.019	± 0.024	± 0.135	± 0.029	± 0.010	± 0.048	± 0.018	
	κ	0.161	0.174	0.198	0.262	0.160	0.138	0.135	0.098	0.023	0.015	0.022	0.033	0.181	0.117	0.006	0.143	0.014	
		± 0.100	± 0.117	± 0.131	± 0.152	± 0.113	± 0.097	± 0.099	± 0.069	± 0.014	± 0.014	± 0.014	± 0.034	± 0.120	± 0.071	± 0.005	± 0.094	± 0.013	
Subject19	AUC	0.107	0.126	0.199	0.132	0.179	0.084	0.133	0.058	0.089	0.021	0.077	0.035	0.207	0.058	0.027	0.077	0.053	
		± 0.038	± 0.026	± 0.049	± 0.032	± 0.063	± 0.038	± 0.048	± 0.035	± 0.024	± 0.015	± 0.033	± 0.018	± 0.061	± 0.020	± 0.019	± 0.036	± 0.026	
	BAcc	0.156	0.170	0.193	0.255	0.156	0.135	0.132	0.096	0.022	0.015	0.022	0.033	0.177	0.114	0.006	0.140	0.013	
		± 0.098	± 0.114	± 0.127	± 0.149	± 0.111	± 0.095	± 0.096	± 0.068	± 0.013	± 0.014	± 0.014	± 0.033	± 0.117	± 0.069	± 0.005	± 0.091	± 0.012	
	Acc.1	0.156	0.170	0.193	0.255	0.156	0.134	0.131	0.096	0.023	0.015	0.022	0.033	0.177	0.114	0.004	0.139	0.013	
		± 0.098	± 0.114	± 0.127	± 0.148	± 0.111	± 0.094	± 0.096	± 0.068	± 0.014	± 0.013	± 0.015	± 0.033	± 0.117	± 0.069	± 0.006	± 0.091	± 0.012	
	Acc.2	0.207	0.231	0.268	0.324	0.215	0.177	0.213	0.114	0.038	0.020	0.036	0.043	0.253	0.133	0.006	0.167	0.022	
		± 0.107	± 0.137	± 0.156	± 0.164	± 0.137	± 0.106	± 0.142	± 0.075	± 0.019	± 0.018	± 0.022	± 0.037	± 0.150	± 0.064	± 0.009	± 0.095	± 0.019	
Subject2	κ	0.184	0.205	0.204	0.296	0.169	0.092	0.140	0.101	0.016	0.009	0.017	0.031	0.169	0.111	0.005	0.134	0.013	
		± 0.109	± 0.131	± 0.130	± 0.167	± 0.119	± 0.060	± 0.103	± 0.062	± 0.008	± 0.013	± 0.016	± 0.032	± 0.108	± 0.060	± 0.007	± 0.074	± 0.012	
	AUC	0.172	0.183	0.226	0.180	0.194	0.049	0.141	0.064	0.089	0.016	0.093	0.030	0.188	0.042	0.031	0.075	0.056	
		± 0.042	± 0.051	± 0.060	± 0.050	± 0.067	± 0.018	± 0.053	± 0.028	± 0.022	± 0.019	± 0.033	± 0.019	± 0.054	± 0.021	± 0.020	± 0.032	± 0.027	
	BAcc	0.180	0.199	0.199	0.288	0.165	0.090	0.137	0.098	0.016	0.009	0.017	0.030	0.165	0.108	0.005	0.130	0.013	
		± 0.106	± 0.128	± 0.127	± 0.163	± 0.116	± 0.058	± 0.101	± 0.060	± 0.008	± 0.013	± 0.016	± 0.031	± 0.105	± 0.059	± 0.007	± 0.072	± 0.012	
	Acc.1	0.180	0.199	0.199	0.288	0.165	0.090	0.137	0.098	0.016	0.009	0.017	0.030	0.164	0.108	0.005	0.131	0.012	
		± 0.106	± 0.128	± 0.127	± 0.163	± 0.116	± 0.059	± 0.100	± 0.060	± 0.008	± 0.013	± 0.016	± 0.031	± 0.105	± 0.059	± 0.007	± 0.073	± 0.012	
Subject20	Acc.2	0.237	0.275	0.275	0.373	0.232	0.121	0.217	0.119	0.027	0.016	0.032	0.039	0.236	0.126	0.008	0.161	0.023	
		± 0.123	± 0.160	± 0.157	± 0.189	± 0.147	± 0.069	± 0.143	± 0.065	± 0.012	± 0.018	± 0.026	± 0.038	± 0.136	± 0.056	± 0.009	± 0.078	± 0.018	
	κ	0.251	0.178	0.146	0.240	0.139	0.082	0.105	0.081	0.011	0.011	0.019	0.012	0.135	0.083	0.005	0.118	0.012	
		± 0.165	± 0.111	± 0.093	± 0.134	± 0.092	± 0.052	± 0.073	± 0.063	± 0.006	± 0.016	± 0.015	± 0.017	± 0.092	± 0.056	± 0.006	± 0.083	± 0.013	
	AUC	0.151	0.142	0.134	0.126	0.154	0.048	0.095	0.059	0.072	0.010	0.078	0.004	0.113	0.024	0.025	0.061	0.046	
		± 0.073	± 0.051	± 0.044	± 0.046	± 0.054	± 0.020	± 0.040	± 0.036	± 0.018	± 0.015	± 0.034	± 0.012	± 0.026	± 0.021	± 0.017	± 0.033	± 0.025	
	BAcc	0.244	0.173	0.142	0.234	0.136	0.080	0.102	0.079	0.011	0.010	0.018	0.012	0.131	0.081	0.005	0.115	0.012	
		± 0.160	± 0.108	± 0.091	± 0.131	± 0.089	± 0.051	± 0.071	± 0.061	± 0.006	± 0.015	± 0.015	± 0.016	± 0.090	± 0.055	± 0.006	± 0.081	± 0.013	

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(j)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(j)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(j)	STEEGformer-s ^(l)	
Subject24	Acc.2	0.404 ±0.222	0.342 ±0.190	0.288 ±0.169	0.434 ±0.217	0.240 ±0.143	0.303 ±0.167	0.314 ±0.209	0.217 ±0.108	0.036 ±0.015	0.025 ±0.019	0.045 ±0.025	0.069 ±0.058	0.262 ±0.158	0.214 ±0.089	0.009 ±0.008	0.256 ±0.115	0.021 ±0.017	10038
	κ	0.241 ±0.147	0.225 ±0.146	0.203 ±0.134	0.315 ±0.172	0.179 ±0.123	0.123 ±0.078	0.144 ±0.102	0.110 ±0.067	0.014 ±0.007	0.014 ±0.014	0.019 ±0.014	0.039 ±0.037	0.172 ±0.111	0.136 ±0.083	0.006 ±0.005	0.168 ±0.094	0.011 ±0.014	10039
	AUC	0.204 ±0.056	0.206 ±0.057	0.222 ±0.065	0.208 ±0.052	0.217 ±0.071	0.066 ±0.029	0.125 ±0.049	0.078 ±0.028	0.085 ±0.018	0.024 ±0.016	0.084 ±0.034	0.039 ±0.023	0.192 ±0.058	0.063 ±0.023	0.026 ±0.021	0.095 ±0.035	0.051 ±0.028	10040
	BAcc	0.235 ±0.143	0.220 ±0.142	0.198 ±0.131	0.307 ±0.167	0.175 ±0.120	0.119 ±0.076	0.140 ±0.100	0.108 ±0.065	0.014 ±0.007	0.014 ±0.014	0.019 ±0.014	0.038 ±0.036	0.168 ±0.108	0.132 ±0.081	0.006 ±0.005	0.164 ±0.092	0.011 ±0.013	10041
	Acc.1	0.235 ±0.143	0.220 ±0.142	0.198 ±0.131	0.304 ±0.166	0.175 ±0.120	0.119 ±0.076	0.139 ±0.100	0.107 ±0.065	0.014 ±0.007	0.012 ±0.014	0.018 ±0.014	0.037 ±0.036	0.167 ±0.107	0.130 ±0.080	0.006 ±0.006	0.160 ±0.090	0.010 ±0.014	10042
	Acc.2	0.312 ±0.172	0.305 ±0.175	0.278 ±0.165	0.397 ±0.194	0.246 ±0.150	0.166 ±0.094	0.226 ±0.150	0.133 ±0.071	0.024 ±0.011	0.019 ±0.016	0.031 ±0.022	0.050 ±0.042	0.238 ±0.139	0.154 ±0.076	0.008 ±0.009	0.188 ±0.091	0.016 ±0.021	10043
	κ	0.312 ±0.188	0.244 ±0.146	0.228 ±0.146	0.334 ±0.182	0.179 ±0.115	0.176 ±0.104	0.184 ±0.126	0.146 ±0.083	0.030 ±0.013	0.025 ±0.015	0.023 ±0.014	0.051 ±0.043	0.193 ±0.129	0.161 ±0.079	0.006 ±0.006	0.172 ±0.078	0.015 ±0.013	10044
Subject25	AUC	0.253 ±0.061	0.224 ±0.048	0.272 ±0.077	0.258 ±0.057	0.249 ±0.073	0.119 ±0.045	0.215 ±0.078	0.085 ±0.025	0.132 ±0.032	0.036 ±0.016	0.096 ±0.036	0.068 ±0.027	0.248 ±0.080	0.052 ±0.023	0.031 ±0.020	0.088 ±0.033	0.071 ±0.034	10045
	BAcc	0.304 ±0.183	0.238 ±0.142	0.222 ±0.143	0.325 ±0.177	0.175 ±0.112	0.171 ±0.101	0.179 ±0.123	0.143 ±0.081	0.029 ±0.013	0.024 ±0.015	0.023 ±0.014	0.049 ±0.042	0.189 ±0.125	0.157 ±0.077	0.006 ±0.006	0.167 ±0.076	0.014 ±0.013	10046
	Acc.1	0.304 ±0.183	0.238 ±0.142	0.222 ±0.143	0.326 ±0.177	0.175 ±0.112	0.172 ±0.102	0.179 ±0.123	0.143 ±0.081	0.030 ±0.013	0.025 ±0.015	0.024 ±0.014	0.050 ±0.042	0.189 ±0.125	0.159 ±0.078	0.007 ±0.006	0.169 ±0.076	0.015 ±0.013	10047
	Acc.2	0.408 ±0.216	0.327 ±0.174	0.316 ±0.182	0.437 ±0.209	0.250 ±0.148	0.245 ±0.133	0.285 ±0.181	0.169 ±0.082	0.052 ±0.020	0.041 ±0.021	0.040 ±0.022	0.072 ±0.052	0.276 ±0.161	0.185 ±0.072	0.011 ±0.010	0.213 ±0.085	0.026 ±0.019	10048
	κ	0.195 ±0.115	0.204 ±0.129	0.177 ±0.110	0.271 ±0.149	0.147 ±0.098	0.100 ±0.059	0.143 ±0.096	0.057 ±0.052	0.015 ±0.007	0.011 ±0.011	0.016 ±0.013	0.024 ±0.022	0.162 ±0.103	0.099 ±0.060	0.005 ±0.006	0.111 ±0.068	0.011 ±0.012	10049
Subject26	AUC	0.148 ±0.044	0.149 ±0.042	0.149 ±0.042	0.150 ±0.047	0.156 ±0.056	0.075 ±0.025	0.136 ±0.055	0.038 ±0.036	0.072 ±0.017	0.013 ±0.012	0.060 ±0.029	0.021 ±0.013	0.161 ±0.042	0.037 ±0.023	0.025 ±0.021	0.044 ±0.028	0.054 ±0.026	10050
	BAcc	0.191 ±0.112	0.199 ±0.125	0.173 ±0.108	0.265 ±0.145	0.144 ±0.096	0.098 ±0.057	0.140 ±0.093	0.055 ±0.051	0.015 ±0.007	0.010 ±0.011	0.016 ±0.012	0.024 ±0.022	0.158 ±0.101	0.096 ±0.059	0.005 ±0.006	0.108 ±0.066	0.011 ±0.012	10051
	Acc.1	0.191 ±0.112	0.199 ±0.125	0.173 ±0.108	0.265 ±0.145	0.144 ±0.096	0.099 ±0.058	0.140 ±0.093	0.055 ±0.051	0.015 ±0.007	0.011 ±0.011	0.016 ±0.013	0.024 ±0.022	0.159 ±0.101	0.096 ±0.059	0.006 ±0.006	0.108 ±0.067	0.012 ±0.011	10052
	Acc.2	0.246 ±0.125	0.268 ±0.153	0.235 ±0.131	0.339 ±0.168	0.198 ±0.119	0.136 ±0.072	0.221 ±0.133	0.068 ±0.064	0.025 ±0.010	0.016 ±0.012	0.026 ±0.017	0.033 ±0.024	0.226 ±0.127	0.110 ±0.059	0.009 ±0.011	0.125 ±0.068	0.023 ±0.019	10053
	κ	0.191 ±0.112	0.199 ±0.125	0.173 ±0.108	0.265 ±0.145	0.144 ±0.096	0.099 ±0.058	0.140 ±0.093	0.055 ±0.051	0.015 ±0.007	0.011 ±0.011	0.016 ±0.013	0.024 ±0.022	0.159 ±0.101	0.096 ±0.059	0.006 ±0.006	0.108 ±0.067	0.012 ±0.011	10054

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		10071	10072	10073	10074	10075	10076	10077	10078	10079	10080	10081	10082	10083	10084	10085	10086	10087	10088	10089	10090	10091	10092	10093	10094	10095	10096	10097	10098	10099	10100	10101	10102	10103				
Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)																				
Subject27	κ	0.238 ± 0.150	0.176 ± 0.114	0.179 ± 0.115	0.266 ± 0.149	0.154 ± 0.106	0.128 ± 0.079	0.135 ± 0.095	0.051 ± 0.047	0.014 ± 0.007	0.010 \pm 0.013	0.018 ± 0.016	0.037 ± 0.036	0.169 ± 0.112	0.112 ± 0.068	0.007 \pm 0.006	0.158 ± 0.094	0.013 ± 0.013																				
	AUC	0.135 ± 0.042	0.134 ± 0.034	0.161 ± 0.045	0.154 ± 0.045	0.171 ± 0.053	0.071 ± 0.031	0.133 ± 0.049	0.033 \pm 0.033	0.078 ± 0.021	0.014 \pm 0.017	0.080 ± 0.036	0.035 ± 0.020	0.173 ± 0.048	0.053 ± 0.021	0.037 \pm 0.025	0.080 ± 0.033	0.076 ± 0.035																				
	BAcc	0.232 ± 0.146	0.171 ± 0.111	0.174 ± 0.112	0.260 ± 0.145	0.150 ± 0.103	0.124 ± 0.077	0.131 ± 0.093	0.050 ± 0.045	0.013 ± 0.007	0.009 \pm 0.012	0.018 ± 0.015	0.036 ± 0.035	0.164 ± 0.109	0.109 ± 0.067	0.007 \pm 0.006	0.154 ± 0.092	0.013 ± 0.012																				
	Acc.1	0.232 ± 0.146	0.171 ± 0.111	0.174 ± 0.112	0.261 ± 0.145	0.150 ± 0.103	0.125 ± 0.078	0.131 ± 0.093	0.050 ± 0.045	0.013 ± 0.007	0.009 \pm 0.012	0.019 ± 0.016	0.036 ± 0.035	0.165 ± 0.109	0.108 ± 0.066	0.007 \pm 0.006	0.155 ± 0.092	0.011 ± 0.012																				
	Acc.2	0.287 ± 0.155	0.231 ± 0.132	0.240 ± 0.134	0.327 ± 0.160	0.209 ± 0.127	0.171 ± 0.093	0.209 ± 0.132	0.056 ± 0.055	0.024 ± 0.012	0.016 \pm 0.019	0.032 ± 0.025	0.049 ± 0.040	0.234 ± 0.138	0.124 ± 0.062	0.013 \pm 0.011	0.183 ± 0.094	0.020 ± 0.019																				
Subject28	κ	0.204 ± 0.122	0.225 ± 0.142	0.209 ± 0.137	0.308 ± 0.175	0.173 ± 0.119	0.133 ± 0.086	0.157 ± 0.107	0.100 ± 0.060	0.018 ± 0.010	0.011 \pm 0.013	0.020 ± 0.013	0.030 ± 0.031	0.173 ± 0.112	0.130 ± 0.073	0.007 \pm 0.009	0.154 ± 0.082	0.016 ± 0.014																				
	AUC	0.189 ± 0.043	0.184 ± 0.048	0.223 ± 0.052	0.205 ± 0.051	0.195 ± 0.062	0.075 ± 0.028	0.160 ± 0.054	0.063 ± 0.025	0.072 ± 0.021	0.018 \pm 0.013	0.095 ± 0.023	0.027 \pm 0.017	0.184 ± 0.048	0.061 ± 0.021	0.031 \pm 0.019	0.089 ± 0.028	0.056 ± 0.029																				
	BAcc	0.199 ± 0.119	0.220 ± 0.139	0.204 ± 0.133	0.301 ± 0.171	0.169 ± 0.116	0.129 ± 0.084	0.153 ± 0.104	0.098 ± 0.059	0.017 ± 0.010	0.011 \pm 0.012	0.020 ± 0.012	0.030 ± 0.030	0.168 ± 0.109	0.126 ± 0.071	0.007 \pm 0.008	0.151 ± 0.080	0.015 ± 0.013																				
	Acc.1	0.199 ± 0.119	0.220 ± 0.139	0.204 ± 0.133	0.300 ± 0.170	0.169 ± 0.116	0.128 ± 0.083	0.152 ± 0.104	0.098 ± 0.058	0.018 ± 0.010	0.010 \pm 0.012	0.021 ± 0.013	0.029 ± 0.029	0.168 ± 0.109	0.125 ± 0.069	0.008 \pm 0.008	0.149 ± 0.079	0.015 ± 0.014																				
	Acc.2	0.265 ± 0.137	0.298 ± 0.170	0.284 ± 0.166	0.394 ± 0.200	0.238 ± 0.148	0.181 ± 0.101	0.242 ± 0.151	0.118 ± 0.065	0.029 ± 0.013	0.018 \pm 0.015	0.042 ± 0.024	0.038 ± 0.034	0.240 ± 0.138	0.150 ± 0.068	0.012 \pm 0.010	0.187 ± 0.081	0.026 ± 0.018																				
Subject29	κ	0.224 ± 0.128	0.221 ± 0.134	0.203 ± 0.129	0.325 ± 0.177	0.188 ± 0.126	0.118 ± 0.063	0.169 ± 0.120	0.089 ± 0.051	0.020 ± 0.010	0.020 ± 0.011	0.018 ± 0.016	0.044 ± 0.039	0.177 ± 0.122	0.110 ± 0.051	0.007 \pm 0.007	0.130 ± 0.058	0.013 \pm 0.013																				
	AUC	0.192 ± 0.042	0.197 ± 0.042	0.217 ± 0.054	0.244 ± 0.060	0.234 ± 0.066	0.089 ± 0.025	0.163 ± 0.056	0.060 ± 0.021	0.102 ± 0.026	0.027 \pm 0.015	0.095 ± 0.036	0.050 ± 0.023	0.201 ± 0.072	0.036 ± 0.015	0.034 \pm 0.019	0.080 ± 0.020	0.072 ± 0.036																				
	BAcc	0.218 ± 0.125	0.216 ± 0.131	0.198 ± 0.125	0.317 ± 0.172	0.183 ± 0.123	0.115 ± 0.061	0.165 ± 0.117	0.086 ± 0.050	0.020 ± 0.009	0.019 ± 0.011	0.017 ± 0.015	0.043 ± 0.038	0.173 ± 0.119	0.108 ± 0.050	0.006 \pm 0.007	0.126 ± 0.057	0.013 \pm 0.013																				
	Acc.1	0.218 ± 0.125	0.216 ± 0.131	0.198 ± 0.125	0.318 ± 0.172	0.183 ± 0.123	0.115 ± 0.061	0.164 ± 0.117	0.086 ± 0.050	0.020 ± 0.009	0.019 ± 0.011	0.018 ± 0.016	0.043 ± 0.038	0.172 ± 0.119	0.106 ± 0.049	0.007 \pm 0.007	0.126 ± 0.056	0.013 \pm 0.013																				
	Acc.2	0.291 ± 0.146	0.298 ± 0.161	0.277 ± 0.156	0.422 ± 0.206	0.259 ± 0.154	0.164 ± 0.075	0.262 ± 0.168	0.103 ± 0.054	0.036 ± 0.015	0.028 ± 0.012	0.034 ± 0.021	0.058 ± 0.047	0.248 ± 0.153	0.123 ± 0.045	0.011 \pm 0.008	0.153 ± 0.054	0.023 \pm 0.020																				
Subject3	κ	0.130 ± 0.088	0.169 ± 0.110	0.099 ± 0.082	0.234 ± 0.136	0.139 ± 0.088	0.073 ± 0.054	0.111 ± 0.083	0.041 ± 0.041	0.014 ± 0.006	0.008 \pm 0.015	0.016 ± 0.012	0.014 ± 0.022	0.133 ± 0.106	0.063 ± 0.039	0.003 \pm 0.006	0.073 ± 0.052	0.014 ± 0.012																				
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
	AUC	0.131 ±0.043	0.139 ±0.048	0.101 ±0.041	0.148 ±0.049	0.163 ±0.046	0.051 ±0.024	0.120 ±0.049	0.030 ±0.018	0.080 ±0.019	0.019 ± 0.017	0.071 ±0.029	0.016 ± 0.013	0.113 ±0.029	0.021 ±0.016	0.028 ±0.021	0.033 ±0.022	0.067 ±0.030
	BACc	0.127 ±0.086	0.165 ±0.107	0.096 ±0.080	0.229 ±0.132	0.136 ±0.086	0.071 ±0.053	0.108 ±0.081	0.040 ±0.040	0.013 ±0.006	0.008 ± 0.014	0.016 ±0.012	0.014 ±0.022	0.130 ±0.103	0.061 ±0.038	0.003 ± 0.006	0.071 ±0.051	0.013 ±0.012
	Acc.1	0.127 ±0.086	0.165 ±0.107	0.096 ±0.080	0.228 ±0.132	0.136 ±0.086	0.072 ±0.053	0.108 ±0.081	0.040 ±0.040	0.014 ±0.006	0.009 ± 0.014	0.017 ±0.012	0.015 ±0.021	0.131 ±0.103	0.062 ±0.038	0.003 ± 0.007	0.071 ±0.051	0.014 ±0.012
	Acc.2	0.180 ±0.104	0.228 ±0.129	0.131 ±0.085	0.298 ±0.154	0.191 ±0.112	0.093 ±0.058	0.185 ±0.117	0.052 ±0.041	0.027 ±0.010	0.019 ± 0.018	0.029 ±0.015	0.022 ±0.028	0.190 ±0.126	0.068 ±0.034	0.006 ± 0.010	0.080 ±0.052	0.022 ±0.017
	κ	0.155 ±0.089	0.177 ±0.111	0.178 ±0.123	0.262 ±0.142	0.139 ±0.095	0.102 ±0.061	0.130 ±0.091	0.047 ±0.034	0.013 ±0.008	0.005 ± 0.010	0.022 ±0.019	0.032 ±0.031	0.169 ±0.115	0.104 ±0.059	0.005 ± 0.007	0.115 ±0.067	0.014 ±0.013
	AUC	0.125 ±0.027	0.130 ±0.026	0.153 ±0.036	0.145 ±0.046	0.174 ±0.049	0.059 ±0.022	0.126 ±0.051	0.030 ± 0.019	0.074 ±0.018	0.016 ± 0.014	0.090 ±0.033	0.036 ±0.018	0.186 ±0.061	0.057 ±0.019	0.032 ±0.022	0.055 ±0.025	0.061 ±0.027
	BACc	0.151 ±0.087	0.173 ±0.108	0.174 ±0.120	0.255 ±0.139	0.136 ±0.092	0.099 ±0.059	0.126 ±0.089	0.046 ±0.033	0.013 ±0.008	0.005 ± 0.009	0.022 ±0.018	0.031 ±0.030	0.165 ±0.113	0.101 ±0.058	0.005 ± 0.006	0.112 ±0.065	0.014 ±0.012
	Acc.1	0.151 ±0.087	0.173 ±0.108	0.174 ±0.120	0.255 ±0.139	0.136 ±0.092	0.099 ±0.059	0.126 ±0.089	0.045 ±0.033	0.013 ±0.008	0.005 ± 0.009	0.024 ±0.019	0.031 ±0.030	0.166 ±0.112	0.102 ±0.057	0.005 ± 0.006	0.113 ±0.065	0.014 ±0.012
	Acc.2	0.201 ±0.096	0.232 ±0.128	0.236 ±0.138	0.319 ±0.154	0.192 ±0.115	0.134 ±0.070	0.204 ±0.127	0.053 ±0.035	0.024 ±0.010	0.013 ± 0.014	0.040 ±0.025	0.043 ±0.036	0.238 ±0.146	0.117 ±0.054	0.011 ± 0.009	0.131 ±0.066	0.022 ±0.016
	κ	0.202 ±0.118	0.183 ±0.115	0.170 ±0.110	0.276 ±0.153	0.127 ±0.083	0.103 ±0.064	0.142 ±0.105	0.050 ±0.036	0.019 ±0.010	0.012 ±0.012	0.017 ±0.011	0.031 ±0.033	0.165 ±0.111	0.102 ±0.055	0.009 ± 0.006	0.108 ±0.063	0.011 ± 0.009
Subject30	AUC	0.119 ±0.031	0.132 ±0.034	0.163 ±0.046	0.164 ±0.046	0.155 ±0.038	0.047 ±0.025	0.119 ±0.042	0.033 ±0.015	0.086 ±0.020	0.023 ± 0.013	0.070 ±0.026	0.026 ± 0.016	0.159 ±0.041	0.051 ±0.016	0.034 ±0.019	0.054 ±0.023	0.049 ±0.026
	BACc	0.197 ±0.115	0.178 ±0.112	0.165 ±0.108	0.269 ±0.149	0.123 ±0.081	0.100 ±0.062	0.138 ±0.103	0.049 ±0.035	0.019 ±0.010	0.012 ±0.011	0.016 ±0.011	0.030 ±0.032	0.161 ±0.108	0.099 ±0.053	0.009 ± 0.006	0.105 ±0.062	0.011 ± 0.009
	Acc.1	0.197 ±0.115	0.178 ±0.112	0.166 ±0.107	0.270 ±0.149	0.123 ±0.081	0.100 ±0.062	0.138 ±0.103	0.050 ±0.035	0.019 ±0.010	0.012 ±0.011	0.017 ±0.011	0.030 ±0.032	0.161 ±0.108	0.100 ±0.054	0.009 ± 0.006	0.105 ±0.061	0.010 ± 0.009
	Acc.2	0.247 ±0.124	0.237 ±0.132	0.224 ±0.126	0.343 ±0.167	0.172 ±0.097	0.134 ±0.073	0.219 ±0.146	0.058 ±0.037	0.030 ±0.014	0.021 ±0.015	0.029 ±0.017	0.038 ±0.032	0.226 ±0.132	0.117 ±0.046	0.015 ± 0.009	0.123 ±0.062	0.019 ± 0.015
	κ	0.105 ±0.057	0.155 ±0.094	0.130 ±0.081	0.264 ±0.146	0.116 ±0.073	0.060 ±0.043	0.106 ±0.067	0.019 ±0.025	0.013 ±0.007	0.007 ±0.011	0.018 ±0.016	0.002 ± 0.014	0.118 ±0.068	0.058 ±0.040	0.005 ± 0.006	0.064 ±0.047	0.009 ±0.012
Subject32	AUC	0.137 ±0.041	0.105 ±0.035	0.133 ±0.047	0.153 ±0.047	0.144 ±0.048	0.046 ±0.020	0.110 ±0.048	0.012 ± 0.018	0.070 ±0.017	0.015 ±0.014	0.076 ±0.036	-0.003 ± 0.011	0.113 ±0.032	0.023 ±0.017	0.014 ±0.013	0.029 ±0.023	0.036 ±0.023

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
Subject33	BAcc	0.102	0.152	0.127	0.257	0.113	0.059	0.103	0.019	0.013	0.006	0.018	0.002	0.115	0.056	0.005	0.063	0.009
		± 0.056	± 0.092	± 0.079	± 0.143	± 0.072	± 0.042	± 0.065	± 0.024	± 0.007	± 0.011	± 0.016	± 0.014	± 0.066	± 0.039	± 0.006	± 0.046	± 0.012
		0.102	0.152	0.128	0.258	0.113	0.059	0.103	0.019	0.013	0.007	0.018	0.002	0.116	0.057	0.005	0.063	0.009
	Acc.1	± 0.056	± 0.092	± 0.080	± 0.143	± 0.072	± 0.041	± 0.065	± 0.024	± 0.007	± 0.011	± 0.016	± 0.014	± 0.066	± 0.039	± 0.006	± 0.046	± 0.012
		0.146	0.200	0.179	0.336	0.162	0.078	0.171	0.022	0.023	0.008	0.031	0.002	0.161	0.061	0.009	0.071	0.019
	Acc.2	± 0.074	± 0.105	± 0.099	± 0.165	± 0.093	± 0.045	± 0.103	± 0.031	± 0.010	± 0.013	± 0.024	± 0.018	± 0.075	± 0.039	± 0.009	± 0.048	± 0.016
		0.111	0.184	0.168	0.258	0.129	0.101	0.134	0.072	0.018	0.015	0.033	0.034	0.157	0.103	0.006	0.123	0.014
	κ	± 0.061	± 0.115	± 0.109	± 0.146	± 0.085	± 0.070	± 0.099	± 0.048	± 0.011	± 0.014	± 0.019	± 0.031	± 0.094	± 0.065	± 0.007	± 0.075	± 0.011
		0.127	0.166	0.166	0.141	0.119	0.046	0.133	0.045	0.091	0.017	0.131	0.036	0.174	0.055	0.028	0.049	0.057
	AUC	± 0.028	± 0.041	± 0.042	± 0.047	± 0.042	± 0.027	± 0.051	± 0.027	± 0.024	± 0.016	± 0.054	± 0.015	± 0.036	± 0.021	± 0.022	± 0.027	± 0.023
		0.108	0.180	0.164	0.252	0.126	0.099	0.131	0.070	0.017	0.015	0.033	0.034	0.153	0.100	0.006	0.120	0.014
	BAcc	± 0.059	± 0.113	± 0.106	± 0.142	± 0.083	± 0.068	± 0.097	± 0.047	± 0.010	± 0.013	± 0.019	± 0.030	± 0.091	± 0.064	± 0.006	± 0.073	± 0.011
		0.108	0.180	0.163	0.251	0.126	0.099	0.131	0.070	0.018	0.015	0.035	0.034	0.153	0.100	0.007	0.119	0.014
	Acc.1	± 0.059	± 0.113	± 0.106	± 0.142	± 0.083	± 0.069	± 0.097	± 0.046	± 0.010	± 0.013	± 0.019	± 0.030	± 0.091	± 0.063	± 0.006	± 0.072	± 0.011
		0.152	0.239	0.225	0.323	0.169	0.130	0.208	0.086	0.033	0.025	0.057	0.043	0.220	0.113	0.010	0.134	0.027
	Acc.2	± 0.071	± 0.134	± 0.128	± 0.162	± 0.103	± 0.083	± 0.139	± 0.057	± 0.015	± 0.019	± 0.030	± 0.035	± 0.110	± 0.063	± 0.009	± 0.072	± 0.018
Subject34	κ	0.191	0.174	0.132	0.251	0.138	0.096	0.124	0.071	0.017	0.015	0.026	0.023	0.137	0.104	0.008	0.095	0.015
		± 0.118	± 0.097	± 0.090	± 0.137	± 0.087	± 0.063	± 0.084	± 0.056	± 0.008	± 0.014	± 0.019	± 0.030	± 0.084	± 0.060	± 0.006	± 0.051	± 0.011
	AUC	0.121	0.147	0.126	0.155	0.157	0.054	0.102	0.047	0.089	0.020	0.109	0.027	0.138	0.039	0.035	0.047	0.062
		± 0.057	± 0.054	± 0.049	± 0.062	± 0.041	± 0.025	± 0.048	± 0.037	± 0.021	± 0.015	± 0.049	± 0.015	± 0.043	± 0.022	± 0.022	± 0.018	± 0.027
	BAcc	0.187	0.170	0.129	0.245	0.134	0.093	0.120	0.069	0.016	0.015	0.026	0.023	0.133	0.101	0.008	0.093	0.014
		± 0.115	± 0.094	± 0.088	± 0.133	± 0.085	± 0.061	± 0.082	± 0.054	± 0.008	± 0.014	± 0.019	± 0.029	± 0.082	± 0.059	± 0.005	± 0.050	± 0.011
	Acc.1	0.187	0.170	0.129	0.244	0.134	0.093	0.120	0.069	0.017	0.015	0.027	0.023	0.133	0.102	0.008	0.093	0.014
		± 0.115	± 0.094	± 0.088	± 0.133	± 0.085	± 0.061	± 0.082	± 0.054	± 0.008	± 0.014	± 0.019	± 0.029	± 0.082	± 0.058	± 0.006	± 0.050	± 0.011
	Acc.2	0.237	0.231	0.175	0.311	0.185	0.127	0.194	0.083	0.031	0.024	0.047	0.031	0.188	0.112	0.013	0.112	0.024
		± 0.125	± 0.114	± 0.101	± 0.149	± 0.100	± 0.070	± 0.122	± 0.062	± 0.013	± 0.019	± 0.032	± 0.030	± 0.102	± 0.051	± 0.011	± 0.048	± 0.017
Subject35	κ	0.188	0.205	0.166	0.278	0.140	0.103	0.137	0.094	0.017	0.016	0.031	0.033	0.165	0.108	0.006	0.121	0.014
		± 0.113	± 0.126	± 0.107	± 0.158	± 0.096	± 0.066	± 0.093	± 0.069	± 0.009	± 0.013	± 0.018	± 0.031	± 0.111	± 0.057	± 0.008	± 0.071	± 0.011
	AUC	0.130	0.145	0.153	0.155	0.136	0.041	0.139	0.057	0.080	0.015	0.120	0.029	0.179	0.032	0.032	0.052	0.070
		± 0.044	± 0.056	± 0.050	± 0.055	± 0.053	± 0.025	± 0.059	± 0.035	± 0.020	± 0.014	± 0.042	± 0.018	± 0.043	± 0.017	± 0.021	± 0.025	± 0.032
	BAcc	0.183	0.200	0.162	0.271	0.136	0.101	0.134	0.091	0.016	0.016	0.030	0.032	0.161	0.105	0.006	0.118	0.013
		± 0.110	± 0.123	± 0.104	± 0.154	± 0.094	± 0.064	± 0.090	± 0.068	± 0.009	± 0.012	± 0.017	± 0.030	± 0.108	± 0.055	± 0.007	± 0.069	± 0.010

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ⁽ⁱ⁾	BIOT ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	BENDR ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	CBraMod ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ⁽ⁱ⁾	
Subject1	Acc.1	0.183	0.200	0.162	0.271	0.136	0.100	0.134	0.091	0.017	0.016	0.032	0.032	0.161	0.106	0.006	0.118	0.012	10170
		± 0.110	± 0.123	± 0.104	± 0.153	± 0.094	± 0.064	± 0.091	± 0.068	± 0.009	± 0.013	± 0.017	± 0.030	± 0.108	± 0.055	± 0.008	± 0.069	± 0.010	10171
	Acc.2	0.241	0.267	0.215	0.347	0.186	0.127	0.217	0.110	0.028	0.024	0.054	0.042	0.231	0.115	0.009	0.134	0.022	10172
		± 0.130	± 0.152	± 0.126	± 0.182	± 0.117	± 0.074	± 0.131	± 0.080	± 0.016	± 0.015	± 0.026	± 0.036	± 0.134	± 0.050	± 0.012	± 0.067	± 0.016	10173
	κ	0.263	0.184	0.176	0.287	0.173	0.086	0.119	0.068	0.017	0.011	0.019	0.023	0.150	0.095	0.007	0.094	0.014	10174
		± 0.156	± 0.107	± 0.111	± 0.156	± 0.110	± 0.054	± 0.073	± 0.045	± 0.010	± 0.013	± 0.014	± 0.025	± 0.098	± 0.058	± 0.006	± 0.056	± 0.012	10175
Subject4	AUC	0.184	0.147	0.168	0.193	0.215	0.050	0.117	0.046	0.090	0.014	0.089	0.023	0.152	0.044	0.030	0.061	0.058	10176
		± 0.060	± 0.041	± 0.038	± 0.055	± 0.054	± 0.024	± 0.049	± 0.023	± 0.023	± 0.012	± 0.038	± 0.013	± 0.036	± 0.017	± 0.019	± 0.024	± 0.028	10177
	BAcc	0.257	0.179	0.172	0.280	0.169	0.084	0.116	0.066	0.016	0.011	0.019	0.022	0.147	0.092	0.007	0.092	0.014	10178
		± 0.152	± 0.104	± 0.108	± 0.152	± 0.107	± 0.053	± 0.071	± 0.044	± 0.009	± 0.013	± 0.014	± 0.024	± 0.096	± 0.056	± 0.006	± 0.055	± 0.012	10179
	Acc.1	0.257	0.179	0.173	0.280	0.169	0.085	0.116	0.066	0.016	0.011	0.020	0.023	0.146	0.094	0.007	0.093	0.014	10180
		± 0.152	± 0.104	± 0.108	± 0.151	± 0.107	± 0.053	± 0.071	± 0.044	± 0.009	± 0.013	± 0.014	± 0.024	± 0.095	± 0.057	± 0.006	± 0.055	± 0.012	10181
Subject5	Acc.2	0.329	0.241	0.238	0.364	0.237	0.113	0.185	0.080	0.031	0.018	0.032	0.031	0.210	0.106	0.011	0.106	0.024	10182
		± 0.174	± 0.125	± 0.128	± 0.175	± 0.136	± 0.062	± 0.108	± 0.050	± 0.014	± 0.019	± 0.023	± 0.027	± 0.115	± 0.050	± 0.009	± 0.050	± 0.018	10183
	κ	0.162	0.151	0.100	0.233	0.115	0.064	0.105	0.029	0.011	0.005	0.017	0.013	0.130	0.053	0.003	0.056	0.009	10184
		± 0.118	± 0.104	± 0.083	± 0.145	± 0.078	± 0.053	± 0.076	± 0.036	± 0.007	± 0.014	± 0.014	± 0.022	± 0.103	± 0.039	± 0.006	± 0.042	± 0.012	10185
	AUC	0.123	0.127	0.101	0.142	0.140	0.040	0.116	0.023	0.074	0.007	0.071	0.015	0.112	0.018	0.027	0.022	0.058	10186
		± 0.051	± 0.047	± 0.046	± 0.054	± 0.043	± 0.023	± 0.044	± 0.020	± 0.014	± 0.019	± 0.037	± 0.013	± 0.030	± 0.012	± 0.017	± 0.020	± 0.028	10187
Subject6	BAcc	0.158	0.147	0.098	0.227	0.112	0.062	0.102	0.028	0.011	0.005	0.016	0.013	0.127	0.051	0.003	0.054	0.008	10188
		± 0.115	± 0.102	± 0.081	± 0.141	± 0.076	± 0.052	± 0.074	± 0.036	± 0.007	± 0.013	± 0.013	± 0.022	± 0.100	± 0.038	± 0.006	± 0.041	± 0.012	10189
	Acc.1	0.158	0.147	0.098	0.227	0.112	0.063	0.102	0.029	0.012	0.005	0.018	0.013	0.127	0.051	0.003	0.055	0.009	10190
		± 0.115	± 0.102	± 0.081	± 0.141	± 0.076	± 0.052	± 0.073	± 0.035	± 0.007	± 0.013	± 0.013	± 0.022	± 0.100	± 0.038	± 0.006	± 0.042	± 0.012	10191
	Acc.2	0.215	0.205	0.139	0.298	0.161	0.074	0.174	0.036	0.023	0.008	0.031	0.018	0.181	0.059	0.007	0.061	0.017	10192
		± 0.136	± 0.128	± 0.093	± 0.161	± 0.098	± 0.052	± 0.108	± 0.037	± 0.009	± 0.019	± 0.022	± 0.025	± 0.122	± 0.034	± 0.010	± 0.043	± 0.016	10193
Subject7	κ	0.182	0.163	0.133	0.251	0.103	0.063	0.112	0.028	0.011	0.003	0.015	0.010	0.135	0.070	0.005	0.113	0.011	10194
		± 0.107	± 0.088	± 0.088	± 0.137	± 0.070	± 0.047	± 0.082	± 0.026	± 0.007	± 0.012	± 0.011	± 0.012	± 0.084	± 0.050	± 0.007	± 0.072	± 0.010	10195
	AUC	0.109	0.122	0.120	0.139	0.096	0.030	0.103	0.019	0.073	0.007	0.064	0.008	0.127	0.034	0.023	0.064	0.035	10196
		± 0.052	± 0.051	± 0.048	± 0.057	± 0.038	± 0.017	± 0.044	± 0.017	± 0.020	± 0.018	± 0.028	± 0.010	± 0.034	± 0.025	± 0.018	± 0.032	± 0.022	10197
	BAcc	0.178	0.159	0.129	0.245	0.101	0.061	0.109	0.027	0.011	0.003	0.014	0.010	0.131	0.068	0.005	0.110	0.011	10198
		± 0.104	± 0.086	± 0.086	± 0.134	± 0.069	± 0.046	± 0.080	± 0.026	± 0.006	± 0.012	± 0.011	± 0.011	± 0.082	± 0.049	± 0.007	± 0.070	± 0.010	10199
Subject8	Acc.1	0.178	0.159	0.129	0.245	0.101	0.061	0.109	0.027	0.011	0.003	0.015	0.009	0.131	0.068	0.005	0.110	0.011	10200
		± 0.104	± 0.086	± 0.086	± 0.134	± 0.069	± 0.046	± 0.081	± 0.026	± 0.006	± 0.012	± 0.012	± 0.011	± 0.082	± 0.050	± 0.007	± 0.070	± 0.010	10201

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	SSVEPDNN	BIOT ^(f)	BIOT ^(l)	BENDR ^(f)	BENDR ^(l)	CBraMod ^(f)	CBraMod ^(l)	EEGPT ^(f)	EEGPT ^(l)	LaBraM ^(f)	LaBraM ^(l)	STEEGformer-s ^(f)	STEEGformer-s ^(l)	
Subject7	Acc.2	0.232 ±0.122	0.215 ±0.107	0.176 ±0.108	0.313 ±0.157	0.137 ±0.086	0.077 ±0.048	0.176 ±0.115	0.033 ±0.031	0.021 ±0.011	0.002 ±0.017	0.028 ±0.015	0.008 ±0.014	0.185 ±0.100	0.074 ±0.049	0.007 ±0.010	0.128 ±0.072	0.021 ±0.015	10203
		0.122 ±0.064	0.162 ±0.096	0.153 ±0.094	0.251 ±0.139	0.129 ±0.085	0.097 ±0.069	0.119 ±0.082	0.046 ±0.038	0.012 ±0.009	0.007 ±0.013	0.018 ±0.012	0.018 ±0.024	0.150 ±0.099	0.078 ±0.050	0.004 ±0.006	0.107 ±0.072	0.011 ±0.014	10204
	AUC	0.143 ±0.039	0.117 ±0.029	0.140 ±0.046	0.128 ±0.040	0.128 ±0.043	0.059 ±0.026	0.113 ±0.042	0.032 ±0.023	0.068 ±0.018	0.011 ±0.018	0.064 ±0.033	-0.001 ±0.016	0.129 ±0.038	0.026 ±0.019	0.017 ±0.021	0.051 ±0.023	0.039 ±0.024	10205
		0.119 ±0.062	0.158 ±0.094	0.149 ±0.092	0.244 ±0.135	0.125 ±0.083	0.094 ±0.067	0.116 ±0.080	0.045 ±0.037	0.011 ±0.009	0.006 ±0.013	0.017 ±0.012	0.017 ±0.024	0.146 ±0.097	0.076 ±0.048	0.004 ±0.006	0.104 ±0.070	0.010 ±0.014	10206
	BAcc	0.119 ±0.062	0.149 ±0.093	0.245 ±0.092	0.125 ±0.136	0.096 ±0.083	0.116 ±0.068	0.045 ±0.080	0.011 ±0.037	0.011 ±0.009	0.006 ±0.013	0.018 ±0.013	0.017 ±0.024	0.147 ±0.097	0.076 ±0.049	0.004 ±0.006	0.105 ±0.070	0.011 ±0.014	10207
		0.170 ±0.077	0.208 ±0.111	0.205 ±0.108	0.308 ±0.147	0.173 ±0.102	0.129 ±0.079	0.189 ±0.118	0.056 ±0.044	0.022 ±0.011	0.011 ±0.016	0.029 ±0.020	0.019 ±0.027	0.206 ±0.120	0.086 ±0.043	0.007 ±0.008	0.122 ±0.069	0.021 ±0.020	10208
	Acc.1	0.185 ±0.115	0.170 ±0.098	0.116 ±0.072	0.253 ±0.139	0.098 ±0.062	0.082 ±0.051	0.114 ±0.076	0.047 ±0.038	0.016 ±0.007	0.010 ±0.012	0.023 ±0.015	0.020 ±0.022	0.128 ±0.072	0.085 ±0.049	0.008 ±0.008	0.091 ±0.058	0.013 ±0.012	10209
		0.131 ±0.061	0.134 ±0.050	0.119 ±0.049	0.157 ±0.057	0.116 ±0.032	0.043 ±0.019	0.113 ±0.043	0.036 ±0.026	0.088 ±0.021	0.017 ±0.016	0.116 ±0.040	0.025 ±0.010	0.128 ±0.032	0.049 ±0.015	0.029 ±0.021	0.044 ±0.021	0.064 ±0.032	10210
	BAcc	0.180 ±0.112	0.165 ±0.096	0.113 ±0.071	0.247 ±0.135	0.096 ±0.061	0.079 ±0.050	0.111 ±0.075	0.046 ±0.037	0.016 ±0.007	0.009 ±0.011	0.023 ±0.015	0.019 ±0.021	0.125 ±0.071	0.083 ±0.048	0.007 ±0.007	0.089 ±0.056	0.013 ±0.012	10211
		0.180 ±0.112	0.165 ±0.096	0.113 ±0.071	0.248 ±0.135	0.096 ±0.061	0.080 ±0.050	0.111 ±0.075	0.046 ±0.037	0.016 ±0.007	0.010 ±0.011	0.024 ±0.015	0.020 ±0.021	0.126 ±0.071	0.083 ±0.048	0.008 ±0.008	0.089 ±0.056	0.013 ±0.012	10212
Subject8	Acc.2	0.232 ±0.131	0.226 ±0.117	0.156 ±0.084	0.318 ±0.154	0.134 ±0.075	0.096 ±0.054	0.181 ±0.111	0.055 ±0.045	0.029 ±0.010	0.019 ±0.016	0.041 ±0.025	0.028 ±0.021	0.176 ±0.084	0.099 ±0.041	0.012 ±0.010	0.108 ±0.055	0.026 ±0.016	10213
		0.209 ±0.138	0.187 ±0.118	0.137 ±0.090	0.262 ±0.151	0.107 ±0.075	0.076 ±0.052	0.122 ±0.084	0.037 ±0.034	0.013 ±0.006	0.009 ±0.010	0.024 ±0.016	0.020 ±0.023	0.154 ±0.103	0.078 ±0.050	0.008 ±0.005	0.096 ±0.069	0.012 ±0.010	10214
	AUC	0.128 ±0.043	0.128 ±0.038	0.128 ±0.042	0.138 ±0.039	0.118 ±0.036	0.043 ±0.024	0.116 ±0.044	0.025 ±0.017	0.070 ±0.014	0.020 ±0.012	0.096 ±0.028	0.013 ±0.015	0.161 ±0.037	0.045 ±0.015	0.036 ±0.020	0.042 ±0.025	0.064 ±0.020	10215
		0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.255 ±0.148	0.104 ±0.074	0.074 ±0.051	0.119 ±0.082	0.036 ±0.033	0.013 ±0.006	0.009 ±0.010	0.024 ±0.015	0.019 ±0.023	0.150 ±0.100	0.076 ±0.049	0.007 ±0.005	0.093 ±0.067	0.012 ±0.009	10216
	BAcc	0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.256 ±0.147	0.104 ±0.074	0.075 ±0.052	0.118 ±0.082	0.037 ±0.033	0.013 ±0.006	0.010 ±0.010	0.025 ±0.015	0.020 ±0.023	0.150 ±0.100	0.077 ±0.049	0.004 ±0.006	0.093 ±0.068	0.011 ±0.010	10217
		0.265 ±0.154	0.242 ±0.135	0.184 ±0.106	0.329 ±0.167	0.143 ±0.091	0.096 ±0.060	0.191 ±0.116	0.041 ±0.037	0.023 ±0.008	0.017 ±0.012	0.044 ±0.022	0.026 ±0.027	0.215 ±0.124	0.091 ±0.047	0.010 ±0.008	0.108 ±0.066	0.022 ±0.014	10218
	Acc.1	0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.256 ±0.147	0.104 ±0.074	0.075 ±0.052	0.118 ±0.082	0.037 ±0.033	0.013 ±0.006	0.010 ±0.010	0.025 ±0.015	0.020 ±0.023	0.150 ±0.100	0.077 ±0.049	0.004 ±0.006	0.093 ±0.068	0.011 ±0.010	10219
		0.265 ±0.154	0.242 ±0.135	0.184 ±0.106	0.329 ±0.167	0.143 ±0.091	0.096 ±0.060	0.191 ±0.116	0.041 ±0.037	0.023 ±0.008	0.017 ±0.012	0.044 ±0.022	0.026 ±0.027	0.215 ±0.124	0.091 ±0.047	0.010 ±0.008	0.108 ±0.066	0.022 ±0.014	10220
	Acc.2	0.209 ±0.138	0.187 ±0.118	0.137 ±0.090	0.262 ±0.151	0.107 ±0.075	0.076 ±0.052	0.122 ±0.084	0.037 ±0.034	0.013 ±0.006	0.009 ±0.010	0.024 ±0.016	0.020 ±0.023	0.154 ±0.103	0.078 ±0.050	0.008 ±0.005	0.096 ±0.069	0.012 ±0.010	10221
		0.128 ±0.043	0.128 ±0.038	0.128 ±0.042	0.138 ±0.039	0.118 ±0.036	0.043 ±0.024	0.116 ±0.044	0.025 ±0.017	0.070 ±0.014	0.020 ±0.012	0.096 ±0.028	0.013 ±0.015	0.161 ±0.037	0.045 ±0.015	0.036 ±0.020	0.042 ±0.025	0.064 ±0.020	10222
Subject9	BAcc	0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.255 ±0.148	0.104 ±0.074	0.074 ±0.051	0.119 ±0.082	0.036 ±0.033	0.013 ±0.006	0.009 ±0.010	0.024 ±0.015	0.019 ±0.023	0.150 ±0.100	0.076 ±0.049	0.007 ±0.005	0.093 ±0.067	0.012 ±0.009	10223
		0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.256 ±0.147	0.104 ±0.074	0.075 ±0.052	0.118 ±0.082	0.037 ±0.033	0.013 ±0.006	0.010 ±0.010	0.025 ±0.015	0.020 ±0.023	0.150 ±0.100	0.077 ±0.049	0.004 ±0.006	0.093 ±0.068	0.011 ±0.010	10224
	Acc.1	0.265 ±0.154	0.242 ±0.135	0.184 ±0.106	0.329 ±0.167	0.143 ±0.091	0.096 ±0.060	0.191 ±0.116	0.041 ±0.037	0.023 ±0.008	0.017 ±0.012	0.044 ±0.022	0.026 ±0.027	0.215 ±0.124	0.091 ±0.047	0.010 ±0.008	0.108 ±0.066	0.022 ±0.014	10225
		0.209 ±0.138	0.187 ±0.118	0.137 ±0.090	0.262 ±0.151	0.107 ±0.075	0.076 ±0.052	0.122 ±0.084	0.037 ±0.034	0.013 ±0.006	0.009 ±0.010	0.024 ±0.016	0.020 ±0.023	0.154 ±0.103	0.078 ±0.050	0.008 ±0.005	0.096 ±0.069	0.012 ±0.010	10226
	Acc.2	0.128 ±0.043	0.128 ±0.038	0.128 ±0.042	0.138 ±0.039	0.118 ±0.036	0.043 ±0.024	0.116 ±0.044	0.025 ±0.017	0.070 ±0.014	0.020 ±0.012	0.096 ±0.028	0.013 ±0.015	0.161 ±0.037	0.045 ±0.015	0.036 ±0.020	0.042 ±0.025	0.064 ±0.020	10227
		0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.255 ±0.148	0.104 ±0.074	0.074 ±0.051	0.119 ±0.082	0.036 ±0.033	0.013 ±0.006	0.009 ±0.010	0.024 ±0.015	0.019 ±0.023	0.150 ±0.100	0.076 ±0.049	0.007 ±0.005	0.093 ±0.067	0.012 ±0.009	10228
	BAcc	0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.256 ±0.147	0.104 ±0.074	0.075 ±0.052	0.118 ±0.082	0.037 ±0.033	0.013 ±0.006	0.010 ±0.010	0.025 ±0.015	0.020 ±0.023	0.150 ±0.100	0.077 ±0.049	0.004 ±0.006	0.093 ±0.068	0.011 ±0.010	10229
		0.265 ±0.154	0.242 ±0.135	0.184 ±0.106	0.329 ±0.167	0.143 ±0.091	0.096 ±0.060	0.191 ±0.116	0.041 ±0.037	0.023 ±0.008	0.017 ±0.012	0.044 ±0.022	0.026 ±0.027	0.215 ±0.124	0.091 ±0.047	0.010 ±0.008	0.108 ±0.066	0.022 ±0.014	10230
	Acc.1	0.204 ±0.135	0.182 ±0.115	0.134 ±0.088	0.256 ±0.147	0.104 ±0.074	0.075 ±0.052	0.118 ±0.082	0.037 ±0.033	0.013 ±0.006	0.010 ±0.010	0.025 ±0.015	0.020 ±0.023	0.150 ±0.100	0.077 ±0.049	0.004 ±0.006	0.093 ±0.068	0.011 ±0.010	10231
		0.265 ±0.154	0.242 ±0.135	0.184 ±0.106	0.329 ±0.167	0.143 ±0.091	0.096 ±0.060	0.191 ±0.116	0.041 ±0.037	0.023 ±0.008	0.017 ±0.012	0.044 ±0.022	0.026 ±0.027	0.215 ±0.124	0.091 ±0.047	0.010 ±0.008	0.108 ±0.066	0.022 ±0.014	10232
	Acc.2	0.209 ±0.138	0.187 ±0.118	0.137 ±0.090	0.262 ±0.151	0.107 ±0.075	0.076 ±0.052	0.122 ±0.084	0.037 ±0.034	0.013 ±0.006	0.009 ±0.010	0.024 ±0.016	0.020 ±0.023	0.154 ±0.103	0.078 ±0.050	0.008 ±0.005	0.096 ±0.069	0.012 ±0.010	10233

G DTU AUDITORY EEG REGRESSION RESULTS

G.1 POPULATION-LEVEL RESULTS

Table 75: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.994 ± 0.019	0.049 ± 0.027
EEGNet	0.995 ± 0.017	0.052 ± 0.031
Conformer	1.019 ± 0.019	0.031 ± 0.021
CTNet	0.992 ± 0.017	0.053 ± 0.034
BIOT (f)	1.292 ± 0.082	-0.000 ± 0.020
BIOT (l)	0.999 ± 0.018	0.005 ± 0.018
BENDR (f)	1.563 ± 0.062	0.003 ± 0.014
BENDR (l)	0.994 ± 0.018	0.042 ± 0.023
CBraMod (f)	1.431 ± 0.032	0.011 ± 0.015
CBraMod (l)	0.994 ± 0.017	0.042 ± 0.027
EEGPT (f)	0.993 ± 0.017	0.046 ± 0.034
EEGPT (l)	0.992 ± 0.017	0.058 ± 0.032
LaBraM (f)	1.611 ± 0.030	0.017 ± 0.011
LaBraM (l)	0.993 ± 0.018	0.024 ± 0.020
STEEGformer-s (f)	1.233 ± 0.026	0.018 ± 0.018
STEEGformer-s (l)	0.992 ± 0.019	0.020 ± 0.031

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Table 76: Per-Subject Performance Metrics of Population-Trained Models

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
S1	MSE	1.003	1.006	1.033	1.003	1.342	1.018	1.624	1.011	1.401	1.003	1.009	1.005 ±0.001 0.085	1.621	1.008	1.240	1.009
	Pearson	0.088	0.088	0.052	0.091	-0.022	-0.018	0.004	0.046	0.051	0.084	0.053	±0.006	0.021	0.062	0.024	0.007
S10	MSE	0.985	0.990	0.996	0.986	1.236	0.991	1.583	0.983	1.435	0.987	0.979	0.984 ±0.001 0.023	1.597	0.982	1.232	0.982
	Pearson	0.012	0.020	0.052	0.015	0.008	-0.017	0.007	0.028	0.010	-0.008	0.032	±0.008	0.012	0.005	0.014	-0.037
S11	MSE	0.983	0.990	0.994	0.983	1.050	0.993	1.361	0.989	1.347	0.982	0.984	0.984 ±0.003 0.016	1.515	0.980	1.231	0.976
	Pearson	0.001	-0.002	0.022	-0.015	0.028	0.002	0.001	-0.021	0.005	-0.006	0.012	±0.019	0.021	0.012	0.006	0.052
S12	MSE	0.961	0.967	1.001	0.965	1.209	0.972	1.545	0.968	1.368	0.965	0.967	0.965 ±0.001 0.055	1.589	0.967	1.191	0.962
	Pearson	0.060	0.059	0.010	0.047	0.039	0.000	0.006	0.028	0.032	0.052	0.040	±0.005	0.016	0.017	0.019	0.076
S13	MSE	0.976	0.981	1.005	0.981	1.248	0.988	1.516	0.983	1.444	0.984	0.979	0.976 ±0.000	1.574	0.983	1.217	0.981
	Pearson	0.086	0.079	0.046	0.065	0.002	0.008	0.030	0.053	-0.004	0.040	0.077	0.096 ±0.002	0.029	0.026	0.019	0.033
S14	MSE	1.022	1.013	1.036	1.010	1.349	1.015	1.617	1.012	1.473	1.011	1.012	1.014 ±0.000 0.053	1.619	1.014	1.283	1.013
	Pearson	0.034	0.062	0.034	0.069	-0.016	0.014	0.013	0.059	0.010	0.057	0.059	±0.001	0.016	0.011	-0.023	-0.006
S15	MSE	1.008	1.010	1.035	1.006	1.309	1.015	1.635	1.009	1.453	1.003	1.006	1.005 ±0.001 0.085	1.595	1.007	1.217	1.007
	Pearson	0.067	0.061	0.034	0.075	0.035	0.001	-0.027	0.058	0.010	0.086	0.075	±0.008	0.039	0.066	0.049	0.070
S16	MSE	0.963	0.967	0.984	0.963	1.240	0.975	1.490	0.968	1.422	0.971	0.969	0.966 ±0.001	1.601	0.971	1.229	0.969
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S17	Pearson	0.067	0.077	0.065	0.081	0.008	0.009	0.004	0.048	0.004	0.034	0.032	0.065 ±0.004	0.011	0.005	-0.002	0.009	
	MSE	1.006	1.007	1.035	1.004	1.373	1.009	1.553	1.005	1.418	1.006	1.005	1.002 ± 0.000	1.626	1.005	1.247	1.003	
	Pearson	0.046	0.045	0.017	0.047	-0.017	0.029	-0.028	0.048	0.011	0.037	0.039	0.061 ± 0.001	0.025	0.022	0.027	0.038	
S18	MSE	0.976	0.974	1.017	0.973	1.210	0.971	1.605	0.969	1.449	0.975	0.971	0.973 ±0.000 0.014	1.626	0.970	1.185	0.967	
	Pearson	0.014	0.016	-0.016	0.008	-0.014	0.003	-0.001	0.045	-0.005	-0.002	0.012	±0.004	0.005	0.003	0.035	0.047	
S2	MSE	1.020	1.015	1.044	1.015	1.273	1.023	1.644	1.019	1.444	1.017	1.017	1.017 ±0.000 0.063	1.638	1.017	1.255	1.019	
	Pearson	0.055	0.081	0.023	0.080	-0.001	0.002	-0.010	0.052	0.013	0.054	0.067	±0.003	0.017	0.052	0.013	-0.004	
S3	MSE	1.013	1.009	1.029	1.007	1.398	1.007	1.561	1.006	1.425	1.010	1.006	1.005 ± 0.001 0.061	1.628	1.007	1.248	1.004	
	Pearson	0.055	0.049	0.045	0.050	-0.019	0.041	0.008	0.055	0.025	0.035	0.056	± 0.008	0.016	0.009	0.001	0.063	
S4	MSE	1.005	1.003	1.019	1.001	1.299	1.015	1.590	1.009	1.439	1.005	1.002	0.999 ± 0.001	1.639	1.005	1.231	1.003	
	Pearson	0.056	0.073	0.063	0.071	-0.010	-0.032	0.003	0.022	0.016	0.051	0.063	0.082 ± 0.005	0.006	0.038	0.019	0.032	
S5	MSE	0.979	0.978	0.995	0.978	1.271	0.980	1.564	0.981	1.462	0.978	0.979	0.978 ±0.000 0.034	1.642	0.977	1.204	0.975	
	Pearson	0.041	0.050	0.039	0.038	0.004	0.009	0.006	0.026	-0.024	0.033	0.017	±0.002	-0.012	0.005	0.023	0.002	
S6	MSE	1.019	1.016	1.039	1.015	1.323	1.012	1.581	1.013	1.447	1.012	1.012	1.013 ±0.000 0.020	1.642	1.006	1.266	1.008	
	Pearson	0.007	0.005	0.013	0.001	0.004	-0.014	0.023	0.013	0.018	0.025	0.004	±0.001	0.007	0.043	-0.002	-0.017	
S7	MSE	1.013	1.017	1.055	1.010	1.335	1.030	1.589	1.018	1.481	1.017	1.013	1.008 ± 0.000	1.635	1.024	1.266	1.023	
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	
		Pearson	0.103	0.119	0.024	0.136	-0.026	0.006	-0.004	0.091	0.006	0.093	0.147	0.144 ± 0.000	0.030	0.045	0.028	0.001
S8	MSE	0.974	0.977	1.015	0.973	1.409	0.979	1.520	0.974	1.415	0.974	0.972 ± 0.000	0.972 ± 0.000	1.607	0.975	1.196	0.974	
	Pearson	0.058	0.032	-0.009	0.047	-0.032	0.007	0.016	0.049	-0.005	0.044	0.050	0.062 ± 0.002	0.023	-0.004	0.055	-0.021	
S9	MSE	0.987	0.992	1.012	0.984	1.373	0.988	1.549	0.981	1.433	0.983	0.989	0.986 ± 0.000 0.026	1.608	0.982	1.247	0.981	
	Pearson	0.036	0.017	0.036	0.040	0.025	0.038	0.001	0.059	0.019	0.044	-0.011	± 0.002	0.024	0.025	0.017	0.021	

G.2 PER-SUBJECT RESULTS

G.2.1 WITHIN-SUBJECT EVALUATION

Table 77: Average "Self" Performance Across All Subjects

Model (Training strategy)	MSE	Pearson
DeepConvnet	2.687 ± 1.220	0.041 ± 0.033
EEGNet	1.002 ± 0.021	0.062 ± 0.039
Conformer	1.663 ± 0.210	0.014 ± 0.029
CTNet	0.996 ± 0.020	0.059 ± 0.038
BIOT (f)	1.406 ± 0.050	-0.006 ± 0.014
BIOT (l)	1.029 ± 0.029	-0.003 ± 0.027
BENDR (f)	1.600 ± 0.129	0.003 ± 0.022
BENDR (l)	1.025 ± 0.018	0.025 ± 0.018
CBraMod (f)	1.280 ± 0.027	0.020 ± 0.029
CBraMod (l)	1.023 ± 0.022	0.041 ± 0.023
EEGPT (f)	1.251 ± 0.028	0.015 ± 0.013
EEGPT (l)	1.013 ± 0.021	0.050 ± 0.032
LaBraM (f)	1.472 ± 0.059	0.019 ± 0.019
LaBraM (l)	0.994 ± 0.018	0.017 ± 0.022
STEEGformer-s (f)	1.320 ± 0.131	0.027 ± 0.023
STEEGformer-s (l)	0.995 ± 0.019	0.007 ± 0.033

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Table 78: Per-Subject "Self" Performance (trained+tested on same subject)

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers-s (f)	STEEGformers-s (l)
S1	MSE	1.698	1.023	1.585	1.009	1.419	1.052	1.709	1.050	1.272	1.055	1.282	1.044	1.502	1.014	1.231	1.017
	Pearson	0.079	0.070	0.021	0.077	-0.011	-0.010	0.014	0.024	0.050	0.071	0.002	0.034	0.009	-0.017	0.051	-0.074
S10	MSE	3.973	1.003	1.775	0.988	1.441	1.014	1.603	1.015	1.313	0.995	1.283	1.011	1.593	0.983	1.425	0.982
	Pearson	-0.029	-0.005	-0.022	0.009	-0.021	0.003	0.003	0.017	-0.049	0.019	0.006	0.018	-0.021	0.013	-0.016	0.024
S11	MSE	1.017	0.993	1.094	0.981	1.230	0.994	1.171	1.010	1.322	0.978	1.238	0.997	1.534	0.981	1.406	0.975
	Pearson	0.018	0.012	0.046	0.020	-0.009	0.010	-0.019	-0.004	-0.013	0.029	0.009	0.023	0.008	0.019	0.022	0.052
S12	MSE	2.905	0.968	1.626	0.969	1.382	0.992	1.482	1.000	1.287	1.016	1.219	0.991	1.385	0.967	1.389	0.964
	Pearson	0.017	0.057	0.012	0.029	0.014	0.002	0.017	0.015	0.022	0.030	-0.001	0.025	0.020	0.015	0.020	0.034
S13	MSE	2.210	0.985	1.734	0.976	1.428	1.009	1.508	1.012	1.272	1.018	1.240	0.992	1.434	0.983	1.359	0.986
	Pearson	0.074	0.079	0.025	0.094	-0.025	0.025	0.054	0.028	0.016	0.024	0.026	0.081	0.034	0.029	0.044	0.013
S14	MSE	4.320	1.045	1.911	1.031	1.435	1.082	1.707	1.041	1.281	1.051	1.284	1.062	1.498	1.016	1.447	1.017
	Pearson	0.024	0.028	0.016	0.035	-0.006	0.008	-0.006	0.041	0.019	0.051	-0.003	-0.001	-0.010	-0.006	0.010	-0.037
S15	MSE	2.479	1.026	1.636	1.009	1.457	1.058	1.694	1.042	1.270	1.060	1.252	1.025	1.465	1.008	1.345	1.010
	Pearson	0.061	0.082	0.054	0.092	-0.038	0.040	0.008	0.045	0.046	0.066	0.032	0.082	0.044	0.047	0.034	0.029
S16	MSE	4.320	0.974	1.562	0.970	1.400	0.994	1.641	1.000	1.204	0.992	1.229	0.982	1.391	0.969	1.392	0.971
	Pearson	0.073	0.074	0.027	0.067	0.009	-0.012	-0.016	0.024	0.056	0.057	0.008	0.076	0.031	0.018	0.030	-0.006
S17	MSE	1.060	1.000	1.422	1.003	1.414	1.035	1.500	1.030	1.243	1.020	1.282	1.014	1.387	1.004	1.295	1.007
	Pearson	0.060	0.103	0.003	0.091	-0.003	0.013	0.015	0.027	0.068	0.034	0.014	0.069	0.061	0.048	0.058	0.015
S18	MSE	4.464	0.994	1.852	0.982	1.379	1.007	1.573	0.998	1.304	1.022	1.232	0.998	1.443	0.973	1.284	0.972
	Pearson	0.004	0.022	-0.046	0.016	0.004	-0.057	0.039	0.030	-0.020	-0.020	0.017	0.025	0.006	-0.009	0.018	-0.023
S2	MSE	2.696	1.013	1.721	1.026	1.467	1.077	1.622	1.050	1.266	1.029	1.295	1.032	1.463	1.019	1.399	1.021
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (l)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
S3	Pearson	0.095	0.106	0.000	0.074	-0.012	-0.027	0.001	0.024	0.043	0.070	0.017	0.058	0.017	0.020	0.014	-0.008
	MSE	1.840	1.020	1.540	1.023	1.377	1.045	1.686	1.032	1.271	1.025	1.285	1.028	1.472	1.009	1.432	1.009
	Pearson	0.027	0.059	-0.020	0.034	0.020	-0.017	-0.022	0.038	0.029	0.035	-0.001	0.043	0.024	-0.002	-0.011	-0.005
S4	MSE	2.190	0.995	1.618	0.993	1.430	1.050	1.720	1.039	1.306	1.032	1.223	1.005	1.489	1.002	1.277	1.002
	Pearson	0.032	0.112	0.056	0.118	0.006	-0.001	-0.007	0.008	0.016	0.070	0.043	0.098	0.021	0.057	0.054	0.045
S5	MSE	2.461	0.984	1.797	0.982	1.408	0.998	1.588	1.015	1.310	0.999	1.235	0.996	1.492	0.978	0.975	0.975
	Pearson	0.032	0.041	-0.008	0.028	-0.018	0.020	-0.017	-0.003	-0.016	0.022	0.005	0.031	0.007	0.005	0.012	0.029
S6	MSE	1.553	1.029	1.647	1.022	1.400	1.042	1.596	1.040	1.295	1.040	1.265	1.030	1.601	1.006	1.009	1.010
	Pearson	-0.013	-0.004	0.019	0.018	0.004	-0.037	0.033	0.009	0.017	0.031	0.014	0.018	0.009	0.036	0.006	-0.011
S7	MSE	1.160	1.018	1.767	1.008	1.455	1.063	1.762	1.045	1.293	1.042	1.260	1.023	1.462	1.025	1.387	1.022
	Pearson	0.054	0.118	0.024	0.128	-0.006	-0.018	-0.023	0.061	0.029	0.072	0.031	0.116	0.040	0.032	0.070	0.044
S8	MSE	3.051	0.975	1.530	0.972	1.387	1.021	1.597	1.001	1.273	1.014	1.204	0.992	1.448	0.977	1.288	0.979
	Pearson	0.080	0.112	0.062	0.103	-0.010	-0.046	0.004	0.056	0.025	0.043	0.031	0.080	0.028	-0.023	0.049	-0.029
S9	MSE	4.961	0.995	2.123	0.991	1.396	0.998 ±0.003 0.041	1.650	1.022	1.264	1.035	1.215 ±0.003 0.016	1.019	1.445	0.983	1.421	0.985
	Pearson	0.050	0.044	-0.024	0.031	-0.002	±0.009	-0.024	0.011	0.015	0.038	±0.001	0.029	0.015	0.032	0.017	0.038

G.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 79: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	MSE	Pearson
DeepConvnet	2.524 ± 1.118	0.010 ± 0.008
EEGNet	1.035 ± 0.019	0.024 ± 0.007
Conformer	1.661 ± 0.192	0.003 ± 0.007
CTNet	1.020 ± 0.013	0.029 ± 0.008
BIOT (f)	1.436 ± 0.058	0.002 ± 0.005
BIOT (l)	1.068 ± 0.026	-0.001 ± 0.007
BENDR (f)	1.633 ± 0.087	0.002 ± 0.007
BENDR (l)	1.031 ± 0.005	0.012 ± 0.007
CBraMod (f)	1.317 ± 0.037	0.005 ± 0.005
CBraMod (l)	1.029 ± 0.018	0.020 ± 0.011
EEGPT (f)	1.266 ± 0.030	0.007 ± 0.004
EEGPT (l)	1.053 ± 0.014	0.018 ± 0.006
LaBraM (f)	1.501 ± 0.047	0.011 ± 0.005
LaBraM (l)	0.996 ± 0.003	0.010 ± 0.007
STEEGformer-s (f)	1.373 ± 0.148	0.009 ± 0.008
STEEGformer-s (l)	0.996 ± 0.003	0.004 ± 0.006

Table 80: Per-Subject Zero-Shot Transfer Performance

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
S1	MSE	1.660 ±0.092	1.049 ±0.037	1.718 ±0.089	1.008 ±0.020	1.399 ±0.040	1.057 ±0.038	1.668 ±0.063	1.035 ±0.022	1.298 ±0.057	1.058 ±0.028	1.263 ±0.018	1.063 ±0.034	1.501 ±0.054	0.994 ±0.018	1.231 ±0.044	0.995 ±0.020
	Pearson	0.018 ±0.034	0.022 ±0.037	-0.008 ±0.035	0.035 ±0.025	0.005 ±0.017	0.001 ±0.025	0.011 ±0.011	0.021 ±0.017	0.008 ±0.026	0.024 ±0.028	0.009 ±0.009	0.019 ±0.023	0.014 ±0.019	0.015 ±0.018	0.018 ±0.025	0.004 ±0.033
S10	MSE	3.898 ±0.222	1.011 ±0.023	1.862 ±0.116	1.017 ±0.018	1.456 ±0.068	1.037 ±0.037	1.644 ±0.050	1.031 ±0.019	1.292 ±0.047	1.005 ±0.019	1.350 ±0.028	1.052 ±0.023	1.606 ±0.047	0.997 ±0.018	1.493 ±0.150	0.994 ±0.019
	Pearson	0.009 ±0.023	0.015 ±0.026	-0.007 ±0.025	0.027 ±0.022	0.003 ±0.016	-0.006 ±0.025	-0.002 ±0.022	0.011 ±0.012	0.012 ±0.024	0.024 ±0.025	0.005 ±0.008	0.018 ±0.018	0.012 ±0.014	0.006 ±0.017	0.013 ±0.026	0.016 ±0.018
S11	MSE	1.118 ±0.035	1.076 ±0.034	1.220 ±0.050	1.042 ±0.019	1.610 ±0.215	1.135 ±0.076	1.349 ±0.055	1.031 ±0.021	1.435 ±0.051	1.008 ±0.022	1.300 ±0.021	1.025 ±0.029	1.612 ±0.057	1.001 ±0.020	1.387 ±0.047	0.994 ±0.019
	Pearson	0.019 ±0.031	0.021 ±0.033	0.009 ±0.028	0.007 ±0.021	0.001 ±0.019	0.010 ±0.019	-0.002 ±0.025	-0.002 ±0.005	0.004 ±0.021	-0.015 ±0.024	0.005 ±0.008	0.015 ±0.018	0.005 ±0.015	0.005 ±0.019	-0.010 ±0.022	0.007 ±0.024
S12	MSE	2.640 ±0.191	1.032 ±0.061	1.704 ±0.122	1.012 ±0.030	1.390 ±0.046	1.051 ±0.023	1.523 ±0.049	1.032 ±0.016	1.352 ±0.047	1.054 ±0.031	1.237 ±0.019	1.061 ±0.089	1.515 ±0.194	0.996 ±0.017	1.476 ±0.082	1.000 ±0.021
	Pearson	0.012 ±0.028	0.023 ±0.030	0.006 ±0.023	0.018 ±0.036	0.001 ±0.021	-0.002 ±0.025	0.005 ±0.023	0.011 ±0.013	-0.003 ±0.020	0.004 ±0.022	0.006 ±0.010	0.011 ±0.032	0.003 ±0.022	0.009 ±0.024	0.007 ±0.022	-0.002 ±0.027
S13	MSE	2.191 ±0.116	1.026 ±0.020	1.653 ±0.099	1.012 ±0.022	1.383 ±0.097	1.043 ±0.029	1.598 ±0.035	1.029 ±0.019	1.294 ±0.058	1.020 ±0.019	1.262 ±0.034	1.055 ±0.041	1.454 ±0.036	0.996 ±0.019	1.413 ±0.047	1.000 ±0.022
	Pearson	0.009 ±0.037	0.017 ±0.033	0.001 ±0.026	0.028 ±0.028	0.004 ±0.022	0.001 ±0.022	0.014 ±0.018	0.020 ±0.015	0.011 ±0.024	0.019 ±0.020	0.009 ±0.008	0.023 ±0.018	0.012 ±0.014	0.016 ±0.018	0.008 ±0.026	0.008 ±0.032
S14	MSE	4.237 ±0.165	1.027 ±0.028	1.986 ±0.120	1.009 ±0.020	1.513 ±0.177	1.102 ±0.060	1.668 ±0.062	1.030 ±0.019	1.314 ±0.053	1.031 ±0.021	1.264 ±0.037	1.052 ±0.028	1.482 ±0.070	0.993 ±0.018	1.356 ±0.059	0.999 ±0.021
	Pearson	0.015 ±0.024	0.031 ±0.025	-0.005 ±0.024	0.031 ±0.021	0.000 ±0.018	-0.001 ±0.023	-0.007 ±0.015	0.015 ±0.013	0.004 ±0.020	0.035 ±0.019	0.007 ±0.008	0.015 ±0.022	0.017 ±0.012	0.017 ±0.030	0.013 ±0.019	0.002 ±0.019
S15	MSE	2.369 ±0.194	1.044 ±0.028	1.620 ±0.056	1.013 ±0.022	1.414 ±0.048	1.087 ±0.053	1.748 ±0.066	1.040 ±0.019	1.295 ±0.059	1.053 ±0.030	1.244 ±0.032	1.057 ±0.034	1.472 ±0.074	0.993 ±0.019	1.399 ±0.064	0.997 ±0.022
	Pearson	0.020 ±0.023	0.037 ±0.023	0.012 ±0.019	0.046 ±0.026	-0.001 ±0.020	0.009 ±0.028	0.001 ±0.015	0.019 ±0.015	0.002 ±0.031	0.034 ±0.032	0.013 ±0.011	0.031 ±0.022	0.015 ±0.012	0.017 ±0.023	0.024 ±0.037	0.004 ±0.025

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (l)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
S16	MSE	3.523 ±0.252	1.048 ±0.024	1.578 ±0.078	1.046 ±0.023	1.409 ±0.071	1.041 ±0.033	1.675 ±0.042	1.037 ±0.019	1.330 ±0.059	1.046 ±0.026	1.267 ±0.052	1.057 ±0.022	1.433 ±0.036	0.998 ± 0.018	1.439 ±0.047	0.996 ± 0.020
	Pearson	0.013 ±0.027	0.015 ± 0.031	-0.000 ±0.028	0.023 ± 0.025	0.008 ±0.026	-0.009 ±0.021	0.003 ±0.021	-0.000 ±0.012	-0.003 ±0.018	0.012 ±0.022	0.000 ±0.010	0.011 ±0.019	0.007 ±0.013	0.001 ±0.018	0.006 ±0.022	-0.004 ±0.020
S17	MSE	1.205 ±0.045	1.045 ±0.031	1.334 ±0.045	1.035 ±0.023	1.396 ±0.098	1.053 ±0.023	1.647 ±0.039	1.024 ±0.018	1.316 ±0.042	1.007 ±0.019	1.285 ±0.025	1.040 ±0.042	1.462 ±0.053	0.996 ± 0.019	1.453 ±0.075	0.994 ± 0.019
	Pearson	0.010 ±0.025	0.025 ±0.025	0.002 ±0.024	0.032 ± 0.016	-0.006 ±0.019	-0.000 ±0.016	0.007 ±0.019	0.006 ±0.011	0.008 ±0.025	0.033 ± 0.021	0.012 ±0.008	0.025 ±0.031	0.012 ±0.014	0.002 ±0.021	0.007 ±0.023	0.001 ±0.031
S18	MSE	3.682 ±0.240	1.053 ±0.029	1.694 ±0.076	1.033 ±0.025	1.401 ±0.070	1.085 ±0.055	1.603 ±0.039	1.030 ±0.019	1.339 ±0.051	1.030 ±0.025	1.276 ±0.031	1.055 ±0.031	1.501 ±0.075	0.998 ± 0.019	1.391 ±0.062	0.999 ± 0.020
	Pearson	0.002 ±0.027	0.023 ± 0.024	0.003 ±0.026	0.028 ± 0.024	-0.006 ±0.022	-0.003 ±0.023	0.010 ±0.017	0.014 ±0.012	-0.000 ±0.021	0.014 ±0.025	0.005 ±0.010	0.014 ±0.024	0.006 ±0.015	0.007 ±0.026	0.002 ±0.023	-0.010 ±0.022
S2	MSE	2.323 ±0.187	1.015 ±0.024	1.639 ±0.081	1.025 ±0.023	1.413 ±0.052	1.058 ±0.029	1.626 ±0.043	1.026 ±0.018	1.343 ±0.043	1.012 ±0.023	1.292 ±0.020	1.055 ±0.023	1.530 ±0.082	0.993 ± 0.019	1.386 ±0.037	0.993 ± 0.019
	Pearson	0.009 ±0.027	0.033 ± 0.025	0.000 ±0.023	0.026 ± 0.025	0.009 ±0.018	0.007 ±0.017	-0.013 ±0.023	0.014 ±0.015	0.005 ±0.027	0.021 ±0.029	0.005 ±0.009	0.018 ±0.022	0.008 ±0.016	0.014 ±0.023	0.005 ±0.024	0.002 ±0.016
S3	MSE	1.682 ±0.168	1.030 ±0.028	1.476 ±0.054	1.011 ±0.020	1.488 ±0.131	1.039 ±0.025	1.713 ±0.044	1.031 ±0.018	1.303 ±0.039	1.013 ±0.024	1.301 ±0.024	1.071 ±0.044	1.517 ±0.033	0.994 ± 0.019	1.492 ±0.049	0.993 ± 0.019
	Pearson	0.011 ±0.028	0.028 ± 0.023	0.008 ±0.018	0.034 ± 0.030	-0.006 ±0.025	0.009 ±0.018	0.002 ±0.019	0.010 ±0.020	0.011 ±0.023	0.020 ±0.030	0.002 ±0.009	0.017 ±0.016	0.011 ±0.015	0.017 ±0.022	0.019 ±0.017	0.004 ±0.029
S4	MSE	2.074 ±0.104	1.020 ±0.026	1.689 ±0.125	1.018 ±0.025	1.419 ±0.070	1.087 ±0.040	1.721 ±0.055	1.027 ±0.019	1.276 ±0.037	1.041 ±0.040	1.244 ±0.037	1.032 ±0.025	1.476 ±0.072	0.993 ± 0.018	1.426 ±0.110	0.995 ± 0.019
	Pearson	-0.004 ±0.030	0.012 ±0.035	-0.004 ±0.027	0.025 ± 0.027	0.005 ±0.016	-0.010 ±0.022	-0.005 ±0.021	0.009 ±0.013	0.006 ±0.016	0.018 ±0.031	0.007 ±0.011	0.022 ± 0.029	0.002 ±0.011	0.017 ±0.031	0.007 ±0.020	0.010 ±0.030
S5	MSE	2.327 ±0.095	1.011 ±0.021	1.711 ±0.130	1.004 ±0.020	1.485 ±0.168	1.088 ±0.105	1.593 ±0.045	1.028 ±0.019	1.330 ±0.038	1.010 ±0.021	1.241 ±0.036	1.032 ±0.029	1.490 ±0.030	0.996 ±0.018	0.993 ± 0.020	0.995 ± 0.020
	Pearson	0.000 ±0.024	0.024 ± 0.027	0.016 ±0.024	0.032 ± 0.025	0.004 ±0.019	-0.004 ±0.016	0.001 ±0.021	0.008 ±0.012	0.006 ±0.017	0.021 ±0.022	0.003 ±0.008	0.020 ±0.017	0.019 ±0.014	0.006 ±0.020	0.009 ±0.022	0.002 ±0.029
S6	MSE	1.465 ±0.091	1.014 ±0.023	1.692 ±0.089	1.007 ±0.021	1.373 ±0.061	1.097 ±0.103	1.654 ±0.071	1.026 ±0.019	1.271 ±0.037	1.017 ±0.018	1.252 ±0.042	1.040 ±0.019	1.545 ±0.061	0.993 ± 0.019	0.991 ± 0.020	0.994 ±0.020

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G.3 LEAVE-ONE-OUT RESULTS

G.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 81: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.999 ± 0.020	0.039 ± 0.033
EEGNet	0.994 ± 0.018	0.042 ± 0.029
Conformer	1.024 ± 0.028	0.017 ± 0.025
CTNet	0.993 ± 0.017	0.048 ± 0.032
BIOT (f)	1.315 ± 0.052	0.006 ± 0.015
BIOT (l)	1.000 ± 0.019	-0.000 ± 0.018
BENDR (f)	1.616 ± 0.055	0.010 ± 0.021
BENDR (l)	0.995 ± 0.018	0.039 ± 0.019
CBraMod (f)	1.431 ± 0.065	0.005 ± 0.024
CBraMod (l)	0.996 ± 0.018	0.039 ± 0.024
EEGPT (f)	0.994 ± 0.017	0.043 ± 0.032
EEGPT (l)	0.994 ± 0.017	0.047 ± 0.033
LaBraM (f)	1.638 ± 0.055	0.011 ± 0.013
LaBraM (l)	0.993 ± 0.018	0.024 ± 0.021
STEEGformer-s (f)	1.237 ± 0.039	0.010 ± 0.020
STEEGformer-s (l)	0.993 ± 0.019	0.016 ± 0.031

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Table 82: Per-Subject Leave-One-Out Zero-Shot Performance.

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)
S1	MSE	1.004	1.004	1.023	1.003	1.338	1.021	1.668	1.009	1.504	1.005	1.011	1.008	1.652	1.007	1.199	1.009
	Pearson	0.089	0.083	0.056	0.090	0.011	-0.040	0.026	0.055	-0.004	0.074	0.044	0.069	0.028	0.067	0.062	0.023
S10	MSE	0.988	0.986	1.000	0.986	1.287	0.991	1.633	0.983	1.453	0.988	0.981	0.985	1.597	0.982	1.204	0.983
	Pearson	0.007	0.011	0.012	0.012	-0.003	-0.012	0.006	0.030	-0.006	-0.008	0.024	0.022	0.009	0.007	0.015	-0.046
S11	MSE	1.037	0.983	1.029	0.981	1.231	0.993	1.744	0.983	1.217	0.996	0.993	1.001	1.469	0.978	1.228	0.980
	Pearson	-0.045	0.009	0.000	0.028	0.003	-0.012	0.028	0.011	0.011	-0.007	0.021	-0.012	-0.013	0.014	0.018	0.033
S12	MSE	0.967	0.964	0.983	0.966	1.314	0.974	1.621	0.969	1.411	0.966	0.969	0.965	1.633	0.966	1.217	0.960
	Pearson	0.040	0.048	0.028	0.053	-0.015	-0.016	0.005	0.026	-0.003	0.034	0.030	0.051	0.019	0.022	-0.001	0.076
S13	MSE	0.980	0.981	1.002	0.981	1.288 ±0.014 0.024	0.988 ±0.004 0.003	1.608	0.982	1.437	0.984	0.979	0.978	1.591	0.982	1.243	0.981
	Pearson	0.069	0.069	0.077	0.072	±0.004	±0.020	0.009	0.057	-0.000	0.049	0.071	0.084	0.029	0.031	-0.004	0.028
S14	MSE	1.019	1.013	1.036	1.013 ± 0.000 0.055	1.338	1.018	1.627	1.012	1.473	1.015	1.013	1.015	1.634	1.014	1.302	1.013
	Pearson	0.041	0.054	0.025	± 0.000	-0.018	-0.003	0.023	0.063	0.015	0.042	0.051	0.048	0.014	0.009	-0.008	-0.002
S15	MSE	1.012	1.013	1.047	1.009	1.425	1.016	1.618	1.008	1.562	1.004	1.006 ± 0.001 0.080	1.006	1.651	1.007	1.217	1.008
	Pearson	0.055	0.038	0.009	0.057	-0.001	0.009	-0.026	0.063	-0.071	0.085	± 0.008	0.074	0.019	0.065	0.025	0.059
S16	MSE	0.968	0.966	0.987 ±0.000 0.039	0.968	1.334	0.974	1.475	0.971	1.418	0.972	0.969	0.968	1.611	0.972	1.188	0.969
	Pearson	0.045	0.058	±0.000	0.055	-0.010	0.009	0.050	0.029	-0.000	0.027	0.033	0.048	0.014	0.008	0.007	0.018
S17	MSE	1.007	1.006	1.030	1.004	1.357 ±0.033 0.003	1.013 ±0.000 0.027	1.647	1.008	1.410	1.007	1.005	1.003	1.642	1.006	1.292	1.004
	Pearson	0.041	0.035	0.011	0.044	±0.006	±0.008	-0.021	0.036	-0.004	0.041	0.039	0.053	0.004	0.003	-0.012	0.027
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SubjectMetric		DeepConvnet																
		EEGNet																
		Conformer																
		CTNet																
		BIOT (f)																
		BIOT (l)																
		BENDR (f)																
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		CBraMod (f)																
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		LaBraM (f)																
		LaBraM (l)																
		STEEGformer-s (f)																
		STEEGformer-s (l)																
S18	MSE	0.973	0.973 ±0.000 0.017	1.012	0.973	1.252	0.973	1.575	0.972	1.406	0.970	0.971	0.974	1.725	0.970	1.186	0.966	
	Pearson	0.023	±0.000	-0.022	0.011	-0.003	-0.000	0.018	0.030	0.025	0.035	0.013	0.013	-0.022	-0.001	0.012	0.042	
S2	MSE	1.023	1.018	1.054	1.017	1.286	1.025	1.668	1.021	1.472	1.021	1.018	1.021	1.688	1.017	1.254	1.019	
	Pearson	0.039	0.058	-0.010	0.065	-0.001	-0.016	-0.019	0.043	-0.012	0.038	0.060	0.042	0.016	0.049	0.001	0.018	
S3	MSE	1.009	1.010	1.022 ±0.009 0.039	1.010	1.382	1.010	1.524	1.007	1.418	1.013	1.006	1.005	1.632	1.008	1.317	1.004	
	Pearson	0.045	0.035	±0.029	0.034	0.002	0.024	0.034	0.050	0.029	0.029	0.053	0.062	0.021	0.007	-0.016	0.064	
S4	MSE	1.006	1.005	1.046	1.005	1.254	1.012	1.632	1.010	1.451 ±0.039 -0.004	1.004	1.003	1.003	1.714	1.005 ±0.000 0.036	1.244	1.004	
	Pearson	0.048	0.047	0.014	0.049	0.001	-0.010	0.006	0.022	±0.027	0.060	0.055	0.065	-0.002	±0.000	0.001	0.019	
S5	MSE	0.979	0.977	0.985	0.976	1.257	0.979	1.625	0.982	1.410	0.976	0.980	0.981	1.632	0.977	1.197	0.976	
	Pearson	0.050	0.046	0.046	0.045	0.036	0.010	-0.014	0.018	0.029	0.047	0.015	0.019	0.020	0.008	0.027	-0.009	
S6	MSE	1.021	1.019	1.057	1.016	1.300	1.014	1.581	1.015	1.417	1.016	1.012	1.016 ±0.000 0.008	1.709 ±0.018 0.005	1.006	1.238 ±0.011 0.029	1.009	
	Pearson	0.001	-0.006	-0.005	0.001	0.038	-0.027	0.037	0.004	0.041	0.008	0.009	±0.004	±0.004	0.040	±0.021	-0.024	
S7	MSE	1.011	1.014	1.091	1.009	1.326	1.031	1.624	1.020	1.446	1.024	1.013	1.010	1.640	1.024	1.280	1.024	
	Pearson	0.114	0.120	0.006	0.143	0.009	0.004	0.009	0.079	0.024	0.070	0.139	0.137	0.023	0.045	0.016	-0.008	
S8	MSE	0.977	0.976	1.002 ±0.001 -0.012	0.974	1.309	0.978	1.621	0.976	1.438	0.977	0.973	0.976	1.652	0.975	1.202	0.975	
	Pearson	0.028	0.025	±0.005	0.037	0.025	0.013	-0.007	0.038	-0.002	0.031	0.046	0.041	-0.003	-0.001	0.027	-0.014	
S9	MSE	0.995	0.991	1.034	0.987	1.399	0.985	1.601	0.983	1.418	0.982	0.990 ±0.000 -0.011	0.986 ±0.000 0.027	1.619	0.982	1.259	0.982	
	Pearson	0.019	0.012	0.000	0.019	0.007	0.029	0.013	0.051	0.031	0.047	±0.002	±0.003	0.009	0.026	-0.022	-0.007	

G.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 83: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	MSE	Pearson
DeepConvnet	1.086 ± 0.036	0.025 ± 0.030
EEGNet	1.017 ± 0.029	0.031 ± 0.032
Conformer	1.230 ± 0.065	0.015 ± 0.025
CTNet	1.021 ± 0.028	0.033 ± 0.035
BIOT (f)	1.438 ± 0.038	-0.000 ± 0.012
BIOT (l)	1.045 ± 0.036	0.000 ± 0.025
BENDR (f)	1.507 ± 0.076	-0.003 ± 0.017
BENDR (l)	1.024 ± 0.025	0.018 ± 0.013
CBraMod (f)	1.277 ± 0.029	0.009 ± 0.015
CBraMod (l)	1.017 ± 0.031	0.032 ± 0.031
EEGPT (f)	1.005 ± 0.027	0.032 ± 0.025
EEGPT (l)	1.028 ± 0.030	0.023 ± 0.034
LaBraM (f)	1.345 ± 0.043	0.013 ± 0.008
LaBraM (l)	0.998 ± 0.025	0.017 ± 0.033
STEEGformer-s (f)	1.110 ± 0.031	0.013 ± 0.017
STEEGformer-s (l)	1.027 ± 0.063	0.015 ± 0.026

Table 84: Per-Subject Leave-One-Out Fine-Tuned Performance.

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
S1	MSE	1.101	1.001	1.258	1.011	1.422	1.031	1.461	1.009	1.271	1.014	0.994	1.017	1.323	0.989	1.084	0.996
	Pearson	0.012	0.057	0.015	0.048	0.010	0.019	-0.011	0.047	0.012	0.042	0.066	0.061	0.012	0.038	0.034	0.043
S10	MSE	1.075	0.993	1.305	1.004	1.391	1.031	1.446	1.016	1.269	1.014	0.988	1.006	1.333	0.982	1.104	0.984
	Pearson	-0.017	0.020	-0.040	-0.012	0.005	-0.020	-0.012	0.011	0.007	-0.007	0.026	0.034	0.022	0.042	-0.001	-0.004
S11	MSE	1.160	1.047	1.113	1.042	1.507	1.036	1.759	1.040	1.247	1.006	1.004	1.013	1.466	1.025	1.146	1.256
	Pearson	0.030	0.045	0.003	0.041	-0.011	-0.057	-0.015	0.013	-0.005	0.013	0.051	0.004	-0.007	0.016	0.030	0.004
S12	MSE	1.032	0.976	1.154	0.988	1.482	1.031	1.456	1.005	1.271	0.993	0.975	0.999	1.276	0.984	1.085	1.012
	Pearson	0.039	0.071	0.054	0.049	-0.022	-0.021	-0.003	0.012	0.011	0.058	0.058	0.029	0.019	-0.028	0.026	0.001
S13	MSE	1.111	1.055	1.254	1.046	1.462	1.090	1.510	1.053	1.312	1.038	1.035	1.038	1.384	1.022	1.145	1.035
	Pearson	0.038	0.039	0.025	0.042	0.002	-0.021	0.006	0.019	-0.004	0.030	0.043	0.049	0.011	0.007	-0.002	-0.013
S14	MSE	1.108	1.022	1.261	1.020 ±0.000 0.030	1.497	1.094	1.456	1.033	1.298	1.021	1.007	1.045	1.323	0.996	1.133	1.005
	Pearson	0.018	0.017	0.037	±0.000	-0.014	0.040	0.000	0.016	0.016	0.059	0.028	0.005	0.026	0.059	0.014	0.077
S15	MSE	1.115	1.007	1.268	1.006	1.435	1.006	1.431	1.001	1.263	0.990	0.992	0.994	1.361	0.971	1.060	0.979
	Pearson	0.033	0.061	0.024	0.080	-0.006	0.012	0.046	0.038	0.002	0.098	0.084	0.107	0.011	0.060	0.046	0.023
S16	MSE	1.053	1.011	1.317 ±0.000 -0.017	1.011	1.427	1.001	1.496	1.005	1.283	1.010	0.983	1.009	1.312	0.985	1.092	0.984
	Pearson	0.043	0.015	±0.000	0.033	0.015	0.035	-0.007	0.027	0.014	0.012	0.036	0.023	0.005	-0.000	0.003	-0.021
S17	MSE	1.113	1.042	1.164	1.048	1.427	1.037	1.577	1.042	1.279	1.013	1.034	1.065	1.354	1.015	1.144	1.015
	Pearson	0.016	0.023	0.009	0.023	-0.001	0.017	-0.006	0.012	0.031	0.060	0.013	0.003	0.013	-0.019	-0.014	-0.010
S18	MSE	1.097	1.010 ±0.000	1.215	1.012	1.462	1.062	1.504	1.001	1.268	0.991	0.987	1.028	1.302	0.972	1.100	1.066
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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
S2	Pearson	0.006	0.003 ±0.000	0.021	0.011	-0.023	-0.048	0.005	0.014	0.007	0.018	-0.008	-0.017	0.022	0.039	-0.013	0.022
	MSE	1.086	0.978	1.162	1.002	1.371	1.023	1.483	0.989	1.252	1.000	0.964	0.999	1.347	0.973	1.092	1.030
	Pearson	0.004	0.001	0.002	-0.001	-0.003	-0.005	0.007	0.023	-0.006	-0.001	0.041	0.007	0.015	-0.037	0.000	0.003
S3	MSE	1.036	1.010	1.192	1.029	1.499	1.073	1.553	1.041	1.341	1.022	1.021	1.045	1.371	1.014	1.135	1.044
	Pearson	0.091	0.088	0.013	0.074	0.014	0.017	0.009	0.025	0.003	0.062	0.042	0.040	0.020	0.040	0.010	0.055
S4	MSE	1.105	1.034	1.336	1.053	1.438	1.040	1.460	1.049	1.293	1.035	1.022	1.052	1.356	1.018	1.113	1.014
	Pearson	-0.002	-0.014	0.018	-0.018	-0.003	0.023	-0.005	-0.002	-0.013	0.013	0.022	-0.033	0.002	-0.001	0.009	0.011
S5	MSE	1.019	0.984	1.126	0.979	1.416	1.039	1.479	1.012	1.241	0.987	0.993	0.993	1.330	0.996	1.126	0.988
	Pearson	0.093	0.087	0.062	0.110	0.015	0.009	0.003	0.033	0.037	0.080	0.040	0.076	0.016	0.031	0.013	0.042
S6	MSE	1.094	1.062	1.263	1.056	1.431	1.108	1.541	1.064	1.309	1.072	1.053	1.065	1.372	1.030	1.138 ±0.012	1.037
	Pearson	0.002	-0.024	-0.014	-0.024	0.013	-0.000	-0.026	-0.004	-0.004	-0.005	-0.015	0.011	0.011	0.051	0.006 ±0.012	-0.014
S7	MSE	1.033	0.971	1.237	0.966	1.381	0.977	1.411	0.973	1.230	0.966	0.960	0.980	1.276	0.942	1.036	0.943
	Pearson	0.049	0.051	0.049	0.071	-0.012	0.007	0.008	0.028	0.008	0.046	0.033	0.031	0.021	0.048	0.037	0.011
S8	MSE	1.107	1.046	1.209	1.044	1.416	1.029	1.538	1.034	1.253	1.024	1.048	1.065	1.361	0.999	1.102	1.042
	Pearson	-0.014	0.012	0.008	0.018	0.003	-0.004	-0.025	0.010	0.041	0.004	-0.005	-0.004	0.003	0.003	0.029	0.036
S9	MSE	1.107	1.054	1.308	1.070	1.426	1.107	1.555	1.062	1.317	1.100	1.034 ± 0.002	1.087 ±0.003	1.369	1.044	1.151	1.054
	Pearson	0.010	0.007	-0.006	0.017	0.016	0.001	-0.028	0.004	-0.001	0.003	0.022 ± 0.004	-0.010 ±0.004	0.015	-0.048	0.012	-0.002

G.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 85: Average Model Performance Drop

Model (Strategy)	MSE	Pearson
DeepConvnet	-0.092 ± 0.027	0.027 ± 0.008
EEGNet	-0.024 ± 0.013	0.018 ± 0.007
Conformer	-0.224 ± 0.064	0.020 ± 0.008
CTNet	-0.032 ± 0.013	0.025 ± 0.007
BIOT (f)	-0.122 ± 0.030	0.003 ± 0.006
BIOT (l)	-0.045 ± 0.016	0.003 ± 0.005
BENDR (f)	0.105 ± 0.068	-0.002 ± 0.005
BENDR (l)	-0.029 ± 0.003	0.023 ± 0.007
CBraMod (f)	0.152 ± 0.016	0.002 ± 0.006
CBraMod (l)	-0.024 ± 0.014	0.015 ± 0.007
EEGPT (f)	-0.012 ± 0.010	0.018 ± 0.008
EEGPT (l)	-0.035 ± 0.012	0.034 ± 0.010
LaBraM (f)	0.289 ± 0.026	0.003 ± 0.003
LaBraM (l)	-0.005 ± 0.004	0.014 ± 0.009
STEEGformer-s (f)	0.118 ± 0.013	0.003 ± 0.004
STEEGformer-s (l)	-0.042 ± 0.065	0.014 ± 0.011

Table 86: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformers (f)	STEEGformers (l)
S1	MSE	-0.108 ±0.036	-0.027 ±0.032	-0.264 ±0.045	-0.037 ±0.030	-0.109 ±0.099	-0.043 ±0.039	0.185 ± 0.067	-0.030 ±0.031	0.144 ±0.049	-0.034 ±0.032	-0.019 ±0.030	-0.051 ±0.036	0.306 ± 0.045	-0.006 ±0.033	0.125 ±0.039	-0.027 ±0.029
	Pearson	0.034 ±0.036	0.019 ±0.038	0.023 ±0.026	0.028 ±0.041	-0.001 ±0.023	-0.003 ±0.039	-0.011 ± 0.020	0.011 ±0.023	0.003 ±0.027	0.012 ±0.035	0.012 ±0.038	0.037 ±0.030	-0.000 ±0.009	0.006 ±0.027	-0.004 ± 0.028	0.021 ±0.051
S10	MSE	-0.080 ±0.033	-0.010 ±0.030	-0.256 ±0.058	-0.015 ±0.030	-0.061 ±0.080	-0.042 ±0.037	0.157 ± 0.068	-0.031 ±0.031	0.133 ±0.051	-0.017 ±0.031	-0.004 ±0.030	-0.033 ±0.027	0.279 ± 0.035	-0.003 ±0.033	0.125 ±0.040	-0.003 ±0.032
	Pearson	0.037 ±0.036	0.025 ±0.048	0.026 ±0.042	0.034 ±0.045	0.001 ±0.021	0.002 ±0.031	-0.001 ± 0.025	0.029 ±0.018	0.006 ±0.034	0.015 ±0.036	0.015 ±0.044	0.040 ±0.042	0.001 ±0.016	0.017 ±0.026	-0.000 ± 0.023	0.018 ±0.042
S11	MSE	-0.157 ±0.040	-0.046 ±0.030	-0.079 ±0.048	-0.046 ±0.032	-0.146 ±0.060	-0.009 ±0.030	-0.065 ±0.049	-0.036 ±0.030	0.198 ± 0.045	0.002 ±0.029	0.002 ±0.029	-0.007 ±0.027	0.201 ± 0.031	-0.018 ±0.036	0.078 ±0.035	-0.261 ±0.057
	Pearson	0.027 ±0.030	0.021 ±0.034	0.012 ±0.041	0.026 ±0.046	-0.003 ± 0.025	0.005 ±0.027	-0.003 ± 0.024	0.042 ±0.017	0.009 ±0.024	0.015 ±0.040	0.012 ±0.041	0.047 ±0.037	0.004 ±0.013	0.013 ±0.025	0.005 ±0.021	0.021 ±0.041
S12	MSE	-0.059 ±0.034	-0.009 ±0.028	-0.191 ±0.040	-0.020 ±0.030	-0.121 ±0.095	-0.036 ±0.032	0.178 ± 0.089	-0.024 ±0.031	0.132 ±0.060	-0.033 ±0.032	-0.002 ±0.030	-0.035 ±0.030	0.323 ± 0.044	-0.001 ±0.030	0.129 ±0.037	-0.045 ±0.033
	Pearson	0.035 ±0.036	0.022 ±0.047	0.019 ±0.036	0.031 ±0.039	-0.007 ± 0.028	0.001 ±0.026	-0.001 ± 0.022	0.026 ±0.020	0.014 ±0.023	0.027 ±0.039	0.022 ±0.039	0.050 ±0.040	0.006 ±0.017	0.006 ±0.035	0.004 ±0.029	0.023 ±0.061
S13	MSE	-0.084 ±0.033	-0.027 ±0.033	-0.222 ±0.040	-0.023 ±0.033	-0.081 ±0.097	-0.053 ±0.040	0.139 ±0.074	-0.026 ±0.031	0.160 ± 0.041	-0.014 ±0.030	-0.016 ±0.030	-0.028 ±0.031	0.292 ± 0.046	-0.001 ±0.032	0.135 ±0.042	-0.005 ±0.032
	Pearson	0.024 ±0.032	0.018 ±0.038	0.012 ±0.033	0.023 ±0.039	0.005 ±0.031	-0.000 ± 0.023	0.001 ±0.022	0.018 ±0.016	0.001 ±0.018	0.013 ±0.036	0.007 ±0.043	0.020 ±0.039	0.005 ±0.012	0.012 ±0.030	0.005 ±0.029	-0.001 ± 0.035
S14	MSE	-0.115 ±0.032	-0.016 ±0.028	-0.301 ±0.040	-0.021 ±0.028	-0.166 ±0.094	-0.079 ±0.037	0.177 ± 0.073	-0.032 ±0.031	0.147 ±0.042	-0.036 ±0.029	-0.008 ±0.030	-0.042 ±0.030	0.294 ± 0.036	-0.004 ±0.029	0.107 ±0.043	-0.009 ±0.032
	Pearson	0.020 ±0.046	0.013 ±0.052	0.011 ±0.030	0.022 ±0.059	0.006 ±0.028	0.008 ±0.036	-0.006 ± 0.019	0.026 ±0.021	0.009 ±0.029	-0.000 ± 0.044	0.029 ±0.050	0.039 ±0.049	0.006 ±0.018	0.008 ±0.036	0.008 ±0.033	0.010 ±0.046
S15	MSE	-0.130 ±0.035	-0.045 ±0.034	-0.306 ±0.052	-0.054 ±0.031	-0.108 ±0.068	-0.038 ±0.037	0.029 ±0.092	-0.029 ±0.030	0.142 ± 0.064	-0.038 ±0.030	-0.033 ±0.031	-0.041 ±0.033	0.283 ± 0.041	-0.005 ±0.031	0.120 ±0.040	-0.007 ±0.032
	Pearson	0.024 ±0.026	0.009 ±0.035	0.008 ±0.044	0.013 ±0.034	0.017 ±0.030	0.009 ±0.038	0.003 ±0.029	0.010 ±0.018	-0.000 ±0.039	0.005 ±0.038	0.008 ±0.040	0.016 ±0.035	-0.005 ±0.015	0.004 ±0.036	-0.006 ± 0.021	-0.007 ± 0.033

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (f)	BENDR (f)	BENDR (f)	CBraMod (f)	CBraMod (f)	EEGPT (f)	EEGPT (f)	LaBraM (f)	LaBraM (f)	STEEGformer-s (f)	STEEGformer-s (f)
S16	MSE	-0.092 ±0.035	-0.027 ±0.034	-0.303 ±0.059	-0.039 ±0.032	-0.140 ±0.072	-0.037 ±0.031	0.097 ±0.075	-0.028 ±0.031	0.142 ± 0.055	-0.029 ±0.032	-0.009 ±0.031	-0.031 ±0.030	0.315 ± 0.047	-0.006 ±0.033	0.122 ±0.034	-0.002 ±0.033
	Pearson	0.035 ±0.042	0.031 ±0.041	0.038 ±0.036	0.037 ±0.047	0.005 ± 0.024	0.016 ±0.032	-0.004 ± 0.023	0.028 ±0.024	0.005 ±0.031	0.024 ±0.033	0.034 ±0.041	0.038 ±0.040	0.007 ±0.015	0.021 ±0.035	0.007 ±0.025	0.024 ±0.036
S17	MSE	-0.100 ±0.035	-0.028 ±0.029	-0.139 ±0.038	-0.038 ±0.030	-0.094 ±0.082	-0.025 ±0.037	0.078 ±0.070	-0.028 ±0.030	0.147 ± 0.056	-0.009 ±0.026	-0.018 ±0.027	-0.051 ±0.027	0.273 ± 0.044	-0.004 ±0.031	0.113 ±0.040	-0.004 ±0.031
	Pearson	0.022 ±0.042	0.011 ±0.042	0.015 ±0.034	0.020 ±0.046	0.010 ±0.019	-0.007 ± 0.041	-0.006 ± 0.025	0.025 ±0.024	-0.004 ±0.023	0.011 ±0.039	0.015 ±0.057	0.032 ±0.045	0.004 ±0.014	0.019 ±0.026	-0.000 ±0.026	0.017 ±0.054
S18	MSE	-0.114 ±0.036	-0.031 ±0.031	-0.224 ±0.049	-0.036 ±0.031	-0.167 ±0.084	-0.051 ±0.036	0.030 ±0.091	-0.027 ±0.032	0.133 ± 0.040	-0.021 ±0.033	-0.007 ±0.031	-0.038 ±0.033	0.284 ± 0.051	-0.006 ±0.033	0.118 ±0.043	-0.148 ±0.075
	Pearson	0.041 ±0.031	0.030 ±0.043	0.030 ±0.044	0.035 ±0.042	0.010 ±0.027	0.005 ±0.027	0.004 ±0.024	0.023 ±0.019	0.003 ± 0.028	0.024 ±0.035	0.014 ±0.037	0.040 ±0.036	0.003 ±0.018	0.019 ±0.029	0.003 ± 0.031	0.027 ±0.043
S2	MSE	-0.103 ±0.032	-0.010 ±0.028	-0.187 ±0.026	-0.026 ±0.028	-0.102 ±0.079	-0.058 ±0.035	0.017 ±0.068	-0.031 ±0.029	0.162 ± 0.058	-0.027 ±0.026	-0.008 ±0.026	-0.031 ±0.028	0.266 ± 0.037	-0.006 ±0.029	0.104 ±0.040	-0.064 ±0.027
	Pearson	0.014 ±0.036	0.005 ±0.045	0.021 ±0.029	0.012 ±0.045	0.000 ±0.024	-0.000 ±0.024	-0.000 ±0.023	0.023 ±0.017	-0.003 ± 0.032	0.021 ±0.036	0.019 ±0.041	0.025 ±0.044	-0.001 ± 0.018	0.011 ±0.031	0.001 ±0.033	0.009 ±0.042
S3	MSE	-0.062 ±0.030	-0.015 ±0.027	-0.168 ±0.037	-0.036 ±0.030	-0.163 ±0.078	-0.055 ±0.035	0.055 ±0.087	-0.028 ±0.031	0.140 ± 0.063	-0.015 ±0.032	-0.011 ±0.030	-0.037 ±0.029	0.278 ± 0.051	-0.001 ±0.032	0.113 ±0.035	-0.072 ±0.049
	Pearson	0.039 ±0.045	0.024 ±0.048	0.026 ±0.037	0.032 ±0.052	0.002 ±0.024	-0.003 ± 0.030	-0.001 ± 0.026	0.026 ±0.026	0.001 ±0.025	0.016 ±0.034	0.025 ±0.036	0.042 ±0.034	0.002 ±0.013	0.010 ±0.031	0.003 ±0.025	0.014 ±0.047
S4	MSE	-0.073 ±0.029	-0.015 ±0.030	-0.299 ±0.055	-0.031 ±0.030	-0.160 ±0.093	-0.031 ±0.035	0.188 ± 0.057	-0.030 ±0.031	0.157 ±0.049	-0.021 ±0.030	-0.013 ±0.029	-0.018 ±0.028	0.297 ± 0.039	-0.001 ±0.030	0.128 ±0.041	-0.005 ±0.032
	Pearson	0.024 ±0.044	0.018 ±0.041	0.009 ±0.039	0.019 ±0.050	0.004 ±0.022	0.008 ±0.028	0.001 ± 0.021	0.025 ±0.020	-0.000 ± 0.034	0.008 ±0.037	0.016 ±0.040	0.018 ±0.043	0.004 ±0.013	0.004 ±0.036	0.006 ±0.028	0.015 ±0.048
S5	MSE	-0.062 ±0.031	-0.006 ±0.028	-0.177 ±0.030	-0.013 ±0.028	-0.134 ±0.072	-0.066 ±0.050	0.110 ±0.082	-0.027 ±0.030	0.166 ± 0.046	-0.009 ±0.030	-0.006 ±0.030	-0.021 ±0.030	0.301 ± 0.040	-0.005 ±0.035	0.112 ±0.035	-0.001 ±0.033
	Pearson	0.028 ±0.040	0.016 ±0.038	0.028 ±0.041	0.028 ±0.044	0.001 ± 0.022	0.003 ±0.039	0.004 ±0.022	0.029 ±0.017	-0.007 ± 0.020	0.020 ±0.033	0.023 ±0.046	0.030 ±0.039	0.007 ±0.013	0.018 ±0.034	0.002 ±0.023	0.009 ±0.029
S6	MSE	-0.053 ±0.034	-0.014 ±0.030	-0.168 ±0.045	-0.012 ±0.028	-0.116 ±0.083	-0.058 ±0.038	0.147 ±0.089	-0.024 ±0.032	0.174 ± 0.056	-0.027 ±0.030	-0.011 ±0.030	-0.032 ±0.028	0.305 ± 0.042	-0.002 ±0.029	0.130 ±0.034	-0.002 ±0.030

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SubjectMetric		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)
S7	Pearson	0.030 ±0.037	0.020 ±0.035	0.012 ±0.030	0.026 ±0.040	0.007 ±0.025	0.001 ±0.038	-0.008 ± 0.029	0.026 ±0.019	-0.004 ± 0.026	0.020 ±0.031	0.024 ±0.039	0.045 ±0.039	0.004 ±0.014	0.017 ±0.036	0.010 ±0.026	0.012 ±0.050
	MSE	-0.109 ±0.036	-0.047 ±0.028	-0.293 ±0.042	-0.052 ±0.028	-0.128 ±0.085	-0.042 ±0.030	0.121 ±0.094	-0.035 ±0.025	0.155 ± 0.047	-0.029 ±0.026	-0.022 ±0.025	-0.050 ±0.029	0.290 ± 0.031	-0.009 ±0.025	0.122 ±0.031	-0.006 ±0.027
	Pearson	0.009 ±0.035	0.011 ±0.030	0.016 ±0.035	0.017 ±0.027	0.008 ±0.033	0.004 ±0.037	-0.013 ± 0.025	0.011 ±0.021	-0.008 ± 0.030	0.010 ±0.032	0.004 ±0.030	0.024 ±0.035	-0.002 ±0.015	0.012 ±0.029	-0.000 ±0.027	0.010 ±0.047
S8	MSE	-0.093 ±0.040	-0.038 ±0.032	-0.199 ±0.047	-0.045 ±0.034	-0.101 ±0.077	-0.036 ±0.038	0.100 ±0.081	-0.029 ±0.030	0.157 ± 0.061	-0.020 ±0.032	-0.035 ±0.029	-0.048 ±0.031	0.301 ± 0.038	-0.008 ±0.033	0.112 ±0.043	-0.076 ±0.043
	Pearson	0.029 ±0.040	0.018 ±0.041	0.017 ±0.033	0.027 ±0.034	-0.002 ±0.021	0.002 ±0.035	-0.003 ± 0.023	0.019 ±0.019	-0.002 ± 0.030	0.013 ±0.026	0.022 ±0.040	0.031 ±0.034	0.004 ±0.012	0.042 ±0.024	0.004 ±0.034	0.037 ±0.037
	MSE	-0.065 ±0.027	-0.013 ±0.030	-0.263 ±0.042	-0.033 ±0.030	-0.100 ±0.071	-0.053 ±0.031	0.152 ± 0.064	-0.026 ±0.029	0.147 ±0.049	-0.062 ±0.035	-0.002 ±0.028	-0.042 ±0.033	0.314 ± 0.041	-0.001 ±0.030	0.123 ±0.029	-0.012 ±0.032
S9	Pearson	0.021 ±0.037	0.016 ±0.048	0.028 ±0.029	0.025 ±0.046	0.000 ±0.015	-0.002 ±0.027	0.003 ±0.022	0.026 ±0.024	0.006 ±0.018	0.012 ±0.043	0.021 ±0.042	0.040 ±0.042	-0.003 ± 0.018	0.008 ±0.027	0.001 ±0.021	-0.004 ± 0.039

H SEED-VIG EEG REGRESSION RESULTS

H.1 POPULATION-LEVEL RESULTS

Table 87: Average Performance Metrics Across All Subjects of Population-Trained Models

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.022 ± 0.015	0.498 ± 0.330
EEGNet	0.078 ± 0.056	0.478 ± 0.317
Conformer	0.017 ± 0.013	0.510 ± 0.348
CTNet	0.034 ± 0.027	0.465 ± 0.344
BIOT (f)	0.018 ± 0.013	0.503 ± 0.341
BIOT (l)	0.025 ± 0.013	0.457 ± 0.317
BENDR (f)	0.027 ± 0.017	0.423 ± 0.336
BENDR (l)	0.095 ± 0.070	0.089 ± 0.140
CBraMod (f)	0.015 ± 0.014	0.551 ± 0.340
CBraMod (l)	2.446 ± 2.242	0.154 ± 0.313
EEGPT (f)	0.019 ± 0.015	0.500 ± 0.346
EEGPT (l)	0.025 ± 0.016	0.462 ± 0.325
LaBraM (f)	0.014 ± 0.014	0.561 ± 0.328
LaBraM (l)	0.049 ± 0.043	0.439 ± 0.296
STEEGformer-s (f)	0.016 ± 0.018	0.539 ± 0.350
STEEGformer-s (l)	0.055 ± 0.049	0.388 ± 0.360
STEEGformer-b (f)	0.017 ± 0.021	0.549 ± 0.340
STEEGformer-b (l)	0.040 ± 0.034	0.407 ± 0.339
STEEGformer-l (f)	0.024 ± 0.021	0.514 ± 0.347
STEEGformer-l (l)	0.034 ± 0.028	0.472 ± 0.347

Table 88: Per-Subject Performance Metrics of Population-Trained Models

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	0.028	0.211	0.002	0.099	0.003	0.020	0.009	0.246	0.002	5.789	0.005	0.005	0.003	0.045	0.005	0.053	0.004	0.022	0.011	0.005
	Pearson	0.938	0.946	0.984	0.856	0.976	0.837	0.923	0.063	0.982	-0.640	0.955	0.947	0.976	0.913	0.980	0.933	0.977	0.941	0.976	0.955
subject_10	MSE	0.027	0.067	0.021	0.025	0.024	0.033	0.029	0.043	0.018	1.735	0.025	0.024	0.019	0.026	0.020	0.028	0.018	0.027	0.026	0.027
	Pearson	0.377	0.402	0.471	0.389	0.445	0.461	0.281	-0.000	0.536	0.437	0.492	0.426	0.512	0.164	0.443	0.127	0.493	0.197	0.373	0.247
subject_11	MSE	0.018	0.074	0.014	0.013	0.016	0.015	0.018	0.033	0.008	0.439	0.009	0.016	0.008	0.015	0.006	0.022	0.011	0.016	0.010	0.012
	Pearson	0.508	0.387	0.483	0.522	0.459	0.532	0.346	0.157	0.693	0.270	0.645	0.460	0.704	0.419	0.791	0.326	0.600	0.347	0.680	0.490
subject_12	MSE	0.029	0.078	0.023	0.044	0.030	0.031	0.032	0.125	0.018	9.043	0.022	0.037	0.019	0.064	0.016	0.079	0.020	0.054	0.027	0.043
	Pearson	0.910	0.859	0.912	0.825	0.892	0.886	0.877	0.288	0.933	0.743	0.919	0.855	0.936	0.814	0.937	0.815	0.925	0.861	0.909	0.898
subject_13	MSE	0.020	0.192	0.003	0.049	0.006	0.026	0.024	0.229	0.011	2.608	0.015	0.012	0.004	0.057	0.010	0.092	0.006	0.036	0.023	0.041
	Pearson	0.880	0.829	0.973	0.780	0.942	0.780	0.759	0.227	0.940	-0.334	0.882	0.907	0.964	0.830	0.973	0.804	0.980	0.856	0.888	0.908
subject_14	MSE	0.021	0.052	0.028	0.023	0.024	0.020	0.022	0.040	0.021	0.843	0.020	0.027	0.026	0.015	0.029	0.023	0.033	0.018	0.017	0.016
	Pearson	0.670	0.425	0.397	0.555	0.556	0.675	0.642	0.323	0.615	0.437	0.641	0.514	0.498	0.739	0.394	0.670	0.289	0.692	0.714	0.728
subject_15	MSE	0.005	0.014	0.014	0.018	0.013	0.024	0.013	0.039	0.006	0.817	0.010	0.026	0.006	0.019	0.007	0.012	0.009	0.022	0.014	0.029
	Pearson	0.168	0.233	0.114	0.024	0.158	0.089	-0.164	0.178	0.178	0.267	0.073	0.107	0.142	0.000	0.136	-0.070	0.262	-0.058	0.085	0.133
subject_16	MSE	0.040	0.185	0.005	0.047	0.007	0.048	0.035	0.229	0.005	3.585	0.032	0.036	0.005	0.126	0.007	0.154	0.008	0.108	0.041	0.048
	Pearson	0.951	0.930	0.987	0.888	0.978	0.817	0.821	-0.053	0.987	0.437	0.905	0.865	0.983	0.575	0.989	0.641	0.991	0.799	0.951	0.889
subject_17	MSE	0.008	0.041	0.002	0.004	0.004	0.014	0.008	0.032	0.002	1.361	0.004	0.004	0.003	0.005	0.003	0.004	0.003	0.006	0.011	0.005
	Pearson	0.115	0.144	0.289	0.249	0.043	0.275	0.133	-0.057	0.270	0.192	0.327	0.406	0.312	0.208	0.141	0.393	0.061	0.276	0.177	0.379
subject_18	MSE	0.005	0.049	0.009	0.018	0.009	0.008	0.016	0.076	0.005	4.278	0.009	0.018	0.005	0.021	0.006	0.018	0.007	0.009	0.010	0.011
	Pearson	0.130	0.102	0.290	0.011	0.095	0.006	0.226	-0.074	0.050	0.221	0.083	0.303	0.215	0.048	0.077	-0.167	0.235	-0.066	-0.155	-0.153
subject_19	MSE	0.009	0.052	0.007	0.009	0.009	0.015	0.015	0.034	0.006	0.642	0.010	0.013	0.005	0.022	0.009	0.012	0.006	0.013	0.012	0.015

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		11142	11143	11144	11145	11146	11147	11148	11149	11150	11151	11152	11153	11154	11155	11156	11157	11158	11159	11160	11161	11162	11163	11164	11165	11166	11167	11168	11169	11170	11171	11172	11173	11174
Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-s (f)	STEEGformer-s (l)													
subject_2	Pearson	0.479	0.466	0.570	0.440	0.530	0.334	0.434	0.122	0.622	0.165	0.395	0.272	0.661	0.402	0.367	0.405	0.621	0.412	0.478	0.401													
	MSE	0.005	0.052	0.013	0.025	0.015	0.020	0.015	0.081	0.006	1.592	0.008	0.011	0.005	0.018	0.011	0.008	0.011	0.016	0.019	0.027													
	Pearson	-0.035	-0.101	-0.154	-0.351	-0.117	-0.176	0.259	-0.027	0.005	0.223	-0.208	-0.160	-0.008	0.226	0.059	0.096	-0.133	-0.095	0.075	-0.060													
subject_20	MSE	0.023	0.069	0.035	0.051	0.025	0.031	0.045	0.155	0.025	3.119	0.028	0.054	0.017	0.152	0.021	0.177	0.023	0.081	0.018	0.088													
	Pearson	-0.097	0.045	-0.011	0.027	-0.034	0.034	0.129	0.248	0.034	0.147	0.187	0.172	0.114	0.198	-0.001	0.069	-0.034	0.105	0.061	0.074													
subject_21	MSE	0.051	0.028	0.033	0.106	0.047	0.046	0.073	0.154	0.042	0.836	0.030	0.061	0.060	0.135	0.091	0.127	0.107	0.102	0.109	0.099													
	Pearson	0.556	0.510	0.491	0.616	0.448	0.505	0.553	0.176	0.587	0.067	0.668	0.588	0.386	0.688	0.358	0.672	0.371	0.647	0.596	0.665													
subject_3	MSE	0.010	0.116	0.004	0.011	0.008	0.014	0.015	0.023	0.005	1.588	0.007	0.017	0.004	0.021	0.003	0.037	0.005	0.030	0.014	0.009													
	Pearson	0.529	0.647	0.735	0.746	0.548	0.310	0.295	0.153	0.642	-0.102	0.407	0.257	0.654	0.224	0.658	0.359	0.646	0.189	0.438	0.327													
subject_4	MSE	0.020	0.028	0.041	0.029	0.030	0.025	0.040	0.088	0.040	2.756	0.027	0.028	0.030	0.073	0.028	0.072	0.022	0.058	0.036	0.066													
	Pearson	0.107	0.240	0.239	0.445	0.188	0.289	0.016	0.122	0.052	-0.329	0.078	0.147	0.124	0.322	0.079	0.257	0.404	0.239	0.405	0.462													
subject_5	MSE	0.066	0.154	0.046	0.069	0.055	0.061	0.066	0.155	0.052	7.041	0.073	0.064	0.034	0.109	0.033	0.123	0.031	0.128	0.045	0.086													
	Pearson	0.822	0.805	0.854	0.794	0.815	0.802	0.787	0.251	0.835	0.657	0.820	0.840	0.894	0.797	0.897	0.738	0.904	0.611	0.919	0.813													
subject_6	MSE	0.026	0.050	0.021	0.016	0.016	0.028	0.024	0.049	0.014	0.712	0.015	0.024	0.013	0.021	0.008	0.026	0.011	0.026	0.021	0.023													
	Pearson	0.425	0.725	0.447	0.539	0.576	0.478	0.302	-0.045	0.661	0.187	0.606	0.229	0.699	0.351	0.812	0.089	0.718	0.276	0.444	0.346													
subject_7	MSE	0.016	0.048	0.005	0.008	0.005	0.009	0.014	0.021	0.003	0.578	0.006	0.008	0.003	0.013	0.004	0.027	0.003	0.021	0.005	0.006													
	Pearson	0.314	0.180	0.343	0.047	0.487	0.231	0.074	-0.130	0.589	0.243	0.329	0.306	0.604	-0.001	0.534	-0.429	0.632	-0.019	0.496	0.228													
subject_8	MSE	0.016	0.043	0.020	0.032	0.016	0.030	0.037	0.120	0.018	0.894	0.024	0.027	0.013	0.061	0.012	0.050	0.017	0.044	0.029	0.043													
	Pearson	0.914	0.833	0.923	0.868	0.935	0.892	0.893	0.119	0.925	-0.155	0.919	0.901	0.932	0.887	0.945	0.907	0.930	0.898	0.937	0.919													
subject_9	MSE	0.010	0.030	0.011	0.009	0.010	0.011	0.014	0.030	0.006	0.903	0.011	0.014	0.008	0.016	0.006	0.005	0.005	0.007	0.007	0.009													
	Pearson	0.427	0.133	-0.008	0.194	0.277	0.163	-0.096	-0.195	0.101	0.104	0.011	0.005	0.139	0.236	0.388	0.347	0.322	0.159	0.024	-0.037													

H.2 PER-SUBJECT RESULTS

H.2.1 WITHIN-SUBJECT EVALUATION

Table 89: Average "Self" Performance Across All Subjects

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.152 ± 0.153	0.346 ± 0.411
EEGNet	0.088 ± 0.063	0.434 ± 0.350
Conformer	0.036 ± 0.039	0.389 ± 0.386
CTNet	0.030 ± 0.025	0.375 ± 0.356
BIOT (f)	0.016 ± 0.011	0.510 ± 0.324
BIOT (l)	0.025 ± 0.013	0.389 ± 0.337
BENDR (f)	0.057 ± 0.039	0.178 ± 0.204
BENDR (l)	0.095 ± 0.068	0.012 ± 0.071
CBraMod (f)	0.019 ± 0.014	0.498 ± 0.332
CBraMod (l)	0.161 ± 0.242	0.373 ± 0.305
EEGPT (f)	0.027 ± 0.023	0.372 ± 0.292
EEGPT (l)	0.029 ± 0.021	0.367 ± 0.309
LaBraM (f)	0.015 ± 0.016	0.534 ± 0.362
LaBraM (l)	0.031 ± 0.029	0.399 ± 0.363
STEEGformer-s (f)	0.018 ± 0.023	0.503 ± 0.326
STEEGformer-s (l)	0.029 ± 0.028	0.391 ± 0.362
STEEGformer-b (f)	0.016 ± 0.018	0.535 ± 0.321
STEEGformer-b (l)	0.022 ± 0.020	0.425 ± 0.383
STEEGformer-l (f)	0.018 ± 0.026	0.547 ± 0.341
STEEGformer-l (l)	0.022 ± 0.021	0.460 ± 0.392

Table 90: Per-Subject "Self" Performance (trained+tested on same subject)

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	0.104	0.146	0.016	0.045	0.003	0.021	0.053	0.155	0.018	0.043	0.009	0.009	0.003	0.007	0.003	0.007	0.002	0.007	0.002	0.002
	Pearson	0.920	0.940	0.978	0.887	0.959	0.822	0.552	-0.030	0.978	0.847	0.886	0.899	0.963	0.941	0.973	0.943	0.980	0.973	0.984	0.977
subject_10	MSE	0.191	0.074	0.033	0.025	0.020	0.028	0.034	0.031	0.024	0.106	0.023	0.026	0.019	0.021	0.022	0.030	0.021	0.023	0.019	0.021
	Pearson	0.048	0.381	0.118	0.152	0.532	0.280	0.095	0.186	0.347	0.200	0.306	0.301	0.475	0.390	0.423	0.096	0.443	0.343	0.533	0.397
subject_11	MSE	0.093	0.052	0.021	0.012	0.009	0.015	0.024	0.037	0.009	0.047	0.016	0.013	0.007	0.010	0.008	0.012	0.010	0.011	0.010	0.009
	Pearson	0.547	0.570	0.561	0.560	0.685	0.597	0.022	0.036	0.681	0.583	0.331	0.484	0.763	0.608	0.704	0.496	0.636	0.588	0.691	0.703
subject_12	MSE	0.332	0.150	0.025	0.050	0.027	0.042	0.105	0.228	0.035	0.281	0.056	0.067	0.024	0.074	0.024	0.050	0.021	0.038	0.021	0.028
	Pearson	0.863	0.828	0.910	0.800	0.908	0.857	0.543	0.027	0.913	0.848	0.814	0.765	0.917	0.844	0.911	0.854	0.925	0.887	0.921	0.904
subject_13	MSE	0.222	0.286	0.081	0.015	0.029	0.037	0.089	0.111	0.012	0.220	0.041	0.027	0.003	0.034	0.003	0.052	0.003	0.012	0.008	0.016
	Pearson	0.782	0.812	0.615	0.825	0.766	0.646	0.307	-0.010	0.932	0.665	0.662	0.741	0.966	0.833	0.978	0.815	0.973	0.935	0.964	0.955
subject_14	MSE	0.041	0.135	0.039	0.034	0.033	0.033	0.070	0.069	0.030	0.215	0.026	0.037	0.027	0.027	0.027	0.023	0.034	0.028	0.037	0.024
	Pearson	0.380	0.147	0.389	0.478	0.282	0.409	-0.068	0.016	0.473	0.357	0.489	0.374	0.453	0.546	0.462	0.578	0.298	0.440	0.185	0.640
subject_15	MSE	0.139	0.050	0.027	0.021	0.007	0.016	0.018	0.034	0.006	0.085	0.009	0.012	0.007	0.010	0.004	0.006	0.004	0.005	0.005	0.005
	Pearson	-0.184	0.040	-0.050	-0.104	0.239	0.000	0.097	-0.083	0.072	0.150	0.008	-0.019	0.280	0.080	0.178	0.049	0.234	0.096	0.266	0.083
subject_16	MSE	0.010	0.171	0.008	0.061	0.007	0.027	0.141	0.183	0.013	0.085	0.052	0.054	0.006	0.063	0.007	0.095	0.005	0.046	0.003	0.047
	Pearson	0.956	0.948	0.969	0.799	0.971	0.891	0.168	-0.005	0.956	0.709	0.740	0.720	0.975	0.773	0.984	0.790	0.986	0.901	0.994	0.918
subject_17	MSE	0.026	0.058	0.015	0.003	0.003	0.012	0.015	0.050	0.004	0.064	0.005	0.006	0.003	0.008	0.002	0.004	0.002	0.004	0.002	0.004
	Pearson	-0.005	0.102	0.036	0.100	0.225	-0.074	-0.019	-0.033	0.222	0.230	0.115	0.112	0.028	-0.031	0.328	0.075	0.265	0.200	0.285	0.117
subject_18	MSE	0.064	0.078	0.010	0.020	0.012	0.017	0.070	0.191	0.009	0.037	0.019	0.021	0.007	0.037	0.008	0.025	0.007	0.015	0.012	0.017
	Pearson	-0.067	-0.047	-0.094	0.014	0.183	0.074	0.123	-0.051	0.315	0.059	0.258	0.230	0.203	-0.176	0.229	-0.155	0.218	-0.232	0.157	-0.143
subject_19	MSE	0.174	0.031	0.026	0.010	0.007	0.015	0.018	0.025	0.011	0.057	0.011	0.012	0.005	0.007	0.007	0.007	0.008	0.006	0.007	0.004
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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)													
	Pearson	0.602	0.578	0.711	0.487	0.620	0.488	0.183	0.107	0.574	0.406	0.250	0.361	0.754	0.541	0.500	0.516	0.550	0.569	0.606	0.636													
subject_2	MSE	0.046	0.025	0.015	0.008	0.019	0.023	0.024	0.035	0.012	0.145	0.011	0.013	0.005	0.010	0.005	0.007	0.006	0.010	0.004	0.008													
	Pearson	-0.329	-0.209	-0.243	-0.203	-0.245	-0.101	0.024	0.067	-0.097	-0.268	0.130	0.048	-0.092	0.006	-0.060	-0.105	-0.063	-0.241	0.008	-0.214													
subject_20	MSE	0.088	0.079	0.018	0.039	0.014	0.029	0.122	0.133	0.013	0.057	0.047	0.048	0.019	0.060	0.018	0.037	0.014	0.035	0.022	0.045													
	Pearson	-0.049	0.114	-0.024	0.261	0.125	0.006	0.064	-0.093	0.070	0.160	0.312	0.336	-0.008	-0.215	-0.010	0.131	0.034	-0.039	-0.007	-0.115													
subject_21	MSE	0.522	0.027	0.192	0.034	0.023	0.031	0.079	0.130	0.038	1.204	0.034	0.047	0.074	0.046	0.108	0.046	0.084	0.036	0.126	0.050													
	Pearson	0.618	0.629	0.347	0.613	0.629	0.536	0.252	-0.091	0.563	0.387	0.544	0.466	0.470	0.640	0.383	0.711	0.467	0.660	0.450	0.674													
subject_3	MSE	0.021	0.084	0.016	0.008	0.008	0.009	0.017	0.025	0.008	0.065	0.009	0.013	0.004	0.005	0.012	0.006	0.006	0.005	0.004	0.005													
	Pearson	0.285	0.468	0.288	0.385	0.328	0.336	0.091	0.139	0.441	0.177	0.154	0.190	0.586	0.260	0.263	0.372	0.543	0.360	0.720	0.403													
subject_4	MSE	0.101	0.039	0.054	0.040	0.029	0.032	0.068	0.109	0.038	0.167	0.037	0.045	0.034	0.048	0.025	0.031	0.030	0.037	0.028	0.036													
	Pearson	0.022	-0.037	0.050	-0.209	0.228	0.264	-0.027	0.036	0.092	-0.108	0.033	-0.104	0.067	0.089	0.161	0.060	0.239	-0.058	0.149	-0.022													
subject_5	MSE	0.537	0.159	0.054	0.112	0.043	0.070	0.110	0.219	0.059	0.158	0.105	0.085	0.030	0.121	0.053	0.111	0.038	0.089	0.023	0.091													
	Pearson	0.842	0.778	0.865	0.699	0.857	0.779	0.558	-0.026	0.807	0.726	0.609	0.709	0.905	0.673	0.820	0.705	0.878	0.784	0.926	0.790													
subject_6	MSE	0.025	0.070	0.021	0.021	0.014	0.024	0.032	0.040	0.016	0.090	0.028	0.029	0.008	0.019	0.014	0.022	0.011	0.019	0.009	0.017													
	Pearson	0.124	0.588	0.513	0.400	0.611	0.388	0.083	0.069	0.577	0.283	0.110	0.081	0.809	0.516	0.676	0.387	0.744	0.501	0.787	0.631													
subject_7	MSE	0.101	0.050	0.016	0.009	0.003	0.010	0.010	0.021	0.004	0.092	0.007	0.008	0.003	0.006	0.005	0.008	0.003	0.006	0.003	0.006													
	Pearson	-0.013	0.309	0.262	-0.066	0.585	-0.017	0.112	-0.016	0.512	0.536	0.098	0.063	0.670	0.102	0.451	-0.146	0.650	0.170	0.721	0.145													
subject_8	MSE	0.337	0.057	0.055	0.052	0.014	0.023	0.071	0.133	0.025	0.100	0.015	0.017	0.013	0.030	0.015	0.025	0.016	0.021	0.018	0.017													
	Pearson	0.887	0.865	0.930	0.832	0.934	0.920	0.574	-0.011	0.940	0.731	0.920	0.909	0.939	0.899	0.928	0.898	0.926	0.901	0.931	0.918													
subject_9	MSE	0.020	0.030	0.016	0.005	0.006	0.016	0.016	0.036	0.009	0.057	0.010	0.012	0.008	0.009	0.005	0.005	0.005	0.006	0.008	0.004													
	Pearson	0.028	0.306	0.048	0.167	0.283	0.062	-0.007	0.010	0.100	0.146	0.033	0.046	0.099	0.066	0.282	0.137	0.307	0.186	0.215	0.257													

H.2.2 PER-SUBJECT ZERO-SHOT TRANSFER

Table 91: Average Zero-Shot Transfer Performance Across All Subjects

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.244 ± 0.215	0.157 ± 0.119
EEGNet	0.148 ± 0.046	0.223 ± 0.080
Conformer	0.147 ± 0.044	0.158 ± 0.074
CTNet	0.108 ± 0.040	0.210 ± 0.064
BIOT (f)	0.145 ± 0.086	0.150 ± 0.136
BIOT (l)	0.124 ± 0.039	0.111 ± 0.123
BENDR (f)	0.117 ± 0.028	0.032 ± 0.040
BENDR (l)	0.135 ± 0.031	0.001 ± 0.012
CBraMod (f)	0.098 ± 0.029	0.251 ± 0.087
CBraMod (l)	0.173 ± 0.125	0.263 ± 0.059
EEGPT (f)	0.095 ± 0.021	0.241 ± 0.091
EEGPT (l)	0.103 ± 0.025	0.247 ± 0.093
LaBraM (f)	0.104 ± 0.042	0.269 ± 0.102
LaBraM (l)	0.084 ± 0.019	0.285 ± 0.077
STEEGformer-s (f)	0.100 ± 0.040	0.257 ± 0.076
STEEGformer-s (l)	0.083 ± 0.013	0.270 ± 0.104
STEEGformer-b (f)	0.106 ± 0.046	0.263 ± 0.075
STEEGformer-b (l)	0.083 ± 0.019	0.281 ± 0.055
STEEGformer-l (f)	0.095 ± 0.032	0.303 ± 0.088
STEEGformer-l (l)	0.075 ± 0.019	0.327 ± 0.075

Table 92: Per-Subject Zero-Shot Transfer Performance

		DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	0.078 ±0.066	0.137 ±0.116	0.148 ±0.169	0.078 ±0.063	0.073 ±0.067	0.077 ±0.069	0.099 ±0.060	0.161 ±0.072	0.064 ±0.070	0.127 ±0.095	0.065 ±0.076	0.071 ±0.086	0.063 ±0.063	0.076 ±0.071	0.064 ±0.067	0.068 ±0.061	0.074 ±0.069	0.071 ±0.065	0.067 ±0.064	0.064 ±0.059
	Pearson	0.147 ±0.300	0.231 ±0.313	0.217 ±0.345	0.200 ±0.325	0.068 ±0.416	0.140 ±0.317	0.078 ±0.181	-0.000 ±0.064	0.321 ±0.307	0.312 ±0.236	0.352 ±0.289	0.344 ±0.308	0.326 ±0.290	0.262 ±0.329	0.295 ±0.341	0.288 ±0.331	0.214 ±0.354	0.266 ±0.340	0.244 ±0.364	0.226 ±0.361
subject_10	MSE	0.241 ±0.224	0.124 ±0.129	0.090 ±0.073	0.078 ±0.079	0.073 ±0.059	0.091 ±0.082	0.097 ±0.091	0.103 ±0.086	0.080 ±0.056	0.170 ±0.127	0.072 ±0.058	0.077 ±0.057	0.071 ±0.058	0.073 ±0.074	0.064 ±0.050	0.069 ±0.070	0.064 ±0.046	0.065 ±0.061	0.057 ±0.048	0.058 ±0.054
	Pearson	0.029 ±0.168	0.230 ±0.244	0.041 ±0.127	0.136 ±0.229	0.239 ±0.336	-0.021 ±0.297	-0.002 ±0.070	-0.012 ±0.064	0.200 ±0.244	0.174 ±0.277	0.207 ±0.242	0.167 ±0.266	0.319 ±0.300	0.344 ±0.299	0.237 ±0.341	0.332 ±0.320	0.287 ±0.366	0.240 ±0.400	0.405 ±0.346	0.384 ±0.350
subject_11	MSE	0.224 ±0.239	0.141 ±0.157	0.121 ±0.109	0.078 ±0.083	0.127 ±0.121	0.100 ±0.071	0.094 ±0.098	0.104 ±0.100	0.087 ±0.096	0.087 ±0.070	0.078 ±0.080	0.080 ±0.077	0.096 ±0.100	0.072 ±0.075	0.087 ±0.090	0.079 ±0.080	0.084 ±0.081	0.079 ±0.079	0.071 ±0.064	0.074 ±0.078
	Pearson	0.075 ±0.283	0.112 ±0.205	0.143 ±0.236	0.149 ±0.312	-0.046 ±0.331	0.099 ±0.328	0.019 ±0.112	-0.012 ±0.063	0.131 ±0.225	0.209 ±0.295	0.215 ±0.251	0.167 ±0.246	-0.050 ±0.321	0.303 ±0.369	0.152 ±0.225	0.210 ±0.367	0.118 ±0.295	0.181 ±0.325	0.284 ±0.331	0.271 ±0.351
subject_12	MSE	0.260 ±0.171	0.239 ±0.207	0.101 ±0.089	0.086 ±0.059	0.130 ±0.116	0.173 ±0.128	0.152 ±0.078	0.197 ±0.070	0.179 ±0.149	0.216 ±0.171	0.103 ±0.113	0.114 ±0.115	0.179 ±0.140	0.100 ±0.091	0.181 ±0.135	0.082 ±0.096	0.172 ±0.144	0.106 ±0.103	0.130 ±0.114	0.106 ±0.109
	Pearson	0.250 ±0.292	0.259 ±0.288	0.225 ±0.278	0.196 ±0.262	0.226 ±0.303	0.157 ±0.279	0.006 ±0.118	0.003 ±0.113	0.205 ±0.276	0.254 ±0.198	0.262 ±0.274	0.265 ±0.265	0.141 ±0.325	0.226 ±0.270	0.110 ±0.256	0.332 ±0.358	0.199 ±0.281	0.273 ±0.353	0.270 ±0.304	0.283 ±0.370
subject_13	MSE	0.072 ±0.067	0.081 ±0.083	0.272 ±0.150	0.210 ±0.147	0.164 ±0.126	0.181 ±0.130	0.208 ±0.111	0.201 ±0.096	0.157 ±0.117	0.076 ±0.077	0.167 ±0.124	0.158 ±0.131	0.239 ±0.150	0.142 ±0.104	0.225 ±0.151	0.104 ±0.094	0.263 ±0.152	0.122 ±0.107	0.204 ±0.145	0.130 ±0.110
	Pearson	0.059 ±0.207	0.271 ±0.268	0.070 ±0.217	0.225 ±0.301	0.134 ±0.292	0.034 ±0.251	0.017 ±0.129	-0.000 ±0.099	0.219 ±0.311	0.245 ±0.244	0.156 ±0.310	0.181 ±0.275	0.259 ±0.266	0.174 ±0.280	0.180 ±0.291	0.220 ±0.345	0.150 ±0.270	0.268 ±0.346	0.235 ±0.306	0.265 ±0.343
subject_14	MSE	0.092 ±0.105	0.135 ±0.121	0.186 ±0.174	0.105 ±0.082	0.100 ±0.099	0.094 ±0.074	0.133 ±0.073	0.127 ±0.067	0.071 ±0.068	0.268 ±0.198	0.087 ±0.098	0.105 ±0.145	0.094 ±0.098	0.075 ±0.066	0.082 ±0.093	0.067 ±0.063	0.083 ±0.090	0.063 ±0.062	0.105 ±0.121	0.061 ±0.063
	Pearson	-0.012 ±0.174	0.170 ±0.286	0.083 ±0.320	0.155 ±0.311	0.231 ±0.297	0.066 ±0.261	-0.015 ±0.090	-0.002 ±0.085	0.309 ±0.334	0.261 ±0.355	0.310 ±0.294	0.316 ±0.292	0.260 ±0.376	0.346 ±0.305	0.298 ±0.389	0.324 ±0.375	0.312 ±0.356	0.322 ±0.365	0.356 ±0.353	0.397 ±0.358
subject_15	MSE	0.268 ±0.219	0.166 ±0.164	0.193 ±0.159	0.083 ±0.073	0.093 ±0.114	0.101 ±0.093	0.090 ±0.070	0.108 ±0.085	0.058 ±0.053	0.141 ±0.150	0.069 ±0.063	0.076 ±0.070	0.068 ±0.071	0.072 ±0.066	0.063 ±0.065	0.073 ±0.071	0.055 ±0.049	0.066 ±0.059	0.056 ±0.053	0.059 ±0.053

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-h (f)	STEEGformer-h (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject ₁₆	Pearson	0.203 ±0.244	0.164 ±0.273	0.084 ±0.349	0.125 ±0.235	0.283 ±0.252	0.161 ±0.313	0.030 ±0.128	-0.004 ±0.069	0.326 ±0.356	0.334 ±0.331	0.323 ±0.281	0.317 ±0.312	0.239 ±0.369	0.340 ±0.289	0.285 ±0.336	0.346 ± 0.321	0.275 ±0.338	0.278 ±0.405	0.316 ±0.356	0.400 ± 0.344
	MSE	0.126 ±0.091	0.132 ±0.119	0.154 ±0.120	0.104 ±0.077	0.131 ±0.141	0.143 ±0.167	0.139 ±0.076	0.184 ±0.075	0.122 ±0.109	0.270 ±0.163	0.094 ±0.094	0.098 ±0.106	0.089 ±0.087	0.105 ±0.097	0.114 ±0.133	0.073 ± 0.073	0.105 ±0.120	0.092 ±0.090	0.086 ±0.092	0.059 ± 0.061
	Pearson	0.238 ±0.301	0.178 ±0.324	0.195 ±0.287	0.150 ±0.343	0.274 ±0.358	0.210 ±0.302	0.014 ±0.119	0.021 ±0.065	0.301 ±0.288	0.230 ±0.258	0.316 ±0.272	0.288 ±0.281	0.390 ± 0.316	0.329 ±0.317	0.344 ±0.331	0.235 ±0.331	0.349 ±0.358	0.219 ±0.362	0.424 ± 0.314	0.314 ±0.342
subject ₁₇	MSE	0.097 ±0.123	0.141 ±0.182	0.157 ±0.169	0.079 ±0.079	0.089 ±0.084	0.100 ±0.097	0.109 ±0.080	0.127 ±0.065	0.098 ±0.092	0.100 ±0.092	0.092 ±0.080	0.098 ±0.089	0.086 ±0.078	0.081 ±0.061	0.085 ±0.076	0.094 ±0.096	0.075 ± 0.067	0.079 ± 0.073	0.103 ±0.089	0.089 ±0.082
	Pearson	0.160 ±0.304	0.114 ±0.352	0.124 ±0.301	0.247 ±0.271	0.182 ±0.336	0.022 ±0.285	0.120 ±0.283	-0.015 ±0.075	0.173 ±0.291	0.247 ±0.273	0.173 ±0.286	0.095 ±0.316	0.252 ±0.302	0.316 ± 0.304	0.220 ±0.326	0.264 ±0.367	0.343 ± 0.291	0.293 ±0.384	0.272 ±0.320	0.250 ±0.354
	MSE	0.151 ±0.108	0.130 ±0.113	0.108 ±0.086	0.096 ±0.068	0.106 ±0.120	0.097 ±0.123	0.141 ±0.091	0.165 ±0.069	0.071 ± 0.075	0.132 ±0.128	0.090 ±0.109	0.098 ±0.126	0.127 ±0.151	0.073 ±0.076	0.087 ±0.111	0.072 ±0.076	0.107 ±0.129	0.075 ±0.067	0.116 ±0.136	0.066 ± 0.084
subject ₁₈	Pearson	0.368 ±0.343	0.346 ±0.308	0.273 ±0.290	0.317 ±0.326	0.284 ±0.275	0.276 ±0.297	0.095 ±0.171	0.007 ±0.096	0.425 ± 0.339	0.348 ±0.284	0.394 ±0.321	0.402 ±0.309	0.357 ±0.344	0.392 ±0.324	0.352 ±0.361	0.395 ±0.330	0.372 ±0.323	0.386 ±0.350	0.383 ±0.359	0.448 ± 0.349
	MSE	0.311 ±0.260	0.146 ±0.161	0.094 ±0.068	0.075 ±0.076	0.084 ±0.093	0.099 ±0.070	0.095 ±0.087	0.103 ±0.085	0.078 ±0.068	0.110 ±0.085	0.081 ±0.077	0.075 ±0.066	0.073 ±0.065	0.070 ±0.069	0.073 ±0.063	0.079 ±0.081	0.069 ±0.054	0.067 ± 0.063	0.072 ±0.057	0.068 ± 0.064
	Pearson	0.140 ±0.252	0.080 ±0.270	0.092 ±0.198	0.237 ±0.270	0.170 ±0.248	0.173 ±0.265	0.024 ±0.116	-0.003 ±0.105	0.162 ±0.295	0.255 ±0.291	0.224 ±0.245	0.287 ±0.254	0.210 ±0.313	0.316 ±0.316	0.172 ±0.217	0.283 ±0.371	0.268 ±0.331	0.347 ± 0.344	0.306 ±0.332	0.370 ± 0.379
subject ₂	MSE	0.303 ±0.271	0.172 ±0.168	0.119 ±0.138	0.114 ±0.125	0.248 ±0.355	0.182 ±0.188	0.113 ±0.130	0.125 ±0.133	0.108 ±0.131	0.088 ±0.074	0.109 ±0.129	0.101 ±0.093	0.099 ±0.107	0.094 ±0.121	0.077 ± 0.059	0.095 ±0.116	0.100 ±0.109	0.081 ± 0.085	0.095 ±0.112	0.092 ±0.105
	Pearson	0.081 ±0.180	0.199 ±0.226	0.215 ±0.250	0.229 ±0.238	-0.237 ±0.359	-0.039 ±0.339	-0.005 ±0.106	0.013 ±0.088	0.103 ±0.218	0.148 ±0.282	0.136 ±0.181	0.273 ±0.260	0.275 ±0.335	0.295 ±0.357	0.287 ±0.296	0.239 ±0.342	0.265 ±0.301	0.298 ± 0.375	0.220 ±0.305	0.387 ± 0.350
	MSE	0.109 ±0.081	0.120 ±0.110	0.151 ±0.070	0.122 ±0.120	0.142 ±0.133	0.118 ±0.072	0.141 ±0.110	0.151 ±0.098	0.097 ±0.090	0.125 ±0.107	0.106 ±0.081	0.161 ±0.109	0.155 ±0.153	0.062 ±0.063	0.105 ±0.072	0.071 ±0.073	0.164 ±0.150	0.058 ± 0.055	0.126 ±0.128	0.047 ± 0.044
subject ₂₀	Pearson	0.311 ±0.303	0.212 ±0.393	0.156 ±0.261	0.194 ±0.418	0.240 ±0.264	0.211 ±0.325	-0.002 ±0.079	-0.006 ±0.066	0.345 ±0.318	0.317 ±0.249	0.093 ±0.349	0.059 ±0.347	0.412 ± 0.304	0.160 ±0.330	0.271 ±0.311	0.167 ±0.368	0.327 ±0.337	0.216 ±0.402	0.388 ± 0.328	0.281 ±0.389
	MSE	1.016 ±0.468	0.287 ±0.158	0.141 ±0.106	0.197 ±0.125	0.218 ±0.222	0.155 ±0.103	0.137 ±0.135	0.140 ±0.119	0.102 ±0.066	0.660 ±0.364	0.099 ±0.089	0.127 ±0.108	0.093 ± 0.065	0.094 ±0.072	0.107 ±0.067	0.096 ±0.063	0.127 ±0.083	0.127 ±0.092	0.099 ±0.069	0.070 ± 0.057
	Pearson	0.182 ±0.324	0.316 ±0.300	0.185 ±0.275	0.299 ±0.305	0.229 ±0.281	0.244 ±0.315	0.060 ±0.101	-0.011 ±0.094	0.340 ±0.307	0.290 ±0.281	0.322 ±0.320	0.315 ±0.303	0.333 ±0.349	0.376 ± 0.348	0.314 ±0.358	0.330 ±0.393	0.313 ±0.337	0.357 ±0.384	0.364 ±0.333	0.377 ± 0.412

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT ^(j)	BIOT ⁽ⁱ⁾	BENDR ^(j)	BENDR ⁽ⁱ⁾	CBraMod ^(j)	CBraMod ⁽ⁱ⁾	EEGPT ^(j)	EEGPT ⁽ⁱ⁾	LaBraM ⁽ⁱ⁾	LaBraM ^(j)	STEEGformer-s ^(j)	STEEGformer-s ⁽ⁱ⁾	STEEGformer-s ^(j)	STEEGformer-s ⁽ⁱ⁾	STEEGformer-l ^(j)	STEEGformer-l ⁽ⁱ⁾
subject.3	MSE	$\begin{matrix} 0.071 \\ \pm 0.043 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.102 \end{matrix}$	$\begin{matrix} 0.166 \\ \pm 0.189 \end{matrix}$	$\begin{matrix} 0.109 \\ \pm 0.123 \end{matrix}$	$\begin{matrix} 0.436 \\ \pm 0.676 \end{matrix}$	$\begin{matrix} 0.197 \\ \pm 0.169 \end{matrix}$	$\begin{matrix} 0.112 \\ \pm 0.070 \end{matrix}$	$\begin{matrix} 0.112 \\ \pm 0.076 \end{matrix}$	$\begin{matrix} 0.095 \\ \pm 0.065 \end{matrix}$	$\begin{matrix} 0.115 \\ \pm 0.138 \end{matrix}$	$\begin{matrix} 0.119 \\ \pm 0.079 \end{matrix}$	$\begin{matrix} 0.120 \\ \pm 0.094 \end{matrix}$	$\begin{matrix} 0.121 \\ \pm 0.105 \end{matrix}$	$\begin{matrix} 0.112 \\ \pm 0.083 \end{matrix}$	$\begin{matrix} 0.136 \\ \pm 0.093 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.076 \end{matrix}$	$\begin{matrix} 0.106 \\ \pm 0.082 \end{matrix}$	$\begin{matrix} 0.100 \\ \pm 0.071 \end{matrix}$	$\begin{matrix} \mathbf{0.077} \\ \pm \mathbf{0.073} \end{matrix}$	$\begin{matrix} 0.087 \\ \pm 0.064 \end{matrix}$
	Pearson	$\begin{matrix} 0.278 \\ \pm 0.281 \end{matrix}$	$\begin{matrix} 0.288 \\ \pm 0.357 \end{matrix}$	$\begin{matrix} 0.191 \\ \pm 0.349 \end{matrix}$	$\begin{matrix} 0.310 \\ \pm 0.318 \end{matrix}$	$\begin{matrix} -0.093 \\ \pm 0.434 \end{matrix}$	$\begin{matrix} 0.030 \\ \pm 0.337 \end{matrix}$	$\begin{matrix} 0.018 \\ \pm 0.135 \end{matrix}$	$\begin{matrix} -0.011 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.248 \\ \pm 0.324 \end{matrix}$	$\begin{matrix} 0.173 \\ \pm 0.282 \end{matrix}$	$\begin{matrix} 0.228 \\ \pm 0.261 \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.282 \end{matrix}$	$\begin{matrix} \mathbf{0.345} \\ \pm \mathbf{0.301} \end{matrix}$	$\begin{matrix} 0.176 \\ \pm 0.319 \end{matrix}$	$\begin{matrix} 0.302 \\ \pm 0.334 \end{matrix}$	$\begin{matrix} 0.323 \\ \pm 0.372 \end{matrix}$	$\begin{matrix} 0.280 \\ \pm 0.341 \end{matrix}$	$\begin{matrix} 0.255 \\ \pm 0.353 \end{matrix}$	$\begin{matrix} 0.394 \\ \pm 0.341 \end{matrix}$	$\begin{matrix} 0.277 \\ \pm 0.355 \end{matrix}$
subject.4	MSE	$\begin{matrix} 0.272 \\ \pm 0.192 \end{matrix}$	$\begin{matrix} 0.137 \\ \pm 0.132 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.084 \end{matrix}$	$\begin{matrix} 0.100 \\ \pm 0.097 \end{matrix}$	$\begin{matrix} 0.107 \\ \pm 0.148 \end{matrix}$	$\begin{matrix} 0.062 \\ \pm 0.056 \end{matrix}$	$\begin{matrix} 0.096 \\ \pm 0.088 \end{matrix}$	$\begin{matrix} 0.132 \\ \pm 0.086 \end{matrix}$	$\begin{matrix} 0.080 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} 0.104 \\ \pm 0.084 \end{matrix}$	$\begin{matrix} 0.080 \\ \pm 0.074 \end{matrix}$	$\begin{matrix} 0.081 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} 0.072 \\ \pm 0.088 \end{matrix}$	$\begin{matrix} \mathbf{0.066} \\ \pm \mathbf{0.066} \end{matrix}$	$\begin{matrix} 0.078 \\ \pm 0.080 \end{matrix}$	$\begin{matrix} 0.089 \\ \pm 0.067 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.092 \end{matrix}$	$\begin{matrix} 0.076 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.079 \\ \pm 0.081 \end{matrix}$	$\begin{matrix} 0.069 \\ \pm 0.065 \end{matrix}$
	Pearson	$\begin{matrix} 0.277 \\ \pm 0.286 \end{matrix}$	$\begin{matrix} 0.290 \\ \pm 0.278 \end{matrix}$	$\begin{matrix} 0.150 \\ \pm 0.283 \end{matrix}$	$\begin{matrix} 0.201 \\ \pm 0.300 \end{matrix}$	$\begin{matrix} 0.169 \\ \pm 0.262 \end{matrix}$	$\begin{matrix} 0.270 \\ \pm 0.329 \end{matrix}$	$\begin{matrix} 0.052 \\ \pm 0.126 \end{matrix}$	$\begin{matrix} 0.017 \\ \pm 0.087 \end{matrix}$	$\begin{matrix} 0.330 \\ \pm 0.272 \end{matrix}$	$\begin{matrix} 0.315 \\ \pm 0.275 \end{matrix}$	$\begin{matrix} 0.316 \\ \pm 0.283 \end{matrix}$	$\begin{matrix} 0.252 \\ \pm 0.288 \end{matrix}$	$\begin{matrix} 0.203 \\ \pm 0.283 \end{matrix}$	$\begin{matrix} 0.352 \\ \pm 0.334 \end{matrix}$	$\begin{matrix} 0.212 \\ \pm 0.357 \end{matrix}$	$\begin{matrix} \mathbf{0.377} \\ \pm \mathbf{0.357} \end{matrix}$	$\begin{matrix} 0.217 \\ \pm 0.330 \end{matrix}$	$\begin{matrix} 0.331 \\ \pm 0.322 \end{matrix}$	$\begin{matrix} 0.232 \\ \pm 0.309 \end{matrix}$	$\begin{matrix} 0.406 \\ \pm 0.334 \end{matrix}$
subject.5	MSE	$\begin{matrix} 0.503 \\ \pm 0.278 \end{matrix}$	$\begin{matrix} 0.112 \\ \pm 0.110 \end{matrix}$	$\begin{matrix} 0.177 \\ \pm 0.191 \end{matrix}$	$\begin{matrix} 0.089 \\ \pm 0.112 \end{matrix}$	$\begin{matrix} 0.253 \\ \pm 0.485 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.121 \end{matrix}$	$\begin{matrix} 0.096 \\ \pm 0.077 \end{matrix}$	$\begin{matrix} 0.138 \\ \pm 0.088 \end{matrix}$	$\begin{matrix} 0.094 \\ \pm 0.094 \end{matrix}$	$\begin{matrix} 0.110 \\ \pm 0.059 \end{matrix}$	$\begin{matrix} 0.104 \\ \pm 0.133 \end{matrix}$	$\begin{matrix} 0.117 \\ \pm 0.151 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.072 \end{matrix}$	$\begin{matrix} \mathbf{0.060} \\ \pm \mathbf{0.060} \end{matrix}$	$\begin{matrix} 0.076 \\ \pm 0.095 \end{matrix}$	$\begin{matrix} 0.073 \\ \pm 0.077 \end{matrix}$	$\begin{matrix} 0.095 \\ \pm 0.101 \end{matrix}$	$\begin{matrix} 0.064 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.074 \\ \pm 0.107 \end{matrix}$	$\begin{matrix} 0.054 \\ \pm 0.056 \end{matrix}$
	Pearson	$\begin{matrix} 0.311 \\ \pm 0.398 \end{matrix}$	$\begin{matrix} 0.382 \\ \pm 0.280 \end{matrix}$	$\begin{matrix} 0.285 \\ \pm 0.308 \end{matrix}$	$\begin{matrix} 0.296 \\ \pm 0.338 \end{matrix}$	$\begin{matrix} 0.144 \\ \pm 0.368 \end{matrix}$	$\begin{matrix} 0.306 \\ \pm 0.276 \end{matrix}$	$\begin{matrix} 0.107 \\ \pm 0.197 \end{matrix}$	$\begin{matrix} 0.006 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.320 \\ \pm 0.353 \end{matrix}$	$\begin{matrix} 0.329 \\ \pm 0.274 \end{matrix}$	$\begin{matrix} 0.278 \\ \pm 0.310 \end{matrix}$	$\begin{matrix} 0.318 \\ \pm 0.295 \end{matrix}$	$\begin{matrix} 0.346 \\ \pm 0.335 \end{matrix}$	$\begin{matrix} 0.378 \\ \pm 0.307 \end{matrix}$	$\begin{matrix} 0.393 \\ \pm 0.359 \end{matrix}$	$\begin{matrix} 0.296 \\ \pm 0.367 \end{matrix}$	$\begin{matrix} 0.335 \\ \pm 0.350 \end{matrix}$	$\begin{matrix} 0.345 \\ \pm 0.391 \end{matrix}$	$\begin{matrix} \mathbf{0.396} \\ \pm \mathbf{0.395} \end{matrix}$	$\begin{matrix} 0.445 \\ \pm 0.347 \end{matrix}$
subject.6	MSE	$\begin{matrix} 0.088 \\ \pm 0.093 \end{matrix}$	$\begin{matrix} 0.162 \\ \pm 0.166 \end{matrix}$	$\begin{matrix} 0.113 \\ \pm 0.102 \end{matrix}$	$\begin{matrix} 0.096 \\ \pm 0.114 \end{matrix}$	$\begin{matrix} 0.092 \\ \pm 0.109 \end{matrix}$	$\begin{matrix} 0.131 \\ \pm 0.144 \end{matrix}$	$\begin{matrix} 0.098 \\ \pm 0.102 \end{matrix}$	$\begin{matrix} 0.107 \\ \pm 0.113 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.105 \end{matrix}$	$\begin{matrix} 0.190 \\ \pm 0.190 \end{matrix}$	$\begin{matrix} 0.091 \\ \pm 0.106 \end{matrix}$	$\begin{matrix} 0.086 \\ \pm 0.100 \end{matrix}$	$\begin{matrix} 0.073 \\ \pm 0.064 \end{matrix}$	$\begin{matrix} 0.079 \\ \pm 0.097 \end{matrix}$	$\begin{matrix} \mathbf{0.077} \\ \pm \mathbf{0.077} \end{matrix}$	$\begin{matrix} 0.109 \\ \pm 0.137 \end{matrix}$	$\begin{matrix} 0.083 \\ \pm 0.086 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.099 \end{matrix}$	$\begin{matrix} 0.086 \\ \pm 0.105 \end{matrix}$	$\begin{matrix} 0.078 \\ \pm 0.089 \end{matrix}$
	Pearson	$\begin{matrix} -0.075 \\ \pm 0.205 \end{matrix}$	$\begin{matrix} 0.216 \\ \pm 0.259 \end{matrix}$	$\begin{matrix} 0.010 \\ \pm 0.214 \end{matrix}$	$\begin{matrix} 0.081 \\ \pm 0.162 \end{matrix}$	$\begin{matrix} 0.136 \\ \pm 0.313 \end{matrix}$	$\begin{matrix} -0.171 \\ \pm 0.244 \end{matrix}$	$\begin{matrix} -0.018 \\ \pm 0.092 \end{matrix}$	$\begin{matrix} 0.016 \\ \pm 0.074 \end{matrix}$	$\begin{matrix} 0.153 \\ \pm 0.237 \end{matrix}$	$\begin{matrix} 0.333 \\ \pm 0.228 \end{matrix}$	$\begin{matrix} 0.058 \\ \pm 0.094 \end{matrix}$	$\begin{matrix} 0.101 \\ \pm 0.188 \end{matrix}$	$\begin{matrix} 0.205 \\ \pm 0.310 \end{matrix}$	$\begin{matrix} 0.132 \\ \pm 0.258 \end{matrix}$	$\begin{matrix} 0.216 \\ \pm 0.273 \end{matrix}$	$\begin{matrix} -0.116 \\ \pm 0.350 \end{matrix}$	$\begin{matrix} 0.157 \\ \pm 0.254 \end{matrix}$	$\begin{matrix} 0.192 \\ \pm 0.281 \end{matrix}$	$\begin{matrix} 0.120 \\ \pm 0.301 \end{matrix}$	$\begin{matrix} \mathbf{0.238} \\ \pm \mathbf{0.318} \end{matrix}$
subject.7	MSE	$\begin{matrix} 0.213 \\ \pm 0.232 \end{matrix}$	$\begin{matrix} 0.124 \\ \pm 0.149 \end{matrix}$	$\begin{matrix} 0.206 \\ \pm 0.255 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.090 \end{matrix}$	$\begin{matrix} 0.219 \\ \pm 0.238 \end{matrix}$	$\begin{matrix} 0.162 \\ \pm 0.152 \end{matrix}$	$\begin{matrix} 0.092 \\ \pm 0.096 \end{matrix}$	$\begin{matrix} 0.102 \\ \pm 0.087 \end{matrix}$	$\begin{matrix} 0.133 \\ \pm 0.128 \end{matrix}$	$\begin{matrix} 0.250 \\ \pm 0.244 \end{matrix}$	$\begin{matrix} 0.086 \\ \pm 0.079 \end{matrix}$	$\begin{matrix} 0.101 \\ \pm 0.087 \end{matrix}$	$\begin{matrix} 0.120 \\ \pm 0.120 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.073 \end{matrix}$	$\begin{matrix} 0.138 \\ \pm 0.148 \end{matrix}$	$\begin{matrix} 0.078 \\ \pm 0.067 \end{matrix}$	$\begin{matrix} 0.144 \\ \pm 0.135 \end{matrix}$	$\begin{matrix} \mathbf{0.080} \\ \pm \mathbf{0.064} \end{matrix}$	$\begin{matrix} 0.115 \\ \pm 0.111 \end{matrix}$	$\begin{matrix} 0.081 \\ \pm 0.070 \end{matrix}$
	Pearson	$\begin{matrix} -0.002 \\ \pm 0.174 \end{matrix}$	$\begin{matrix} 0.231 \\ \pm 0.370 \end{matrix}$	$\begin{matrix} 0.191 \\ \pm 0.300 \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.279 \end{matrix}$	$\begin{matrix} 0.019 \\ \pm 0.397 \end{matrix}$	$\begin{matrix} 0.166 \\ \pm 0.240 \end{matrix}$	$\begin{matrix} 0.012 \\ \pm 0.114 \end{matrix}$	$\begin{matrix} -0.009 \\ \pm 0.098 \end{matrix}$	$\begin{matrix} 0.223 \\ \pm 0.316 \end{matrix}$	$\begin{matrix} 0.178 \\ \pm 0.257 \end{matrix}$	$\begin{matrix} 0.182 \\ \pm 0.218 \end{matrix}$	$\begin{matrix} 0.266 \\ \pm 0.256 \end{matrix}$	$\begin{matrix} 0.286 \\ \pm 0.332 \end{matrix}$	$\begin{matrix} 0.230 \\ \pm 0.315 \end{matrix}$	$\begin{matrix} 0.275 \\ \pm 0.355 \end{matrix}$	$\begin{matrix} 0.306 \\ \pm 0.301 \end{matrix}$	$\begin{matrix} 0.229 \\ \pm 0.321 \end{matrix}$	$\begin{matrix} 0.265 \\ \pm 0.324 \end{matrix}$	$\begin{matrix} 0.279 \\ \pm 0.288 \end{matrix}$	$\begin{matrix} \mathbf{0.287} \\ \pm \mathbf{0.326} \end{matrix}$
subject.8	MSE	$\begin{matrix} 0.526 \\ \pm 0.269 \end{matrix}$	$\begin{matrix} 0.203 \\ \pm 0.143 \end{matrix}$	$\begin{matrix} 0.181 \\ \pm 0.184 \end{matrix}$	$\begin{matrix} 0.197 \\ \pm 0.137 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.069 \end{matrix}$	$\begin{matrix} 0.153 \\ \pm 0.126 \end{matrix}$	$\begin{matrix} 0.113 \\ \pm 0.112 \end{matrix}$	$\begin{matrix} 0.143 \\ \pm 0.140 \end{matrix}$	$\begin{matrix} 0.115 \\ \pm 0.082 \end{matrix}$	$\begin{matrix} 0.072 \\ \pm 0.071 \end{matrix}$	$\begin{matrix} 0.114 \\ \pm 0.096 \end{matrix}$	$\begin{matrix} 0.127 \\ \pm 0.092 \end{matrix}$	$\begin{matrix} 0.089 \\ \pm 0.063 \end{matrix}$	$\begin{matrix} 0.092 \\ \pm 0.075 \end{matrix}$	$\begin{matrix} 0.089 \\ \pm 0.056 \end{matrix}$	$\begin{matrix} 0.104 \\ \pm 0.070 \end{matrix}$	$\begin{matrix} 0.092 \\ \pm 0.062 \end{matrix}$	$\begin{matrix} 0.109 \\ \pm 0.078 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.063 \end{matrix}$	$\begin{matrix} \mathbf{0.084} \\ \pm \mathbf{0.060} \end{matrix}$
	Pearson	$\begin{matrix} 0.209 \\ \pm 0.321 \end{matrix}$	$\begin{matrix} 0.295 \\ \pm 0.272 \end{matrix}$	$\begin{matrix} 0.259 \\ \pm 0.284 \end{matrix}$	$\begin{matrix} 0.229 \\ \pm 0.293 \end{matrix}$	$\begin{matrix} 0.329 \\ \pm 0.280 \end{matrix}$	$\begin{matrix} -0.070 \\ \pm 0.280 \end{matrix}$	$\begin{matrix} 0.059 \\ \pm 0.143 \end{matrix}$	$\begin{matrix} 0.001 \\ \pm 0.114 \end{matrix}$	$\begin{matrix} 0.308 \\ \pm 0.283 \end{matrix}$	$\begin{matrix} 0.315 \\ \pm 0.316 \end{matrix}$	$\begin{matrix} 0.358 \\ \pm 0.295 \end{matrix}$	$\begin{matrix} 0.369 \\ \pm 0.313 \end{matrix}$	$\begin{matrix} 0.381 \\ \pm 0.322 \end{matrix}$	$\begin{matrix} 0.320 \\ \pm 0.351 \end{matrix}$	$\begin{matrix} 0.361 \\ \pm 0.307 \end{matrix}$	$\begin{matrix} 0.319 \\ \pm 0.368 \end{matrix}$	$\begin{matrix} 0.366 \\ \pm 0.295 \end{matrix}$	$\begin{matrix} 0.332 \\ \pm 0.350 \end{matrix}$	$\begin{matrix} \mathbf{0.374} \\ \pm \mathbf{0.315} \end{matrix}$	$\begin{matrix} 0.373 \\ \pm 0.354 \end{matrix}$
subject.9	MSE	$\begin{matrix} 0.100 \\ \pm 0.099 \end{matrix}$	$\begin{matrix} 0.139 \\ \pm 0.181 \end{matrix}$	$\begin{matrix} 0.126 \\ \pm 0.121 \end{matrix}$	$\begin{matrix} 0.088 \\ \pm 0.106 \end{matrix}$	$\begin{matrix} \mathbf{0.077} \\ \pm \mathbf{0.084} \end{matrix}$	$\begin{matrix} 0.092 \\ \pm 0.076 \end{matrix}$	$\begin{matrix} 0.098 \\ \pm 0.090 \end{matrix}$	$\begin{matrix} 0.106 \\ \pm 0.084 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.110 \end{matrix}$	$\begin{matrix} 0.222 \\ \pm 0.230 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.092 \end{matrix}$	$\begin{matrix} 0.090 \\ \pm 0.097 \end{matrix}$	$\begin{matrix} 0.087 \\ \pm 0.099 \end{matrix}$	$\begin{matrix} 0.084 \\ \pm 0.096 \end{matrix}$	$\begin{matrix} 0.089 \\ \pm 0.101 \end{matrix}$	$\begin{matrix} 0.085 \\ \pm 0.096 \end{matrix}$	$\begin{matrix} 0.087 \\ \pm 0.100 \end{matrix}$	$\begin{matrix} 0.077 \\ \pm 0.079 \end{matrix}$	$\begin{matrix} 0.091 \\ \pm 0.102 \end{matrix}$	$\begin{matrix} 0.088 \\ \pm 0.099 \end{matrix}$
	Pearson	$\begin{matrix} 0.068 \\ \pm 0.370 \end{matrix}$	$\begin{matrix} 0.100 \\ \pm 0.336 \end{matrix}$	$\begin{matrix} 0.137 \\ \pm 0.308 \end{matrix}$	$\begin{matrix} 0.154 \\ \pm 0.312 \end{matrix}$	$\begin{matrix} 0.164 \\ \pm 0.304 \end{matrix}$	$\begin{matrix} 0.074 \\ \pm 0.229 \end{matrix}$	$\begin{matrix} 0.000 \\ \pm 0.103 \end{matrix}$	$\begin{matrix} 0.031 \\ \pm 0.109 \end{matrix}$	$\begin{matrix} 0.130 \\ \pm 0.249 \end{matrix}$	$\begin{matrix} 0.266 \\ \pm 0.253 \end{matrix}$	$\begin{matrix} 0.148 \\ \pm 0.257 \end{matrix}$	$\begin{matrix} 0.131 \\ \pm 0.274 \end{matrix}$	$\begin{matrix} 0.160 \\ \pm 0.355 \end{matrix}$	$\begin{matrix} 0.215 \\ \pm 0.375 \end{matrix}$	$\begin{matrix} 0.133 \\ \pm 0.357 \end{matrix}$	$\begin{matrix} 0.198 \\ \pm 0.357 \end{matrix}$	$\begin{matrix} 0.153 \\ \pm 0.351 \end{matrix}$	$\begin{matrix} \mathbf{0.236} \\ \pm \mathbf{0.325} \end{matrix}$	$\begin{matrix} 0.106 \\ \pm 0.373 \end{matrix}$	$\begin{matrix} 0.183 \\ \pm 0.370 \end{matrix}$

H.3 LEAVE-ONE-OUT RESULTS

H.3.1 LEAVE-ONE-OUT ZERO-SHOT EVALUATION

Table 93: Average Leave-One-Out Zero-Shot Performance Across All Subjects.

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.055 ± 0.035	0.452 ± 0.352
EEGNet	0.095 ± 0.077	0.471 ± 0.296
Conformer	0.056 ± 0.060	0.398 ± 0.338
CTNet	0.065 ± 0.052	0.435 ± 0.313
BIOT (f)	0.065 ± 0.060	0.360 ± 0.342
BIOT (l)	0.056 ± 0.042	0.440 ± 0.283
BENDR (f)	0.050 ± 0.037	0.347 ± 0.330
BENDR (l)	0.104 ± 0.077	0.037 ± 0.141
CBraMod (f)	0.062 ± 0.067	0.408 ± 0.361
CBraMod (l)	2.951 ± 2.877	0.232 ± 0.262
EEGPT (f)	0.051 ± 0.040	0.413 ± 0.343
EEGPT (l)	0.063 ± 0.059	0.443 ± 0.332
LaBraM (f)	0.057 ± 0.061	0.421 ± 0.319
LaBraM (l)	0.061 ± 0.057	0.418 ± 0.305
STEEGformer-s (f)	0.055 ± 0.061	0.441 ± 0.370
STEEGformer-s (l)	0.064 ± 0.062	0.372 ± 0.367
STEEGformer-b (f)	0.058 ± 0.055	0.403 ± 0.374
STEEGformer-b (l)	0.057 ± 0.050	0.379 ± 0.338
STEEGformer-l (f)	0.050 ± 0.053	0.445 ± 0.367
STEEGformer-l (l)	0.048 ± 0.045	0.454 ± 0.358

Table 94: Per-Subject Leave-One-Out Zero-Shot Performance.

Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	0.036	0.282	0.013	0.113	0.021	0.081	0.038	0.262	0.008	4.065	0.039	0.008	0.011	0.068	0.007	0.080	0.006	0.039	0.004	0.009
	Pearson	0.922	0.887	0.914	0.769	0.911	0.632	0.787	0.095	0.954	-0.291	0.907	0.944	0.877	0.901	0.969	0.922	0.961	0.926	0.965	0.948
subject_10	MSE	0.035	0.058	0.071	0.028	0.066	0.050	0.047	0.044	0.058	6.811	0.046	0.034	0.069	0.026	0.069	0.030	0.063	0.029	0.058	0.029
	Pearson	0.300	0.355	0.432	0.394	0.322	0.394	0.285	0.025	0.317	0.391	0.430	0.397	0.379	0.150	0.350	0.122	0.359	0.189	0.421	0.224
subject_11	MSE	0.071	0.115	0.043	0.022	0.021	0.024	0.018	0.054	0.016	0.723	0.023	0.018	0.025	0.016	0.017	0.025	0.017	0.019	0.023	0.013
	Pearson	0.232	0.262	0.401	0.281	0.320	0.364	0.358	0.136	0.327	0.248	0.219	0.472	0.252	0.395	0.623	0.313	0.571	0.257	0.545	0.459
subject_12	MSE	0.066	0.123	0.054	0.066	0.098	0.052	0.047	0.145	0.098	12.937	0.087	0.141	0.108	0.072	0.063	0.093	0.131	0.083	0.135	0.067
	Pearson	0.865	0.813	0.787	0.739	0.716	0.862	0.858	0.164	0.861	0.642	0.819	0.766	0.886	0.790	0.881	0.819	0.703	0.845	0.755	0.901
subject_13	MSE	0.078	0.188	0.011	0.088	0.019	0.044	0.082	0.230	0.063	3.250	0.052	0.065	0.024	0.068	0.025	0.104	0.012	0.049	0.013	0.058
	Pearson	0.898	0.840	0.917	0.841	0.941	0.790	0.673	0.196	0.859	0.074	0.905	0.912	0.935	0.819	0.937	0.788	0.948	0.869	0.949	0.916
subject_14	MSE	0.037	0.038	0.031	0.026	0.026	0.026	0.027	0.049	0.023	0.748	0.020	0.023	0.025	0.015	0.022	0.024	0.028	0.018	0.026	0.015
	Pearson	0.723	0.617	0.505	0.623	0.698	0.710	0.653	0.269	0.599	0.514	0.661	0.678	0.553	0.747	0.642	0.679	0.466	0.716	0.629	0.740
subject_15	MSE	0.013	0.005	0.029	0.055	0.075	0.071	0.017	0.044	0.061	1.107	0.047	0.095	0.019	0.025	0.069	0.013	0.080	0.030	0.076	0.041
	Pearson	0.102	0.182	0.191	-0.116	0.052	0.021	-0.101	-0.156	-0.011	0.283	0.077	0.132	0.102	-0.015	-0.026	-0.078	0.010	-0.060	0.027	0.095
subject_16	MSE	0.053	0.206	0.008	0.059	0.028	0.067	0.077	0.248	0.012	2.835	0.116	0.074	0.073	0.147	0.038	0.166	0.043	0.130	0.008	0.057
	Pearson	0.951	0.895	0.973	0.864	0.878	0.714	0.611	-0.137	0.963	0.605	0.750	0.831	0.720	0.523	0.873	0.603	0.848	0.713	0.972	0.876
subject_17	MSE	0.049	0.072	0.006	0.011	0.015	0.028	0.021	0.034	0.007	3.757	0.005	0.014	0.003	0.007	0.004	0.007	0.012	0.009	0.012	0.009
	Pearson	0.233	0.255	0.180	0.338	0.076	0.280	-0.027	0.021	0.214	0.197	0.338	0.448	0.149	0.222	-0.019	0.414	0.314	0.298	0.142	0.385
subject_18	MSE	0.014	0.050	0.009	0.018	0.011	0.007	0.023	0.053	0.023	5.696	0.008	0.010	0.018	0.020	0.013	0.015	0.013	0.009	0.008	0.010
	Pearson	0.343	0.161	0.241	0.051	-0.064	0.141	0.027	-0.019	-0.047	0.239	0.069	0.213	0.149	0.073	-0.056	-0.164	-0.036	-0.004	-0.055	-0.115
subject_19	MSE	0.024	0.053	0.017	0.018	0.041	0.023	0.019	0.025	0.021	2.203	0.038	0.024	0.024	0.028	0.016	0.013	0.033	0.015	0.021	0.023

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (j)	STEEGformer-s (l)	STEEGformer-b (j)	STEEGformer-b (l)	STEEGformer-l (j)	STEEGformer-l (l)
subject.2	Pearson	0.369	0.474	0.409	0.449	0.155	0.430	0.453	0.145	0.208	0.232	0.207	0.194	0.190	0.386	0.393	0.401	0.188	0.414	0.456	0.436
	MSE	0.009	0.105	0.039	0.067	0.062	0.029	0.015	0.092	0.030	1.523	0.010	0.045	0.005	0.022	0.021	0.009	0.040	0.022	0.010	0.038
	Pearson	-0.311	0.101	-0.051	0.047	-0.214	0.066	0.214	-0.151	0.074	0.204	-0.210	-0.108	0.264	0.210	0.221	0.064	-0.024	-0.138	0.302	-0.105
subject.20	MSE	0.091	0.037	0.147	0.186	0.217	0.177	0.134	0.199	0.268	0.071	0.162	0.238	0.200	0.222	0.174	0.249	0.128	0.189	0.126	0.182
	Pearson	-0.096	0.060	-0.060	-0.002	-0.107	-0.059	0.019	-0.036	0.011	0.183	0.100	-0.003	0.096	0.105	0.104	0.034	-0.180	0.039	-0.187	0.070
subject.21	MSE	0.119	0.049	0.121	0.173	0.159	0.122	0.134	0.159	0.187	0.394	0.092	0.123	0.141	0.161	0.172	0.140	0.145	0.130	0.145	0.128
	Pearson	0.373	0.422	0.256	0.582	0.209	0.404	0.515	0.264	0.471	0.077	0.590	0.485	0.274	0.672	0.169	0.651	0.344	0.639	0.355	0.652
subject.3	MSE	0.130	0.228	0.065	0.132	0.041	0.041	0.041	0.026	0.028	4.337	0.049	0.142	0.026	0.031	0.023	0.048	0.045	0.058	0.033	0.024
	Pearson	0.475	0.491	0.222	0.457	0.325	0.348	0.134	0.046	0.159	-0.050	0.120	0.337	0.114	0.231	-0.319	0.372	-0.209	0.254	0.388	0.345
subject.4	MSE	0.033	0.010	0.267	0.127	0.182	0.120	0.076	0.092	0.172	2.989	0.034	0.019	0.217	0.097	0.227	0.083	0.223	0.086	0.190	0.116
	Pearson	0.582	0.554	0.481	0.641	0.483	0.628	0.320	0.060	0.551	-0.345	0.396	0.508	0.516	0.412	0.521	0.292	0.400	0.308	0.449	0.546
subject.5	MSE	0.109	0.194	0.097	0.077	0.147	0.066	0.083	0.158	0.074	3.875	0.085	0.064	0.060	0.105	0.078	0.124	0.078	0.136	0.068	0.081
	Pearson	0.859	0.784	0.648	0.819	0.341	0.846	0.749	0.260	0.834	0.714	0.791	0.885	0.859	0.822	0.820	0.735	0.828	0.537	0.848	0.854
subject.6	MSE	0.030	0.071	0.055	0.023	0.029	0.032	0.031	0.052	0.019	0.527	0.019	0.028	0.023	0.021	0.024	0.027	0.014	0.028	0.023	0.025
	Pearson	0.428	0.713	0.235	0.304	0.205	0.400	0.197	-0.153	0.424	0.224	0.501	0.054	0.450	0.324	0.506	0.055	0.685	0.233	0.436	0.309
subject.7	MSE	0.082	0.054	0.016	0.007	0.012	0.012	0.021	0.028	0.021	1.491	0.017	0.023	0.022	0.018	0.007	0.033	0.022	0.029	0.006	0.009
	Pearson	0.043	0.105	-0.042	0.076	0.316	0.290	-0.177	-0.126	-0.035	0.275	0.130	0.266	0.336	-0.086	0.341	-0.427	-0.017	-0.077	-0.259	0.143
subject.8	MSE	0.056	0.034	0.061	0.058	0.075	0.100	0.093	0.150	0.088	0.126	0.097	0.127	0.094	0.095	0.075	0.063	0.067	0.075	0.055	0.070
	Pearson	0.872	0.859	0.856	0.862	0.861	0.855	0.844	-0.026	0.909	0.378	0.926	0.907	0.892	0.853	0.929	0.894	0.922	0.870	0.946	0.911
subject.9	MSE	0.014	0.024	0.021	0.011	0.015	0.013	0.014	0.039	0.022	2.497	0.021	0.019	0.011	0.019	0.008	0.005	0.008	0.009	0.017	0.009
	Pearson	0.326	0.059	-0.146	0.111	0.147	0.127	-0.105	-0.095	-0.067	0.068	-0.064	-0.009	-0.158	0.252	0.408	0.317	0.375	0.137	0.258	-0.051

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H.3.2 LEAVE-ONE-OUT FINE-TUNING RESULTS

Table 95: Average Leave-One-Out Fine-Tuned Performance Across All Subjects.

Model (Training strategy)	MSE	Pearson
DeepConvnet	0.086 ± 0.058	0.472 ± 0.246
EEGNet	0.102 ± 0.063	0.412 ± 0.198
Conformer	0.081 ± 0.067	0.527 ± 0.218
CTNet	0.102 ± 0.064	0.333 ± 0.250
BIOT (f)	0.074 ± 0.056	0.526 ± 0.222
BIOT (l)	0.078 ± 0.059	0.538 ± 0.291
BENDR (f)	0.075 ± 0.063	0.513 ± 0.212
BENDR (l)	0.144 ± 0.055	0.032 ± 0.089
CBraMod (f)	0.057 ± 0.036	0.654 ± 0.167
CBraMod (l)	2.222 ± 5.281	0.097 ± 0.329
EEGPT (f)	0.060 ± 0.050	0.606 ± 0.269
EEGPT (l)	0.082 ± 0.060	0.490 ± 0.251
LaBraM (f)	0.044 ± 0.042	0.747 ± 0.163
LaBraM (l)	0.082 ± 0.048	0.455 ± 0.212
STEEGformer-s (f)	0.057 ± 0.064	0.727 ± 0.155
STEEGformer-s (l)	0.089 ± 0.047	0.393 ± 0.236
STEEGformer-b (f)	0.057 ± 0.047	0.708 ± 0.170
STEEGformer-b (l)	0.083 ± 0.055	0.474 ± 0.236
STEEGformer-l (f)	0.058 ± 0.040	0.621 ± 0.229
STEEGformer-l (l)	0.075 ± 0.058	0.536 ± 0.242

Table 96: Per-Subject Leave-One-Out Fine-Tuned Performance.

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	0.036	0.028	0.034	0.081	0.040	0.033	0.051	0.162	0.064	1.465	0.024	0.059	0.008	0.094	0.019	0.123	0.062	0.062	0.065	0.065
	Pearson	0.422	0.485	0.358	0.167	0.376	0.221	0.108	0.057	0.617	-0.254	0.488	0.026	0.758	0.221	0.574	0.087	0.631	0.319	0.609	0.346
subject_10	MSE	0.021	0.019	0.024	0.026	0.022	0.038	0.028	0.082	0.042	1.506	0.029	0.040	0.013	0.063	0.014	0.037	0.006	0.028	0.027	0.037
	Pearson	0.524	0.266	0.423	0.545	0.379	0.146	0.285	0.090	0.898	0.458	0.378	0.319	0.666	0.152	0.622	0.085	0.811	0.218	0.476	0.519
subject_11	MSE	0.051	0.090	0.040	0.084	0.060	0.042	0.049	0.121	0.044	4.835	0.042	0.047	0.043	0.048	0.027	0.057	0.042	0.056	0.035	0.057
	Pearson	0.425	0.255	0.596	0.099	0.264	0.662	0.506	-0.187	0.404	0.419	0.580	0.480	0.572	0.512	0.818	0.263	0.567	0.302	0.600	0.285
subject_12	MSE	0.089	0.105	0.082	0.106	0.050	0.044	0.040	0.152	0.074	1.303	0.019	0.060	0.076	0.035	0.074	0.039	0.080	0.047	0.060	0.041
	Pearson	0.885	0.691	0.618	0.448	0.758	0.848	0.812	0.102	0.704	-0.382	0.922	0.729	0.561	0.841	0.669	0.843	0.588	0.852	0.708	0.810
subject_13	MSE	0.187	0.168	0.333	0.356	0.297	0.241	0.319	0.330	0.200	0.127	0.212	0.277	0.179	0.253	0.294	0.213	0.210	0.273	0.214	0.299
	Pearson	-0.124	0.080	0.175	-0.353	0.271	0.546	0.351	0.024	0.450	0.253	0.559	0.350	0.487	0.320	0.544	0.396	0.492	0.136	0.403	0.033
subject_14	MSE	0.080	0.087	0.041	0.090	0.043	0.042	0.051	0.121	0.072	0.350	0.059	0.076	0.018	0.048	0.024	0.041	0.017	0.067	0.017	0.035
	Pearson	0.676	0.576	0.740	0.579	0.723	0.742	0.637	0.079	0.638	-0.029	0.576	0.513	0.896	0.664	0.859	0.724	0.894	0.656	0.892	0.799
subject_15	MSE	0.042	0.052	0.046	0.070	0.072	0.028	0.042	0.081	0.043	25.191	0.052	0.051	0.036	0.065	0.024	0.044	0.046	0.052	0.068	0.047
	Pearson	0.099	-0.107	0.077	-0.069	-0.096	0.456	0.166	-0.124	0.639	0.503	-0.235	-0.130	0.426	-0.092	0.622	-0.027	0.603	-0.078	0.336	0.013
subject_16	MSE	0.057	0.060	0.068	0.072	0.028	0.034	0.023	0.111	0.034	0.146	0.032	0.037	0.016	0.049	0.028	0.050	0.030	0.040	0.017	0.029
	Pearson	0.649	0.574	0.616	0.575	0.805	0.791	0.828	0.180	0.810	0.092	0.803	0.714	0.884	0.650	0.781	0.682	0.794	0.745	0.871	0.834
subject_17	MSE	0.043	0.054	0.086	0.072	0.091	0.076	0.117	0.195	0.033	0.369	0.074	0.075	0.069	0.128	0.132	0.163	0.042	0.150	0.044	0.142
	Pearson	0.626	0.574	0.622	0.616	0.531	0.601	0.584	-0.043	0.600	0.193	0.754	0.703	0.759	0.509	0.647	0.454	0.777	0.457	0.642	0.485
subject_18	MSE	0.047	0.080	0.054	0.106	0.108	0.046	0.054	0.136	0.066	0.841	0.030	0.051	0.020	0.083	0.031	0.087	0.016	0.087	0.037	0.064
	Pearson	0.686	0.403	0.689	0.319	0.647	0.787	0.652	0.113	0.629	-0.379	0.834	0.702	0.881	0.559	0.906	0.492	0.932	0.555	0.784	0.677
subject_19	MSE	0.065	0.080	0.084	0.067	0.062	0.054	0.067	0.100	0.022	0.087	0.048	0.053	0.029	0.060	0.077	0.063	0.056	0.060	0.028	0.070
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Subject	Metric	DeepConvNet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_2	Pearson	0.383	0.285	0.467	0.348	0.689	0.585	0.447	0.072	0.695	0.372	0.681	0.638	0.873	0.483	0.476	0.430	0.683	0.562	0.693	0.570
	MSE	0.245	0.208	0.078	0.080	0.055	0.099	0.120	0.223	0.049	1.235	0.037	0.038	0.021	0.068	0.024	0.098	0.040	0.053	0.053	0.082
	Pearson	0.739	0.638	0.696	0.613	0.804	0.507	0.501	0.038	0.805	0.414	0.831	0.790	0.848	0.676	0.857	0.567	0.883	0.676	0.802	0.777
subject_20	MSE	0.143	0.131	0.059	0.100	0.089	0.236	0.040	0.150	0.019	4.153	0.056	0.087	0.024	0.084	0.021	0.102	0.021	0.058	0.035	0.039
	Pearson	0.024	0.484	0.736	0.102	0.388	-0.387	0.765	0.122	0.531	0.386	0.592	0.399	0.856	0.309	0.917	0.253	0.902	0.635	0.581	0.800
subject_21	MSE	0.074	0.220	0.043	0.129	0.085	0.058	0.046	0.157	0.078	0.448	0.032	0.098	0.031	0.065	0.035	0.084	0.082	0.087	0.081	0.051
	Pearson	0.837	0.723	0.834	0.630	0.673	0.844	0.716	-0.103	0.836	0.373	0.824	0.637	0.913	0.719	0.857	0.711	0.836	0.854	0.825	0.803
subject_3	MSE	0.081	0.073	0.107	0.146	0.060	0.097	0.055	0.160	0.066	0.138	0.056	0.083	0.030	0.114	0.042	0.086	0.106	0.088	0.075	0.073
	Pearson	0.514	0.486	0.342	0.399	0.774	0.845	0.784	-0.032	0.637	-0.161	0.849	0.743	0.944	0.497	0.836	0.513	0.326	0.692	0.549	0.673
subject_4	MSE	0.085	0.086	0.061	0.070	0.056	0.071	0.054	0.154	0.033	0.719	0.055	0.074	0.041	0.075	0.044	0.103	0.050	0.082	0.046	0.071
	Pearson	0.476	0.407	0.648	0.432	0.668	0.641	0.649	0.038	0.331	0.151	0.718	0.610	0.772	0.496	0.754	0.444	0.690	0.472	0.188	0.627
subject_5	MSE	0.088	0.074	0.155	0.136	0.075	0.082	0.093	0.118	0.034	1.678	0.110	0.150	0.061	0.112	0.141	0.114	0.118	0.107	0.033	0.098
	Pearson	0.371	0.293	0.134	0.085	0.470	0.242	0.255	-0.012	0.759	0.032	0.492	0.350	0.607	0.215	0.345	-0.028	0.399	0.234	0.790	0.344
subject_6	MSE	0.091	0.153	0.083	0.131	0.090	0.058	0.099	0.133	0.056	0.489	0.043	0.055	0.034	0.063	0.026	0.110	0.036	0.098	0.070	0.061
	Pearson	0.470	0.439	0.769	0.246	0.313	0.795	0.592	0.033	0.711	-0.646	0.837	0.781	0.937	0.585	0.931	0.375	0.909	0.416	0.713	0.678
subject_7	MSE	0.048	0.098	0.038	0.082	0.038	0.088	0.065	0.112	0.057	1.293	0.038	0.084	0.023	0.053	0.027	0.062	0.021	0.059	0.072	0.056
	Pearson	0.510	0.444	0.763	0.310	0.621	0.399	0.503	0.064	0.851	-0.265	0.621	0.250	0.824	0.431	0.840	0.254	0.818	0.418	0.738	0.392
subject_8	MSE	0.198	0.252	0.154	0.105	0.117	0.143	0.138	0.156	0.065	0.098	0.188	0.211	0.139	0.142	0.087	0.164	0.113	0.173	0.066	0.136
	Pearson	0.300	0.201	0.374	0.498	0.486	0.483	0.300	0.012	0.872	0.481	0.074	0.177	0.444	0.336	0.641	0.311	0.563	0.281	0.851	0.321
subject_9	MSE	0.027	0.024	0.025	0.029	0.021	0.031	0.026	0.068	0.054	0.190	0.021	0.022	0.011	0.023	0.013	0.025	0.013	0.020	0.069	0.022
	Pearson	0.413	0.446	0.393	0.398	0.508	0.544	0.337	0.151	0.323	0.028	0.548	0.518	0.784	0.467	0.774	0.427	0.765	0.542	-0.011	0.481

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H.3.3 GENERALIZATION DROP AFTER FINE-TUNING

Table 97: Average Model Performance Drop

Model (Strategy)	MSE	Pearson
DeepConvnet	-0.062 ± 0.030	0.015 ± 0.072
EEGNet	-0.027 ± 0.044	0.004 ± 0.087
Conformer	-0.056 ± 0.026	-0.030 ± 0.080
CTNet	-0.063 ± 0.034	0.063 ± 0.093
BIOT (f)	-0.058 ± 0.023	-0.015 ± 0.079
BIOT (l)	-0.049 ± 0.030	-0.134 ± 0.078
BENDR (f)	-0.039 ± 0.024	-0.112 ± 0.083
BENDR (l)	-0.039 ± 0.027	0.003 ± 0.025
CBraMod (f)	-0.050 ± 0.026	-0.082 ± 0.096
CBraMod (l)	0.468 ± 2.013	0.027 ± 0.131
EEGPT (f)	-0.038 ± 0.016	-0.159 ± 0.058
EEGPT (l)	-0.059 ± 0.023	-0.020 ± 0.084
LaBraM (f)	-0.032 ± 0.021	-0.188 ± 0.082
LaBraM (l)	-0.032 ± 0.022	-0.010 ± 0.064
STEEGformer-s (f)	-0.035 ± 0.031	-0.184 ± 0.071
STEEGformer-s (l)	-0.035 ± 0.019	0.005 ± 0.092
STEEGformer-b (f)	-0.035 ± 0.027	-0.181 ± 0.063
STEEGformer-b (l)	-0.046 ± 0.028	-0.056 ± 0.064
STEEGformer-l (f)	-0.041 ± 0.027	-0.138 ± 0.074
STEEGformer-l (l)	-0.043 ± 0.022	-0.032 ± 0.089

Table 98: Per-Subject Average Drop on Seen Subjects (Post-Fine-Tuning).

Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_1	MSE	-0.034 ±0.028	0.003 ± 0.066	-0.026 ±0.019	-0.045 ±0.038	-0.034 ±0.029	-0.023 ±0.022	-0.014 ±0.024	-0.059 ±0.079	-0.025 ±0.030	-3.729 ±14.777	-0.016 ±0.024	-0.029 ±0.024	-0.010 ± 0.019	-0.020 ±0.053	-0.015 ±0.023	-0.025 ±0.061	-0.021 ±0.031	-0.027 ±0.049	-0.025 ±0.039	-0.032 ±0.040
	Pearson	-0.075 ±0.349	-0.079 ±0.341	-0.182 ±0.358	-0.041 ±0.382	-0.125 ±0.369	-0.201 ±0.343	-0.255 ±0.321	0.045 ±0.149	-0.190 ±0.277	0.053 ±0.330	-0.261 ± 0.401	-0.147 ±0.393	-0.262 ± 0.343	-0.077 ±0.310	-0.253 ±0.363	-0.103 ±0.374	-0.178 ±0.267	-0.129 ±0.361	-0.159 ±0.295	-0.072 ±0.368
subject_10	MSE	-0.047 ±0.036	-0.008 ± 0.072	-0.038 ±0.022	-0.036 ±0.038	-0.038 ±0.024	-0.021 ±0.019	-0.041 ±0.028	-0.028 ±0.078	-0.046 ±0.028	4.667 ± 7.986	-0.030 ±0.022	-0.031 ±0.023	-0.027 ±0.019	-0.012 ±0.046	-0.030 ±0.030	-0.013 ±0.055	-0.022 ±0.022	-0.022 ±0.046	-0.039 ±0.024	-0.020 ±0.034
	Pearson	0.023 ±0.408	-0.010 ±0.412	-0.052 ±0.385	0.075 ±0.427	-0.060 ±0.403	-0.159 ±0.419	-0.054 ±0.333	0.035 ±0.177	-0.038 ±0.316	0.005 ±0.336	-0.181 ±0.421	-0.050 ±0.447	-0.189 ± 0.339	-0.050 ±0.394	-0.126 ±0.350	-0.037 ±0.397	-0.215 ± 0.353	-0.061 ±0.417	-0.171 ±0.389	-0.093 ±0.415
subject_11	MSE	-0.057 ±0.046	-0.058 ±0.083	-0.040 ±0.018	-0.087 ±0.053	-0.048 ±0.021	-0.021 ±0.025	-0.039 ±0.026	-0.017 ±0.087	-0.045 ±0.029	1.094 ± 5.385	-0.027 ±0.021	-0.033 ±0.028	-0.020 ±0.019	-0.014 ± 0.047	-0.023 ±0.019	-0.019 ±0.051	-0.026 ±0.025	-0.024 ±0.038	-0.028 ±0.028	-0.026 ±0.031
	Pearson	0.152 ±0.486	0.133 ±0.447	-0.032 ±0.460	0.200 ±0.481	0.006 ±0.419	-0.223 ±0.352	-0.109 ±0.385	-0.004 ±0.154	-0.014 ±0.340	0.100 ±0.349	-0.204 ±0.378	-0.048 ±0.468	-0.249 ± 0.346	-0.031 ±0.413	-0.228 ± 0.395	0.043 ±0.475	-0.201 ±0.376	-0.027 ±0.393	-0.186 ±0.301	-0.027 ±0.404
subject_12	MSE	-0.077 ±0.044	-0.013 ± 0.067	-0.083 ±0.035	-0.093 ±0.049	-0.086 ±0.034	-0.068 ±0.041	-0.042 ±0.028	-0.092 ±0.074	-0.106 ±0.043	0.454 ± 7.666	-0.031 ±0.021	-0.084 ±0.056	-0.077 ±0.049	-0.060 ±0.058	-0.062 ±0.040	-0.055 ±0.063	-0.059 ±0.048	-0.085 ±0.064	-0.079 ±0.039	-0.064 ±0.047
	Pearson	-0.009 ±0.392	0.012 ±0.377	0.073 ±0.419	0.070 ±0.461	0.075 ±0.396	-0.026 ±0.362	-0.161 ± 0.362	0.002 ±0.143	0.050 ±0.387	0.069 ±0.414	-0.185 ± 0.405	-0.051 ±0.377	0.067 ±0.444	0.053 ±0.320	-0.046 ±0.413	-0.040 ±0.409	-0.057 ±0.456	-0.071 ±0.389	-0.009 ±0.394	-0.028 ±0.360
subject_13	MSE	-0.113 ±0.046	-0.039 ± 0.045	-0.154 ±0.057	-0.173 ±0.058	-0.125 ±0.061	-0.130 ±0.057	-0.129 ±0.054	-0.095 ±0.098	-0.132 ±0.046	-2.438 ±13.922	-0.087 ±0.038	-0.117 ±0.056	-0.086 ±0.042	-0.076 ±0.067	-0.154 ±0.057	-0.053 ± 0.069	-0.142 ±0.051	-0.105 ±0.072	-0.143 ±0.056	-0.123 ±0.068
	Pearson	0.046 ±0.376	-0.104 ±0.357	0.054 ±0.350	0.039 ±0.466	-0.006 ±0.345	-0.162 ± 0.349	0.017 ±0.318	-0.001 ±0.156	-0.044 ±0.300	-0.102 ±0.330	-0.235 ± 0.352	-0.108 ±0.399	-0.125 ±0.344	0.027 ±0.321	-0.082 ±0.343	-0.017 ±0.409	-0.074 ±0.334	-0.119 ±0.351	-0.039 ±0.343	-0.034 ±0.374
subject_14	MSE	-0.037 ±0.040	-0.012 ± 0.063	-0.071 ±0.039	-0.088 ±0.050	-0.056 ±0.043	-0.030 ±0.024	-0.032 ±0.024	-0.041 ±0.075	-0.035 ±0.037	-1.549 ±6.792	-0.037 ±0.029	-0.057 ±0.046	-0.041 ±0.047	-0.030 ±0.058	-0.025 ±0.039	-0.014 ± 0.057	-0.027 ±0.030	-0.025 ±0.047	-0.031 ±0.040	-0.040 ±0.045
	Pearson	-0.008 ±0.354	0.083 ±0.416	0.053 ±0.497	0.071 ±0.424	0.042 ±0.424	-0.187 ±0.325	-0.124 ±0.342	0.019 ±0.190	-0.190 ± 0.284	-0.036 ±0.297	-0.145 ±0.466	-0.016 ±0.451	-0.124 ±0.385	-0.009 ±0.388	-0.229 ± 0.410	-0.096 ±0.438	-0.176 ±0.402	-0.132 ±0.382	-0.148 ±0.438	-0.119 ±0.393
subject_15	MSE	-0.032 ±0.027	-0.015 ±0.058	-0.034 ±0.021	-0.041 ±0.029	-0.038 ±0.020	-0.024 ±0.025	-0.025 ±0.021	-0.012 ±0.078	-0.024 ±0.033	0.054 ± 6.150	-0.029 ±0.021	-0.043 ±0.030	-0.024 ±0.017	-0.013 ±0.048	-0.010 ± 0.026	-0.014 ±0.055	-0.024 ±0.026	-0.022 ±0.043	-0.027 ±0.029	-0.020 ±0.035

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
	Pearson	-0.020 ±0.432	0.069 ±0.499	-0.033 ±0.506	0.112 ±0.422	-0.005 ±0.481	-0.147 ± 0.354	-0.129 ±0.417	0.011 ±0.164	-0.140 ±0.301	-0.031 ±0.356	-0.108 ±0.520	-0.073 ±0.500	-0.131 ±0.393	-0.015 ±0.400	-0.254 ± 0.407	-0.043 ±0.443	-0.141 ±0.293	-0.038 ±0.436	-0.082 ±0.298	-0.071 ±0.487
subject_16	MSE	-0.054 ±0.037	0.005 ± 0.075	-0.044 ±0.024	-0.072 ±0.047	-0.036 ±0.030	-0.023 ±0.015	-0.014 ±0.023	-0.085 ±0.068	-0.035 ±0.031	0.062 ± 4.955	-0.037 ±0.027	-0.042 ±0.034	-0.014 ±0.018	-0.050 ±0.053	-0.019 ±0.034	-0.042 ±0.054	-0.020 ±0.028	-0.043 ±0.047	-0.006 ±0.020	-0.039 ±0.041
	Pearson	-0.036 ±0.385	-0.052 ±0.355	-0.078 ±0.346	0.021 ±0.373	-0.150 ±0.394	-0.259 ± 0.403	-0.227 ±0.372	0.033 ±0.129	-0.153 ±0.298	-0.026 ±0.325	-0.154 ±0.438	-0.103 ±0.444	-0.237 ±0.374	-0.037 ±0.388	-0.225 ±0.385	-0.037 ±0.416	-0.224 ±0.440	-0.119 ±0.406	-0.297 ± 0.399	-0.125 ±0.421
subject_17	MSE	-0.035 ±0.028	0.008 ± 0.060	-0.040 ±0.018	-0.038 ±0.034	-0.046 ±0.019	-0.028 ±0.022	-0.047 ±0.026	-0.021 ±0.070	-0.030 ±0.027	0.741 ± 6.147	-0.033 ±0.020	-0.055 ±0.017	-0.019 ±0.022	-0.033 ±0.055	-0.044 ±0.035	-0.050 ±0.065	-0.031 ±0.027	-0.045 ±0.049	-0.036 ±0.030	-0.051 ±0.037
	Pearson	-0.013 ±0.295	0.011 ±0.313	-0.021 ±0.395	0.135 ±0.327	0.045 ±0.368	-0.150 ±0.331	-0.027 ±0.381	-0.005 ±0.152	-0.203 ±0.317	0.259 ±0.415	-0.151 ±0.384	0.215 ±0.365	-0.245 ± 0.338	-0.001 ±0.349	-0.142 ±0.377	0.065 ±0.418	-0.215 ± 0.340	-0.017 ±0.389	-0.174 ±0.294	0.122 ±0.397
subject_18	MSE	-0.047 ±0.037	0.013 ± 0.071	-0.034 ±0.020	-0.043 ±0.036	-0.090 ±0.061	-0.037 ±0.021	-0.019 ±0.023	-0.064 ±0.079	-0.026 ±0.026	3.223 ± 5.978	-0.030 ±0.027	-0.049 ±0.032	-0.012 ±0.016	-0.031 ±0.054	-0.021 ±0.020	-0.047 ±0.064	-0.021 ±0.026	-0.047 ±0.054	-0.033 ±0.039	-0.042 ±0.048
	Pearson	-0.030 ±0.369	-0.007 ±0.347	-0.118 ±0.423	0.039 ±0.415	0.007 ±0.404	-0.131 ±0.377	-0.182 ±0.350	-0.006 ±0.161	-0.144 ±0.292	0.091 ±0.353	-0.096 ±0.469	-0.041 ±0.463	-0.190 ±0.370	-0.021 ±0.326	-0.210 ± 0.341	-0.006 ±0.389	-0.220 ± 0.382	-0.070 ±0.381	-0.156 ±0.381	-0.042 ±0.399
subject_19	MSE	-0.044 ±0.035	-0.015 ±0.077	-0.052 ±0.026	-0.039 ±0.048	-0.044 ±0.019	-0.030 ±0.027	-0.034 ±0.021	-0.005 ± 0.072	-0.045 ±0.028	2.112 ± 3.820	-0.031 ±0.024	-0.038 ±0.020	-0.021 ±0.019	-0.011 ±0.045	-0.034 ±0.032	-0.014 ±0.051	-0.017 ±0.020	-0.025 ±0.038	-0.039 ±0.027	-0.029 ±0.029
	Pearson	0.037 ±0.419	0.035 ±0.357	0.069 ±0.471	0.064 ±0.441	-0.006 ±0.386	-0.105 ±0.342	-0.111 ±0.352	-0.027 ±0.165	-0.088 ±0.323	-0.046 ±0.317	-0.216 ±0.395	-0.003 ±0.435	-0.267 ± 0.355	-0.023 ±0.367	-0.127 ±0.359	-0.011 ±0.429	-0.248 ± 0.368	-0.007 ±0.369	-0.122 ±0.317	-0.020 ±0.462
subject_2	MSE	-0.101 ±0.061	-0.050 ±0.090	-0.041 ±0.021	-0.041 ±0.028	-0.053 ±0.034	-0.042 ±0.028	-0.041 ±0.032	-0.023 ±0.091	-0.035 ±0.030	1.718 ± 4.427	-0.027 ±0.022	-0.053 ±0.040	-0.018 ±0.021	-0.018 ±0.048	-0.015 ±0.025	-0.013 ± 0.051	-0.017 ±0.025	-0.019 ±0.040	-0.033 ±0.025	-0.025 ±0.033
	Pearson	0.107 ±0.401	0.062 ±0.373	0.029 ±0.441	0.153 ±0.395	0.142 ±0.486	-0.025 ±0.378	0.008 ±0.367	-0.024 ±0.174	-0.035 ±0.268	-0.098 ±0.340	-0.045 ±0.481	0.069 ±0.459	-0.156 ± 0.372	0.070 ±0.407	-0.114 ±0.378	-0.003 ±0.415	-0.146 ± 0.365	-0.061 ±0.367	-0.086 ±0.262	-0.049 ±0.385
subject_20	MSE	-0.049 ±0.048	-0.076 ±0.083	-0.045 ±0.032	-0.063 ±0.053	-0.067 ±0.045	-0.105 ±0.072	-0.012 ±0.022	-0.056 ±0.094	-0.069 ±0.046	0.631 ± 1.631	-0.034 ±0.030	-0.077 ±0.050	-0.037 ±0.029	-0.011 ±0.048	-0.002 ± 0.027	-0.034 ±0.065	-0.034 ±0.042	-0.027 ±0.045	-0.065 ±0.054	-0.039 ±0.038
	Pearson	-0.032 ±0.387	-0.004 ±0.351	-0.060 ±0.382	0.191 ±0.477	-0.040 ±0.397	-0.015 ±0.424	-0.209 ±0.378	0.027 ±0.158	0.005 ±0.376	-0.257 ± 0.393	-0.098 ±0.384	0.051 ±0.453	-0.161 ±0.357	-0.061 ±0.370	-0.252 ± 0.367	0.057 ±0.395	-0.136 ±0.416	-0.055 ±0.493	-0.069 ±0.384	-0.089 ±0.486
subject_21	MSE	-0.151 ±0.072	-0.167 ±0.098	-0.065 ±0.025	-0.109 ±0.043	-0.092 ±0.040	-0.082 ±0.039	-0.036 ±0.018	-0.043 ±0.080	-0.041 ±0.035	0.649 ± 3.899	-0.028 ± 0.019	-0.086 ±0.039	-0.032 ±0.022	-0.069 ±0.048	-0.045 ±0.021	-0.089 ±0.059	-0.052 ±0.035	-0.125 ±0.063	-0.056 ±0.037	-0.064 ±0.032
	Pearson	0.055 ±0.406	-0.096 ±0.433	-0.078 ±0.483	-0.044 ±0.468	0.012 ±0.451	-0.163 ±0.394	-0.157 ±0.392	-0.023 ±0.213	-0.179 ±0.315	-0.061 ±0.332	-0.212 ± 0.453	-0.033 ±0.471	-0.257 ± 0.358	-0.056 ±0.383	-0.158 ±0.402	-0.058 ±0.429	-0.158 ±0.292	-0.088 ±0.399	-0.112 ±0.306	-0.051 ±0.427

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Subject	Metric	DeepConvnet	EEGNet	Conformer	CTNet	BIOT (f)	BIOT (l)	BENDR (f)	BENDR (l)	CBraMod (f)	CBraMod (l)	EEGPT (f)	EEGPT (l)	LaBraM (f)	LaBraM (l)	STEEGformer-s (f)	STEEGformer-s (l)	STEEGformer-b (f)	STEEGformer-b (l)	STEEGformer-l (f)	STEEGformer-l (l)
subject_3	MSE	-0.066 ±0.041	-0.011 ± 0.037	-0.059 ±0.036	-0.094 ±0.051	-0.065 ±0.035	-0.083 ±0.032	-0.057 ±0.039	-0.028 ±0.078	-0.054 ±0.030	1.144 ± 4.973	-0.055 ±0.033	-0.073 ±0.043	-0.028 ±0.030	-0.084 ±0.073	-0.041 ±0.033	-0.047 ±0.068	-0.042 ±0.027	-0.077 ±0.069	-0.032 ±0.029	-0.060 ±0.054
	Pearson	-0.013 ±0.384	-0.071 ±0.376	-0.046 ±0.452	-0.023 ±0.410	-0.071 ±0.378	-0.142 ±0.336	-0.107 ±0.320	0.014 ±0.208	-0.073 ±0.337	0.088 ±0.372	-0.190 ±0.390	-0.083 ±0.370	-0.213 ± 0.356	0.076 ±0.367	-0.191 ±0.360	-0.011 ±0.404	-0.134 ±0.350	-0.087 ±0.374	-0.202 ± 0.307	-0.048 ±0.398
subject_4	MSE	-0.045 ±0.043	-0.001 ± 0.062	-0.043 ±0.035	-0.023 ±0.036	-0.046 ±0.034	-0.040 ±0.035	-0.026 ±0.027	-0.033 ±0.083	-0.031 ±0.033	1.065 ± 4.849	-0.029 ±0.028	-0.050 ±0.036	-0.029 ±0.032	-0.017 ±0.054	-0.028 ±0.034	-0.037 ±0.063	-0.023 ±0.037	-0.037 ±0.053	-0.041 ±0.037	-0.035 ±0.043
	Pearson	0.035 ±0.386	-0.049 ±0.342	-0.058 ±0.410	-0.020 ±0.401	0.004 ±0.357	-0.028 ±0.395	-0.141 ± 0.376	-0.047 ±0.141	-0.129 ±0.336	0.068 ±0.355	-0.122 ±0.410	0.033 ±0.444	-0.136 ±0.358	-0.010 ±0.323	-0.103 ±0.357	-0.037 ±0.415	-0.178 ± 0.386	-0.020 ±0.374	-0.010 ±0.329	-0.054 ±0.422
subject_5	MSE	-0.065 ±0.036	-0.005 ± 0.074	-0.054 ±0.037	-0.040 ±0.040	-0.027 ±0.022	-0.037 ±0.025	-0.033 ±0.027	-0.043 ±0.076	-0.039 ±0.025	-1.620 ±2.747	-0.046 ±0.034	-0.064 ±0.051	-0.016 ± 0.020	-0.027 ±0.058	-0.037 ±0.039	-0.029 ±0.052	-0.021 ±0.030	-0.032 ±0.042	-0.024 ±0.017	-0.027 ±0.041
	Pearson	-0.068 ±0.426	-0.077 ±0.388	-0.075 ±0.476	-0.082 ±0.452	-0.159 ±0.447	-0.163 ±0.439	-0.153 ±0.387	-0.024 ±0.176	-0.108 ±0.324	-0.088 ±0.331	-0.142 ±0.483	-0.055 ±0.461	-0.234 ± 0.382	-0.091 ±0.375	-0.104 ±0.436	-0.030 ±0.423	-0.187 ± 0.442	-0.102 ±0.409	-0.132 ±0.333	-0.095 ±0.482
subject_6	MSE	-0.054 ±0.043	-0.009 ±0.092	-0.064 ±0.049	-0.048 ±0.039	-0.053 ±0.028	-0.029 ±0.029	-0.049 ±0.042	-0.008 ± 0.081	-0.046 ±0.038	-3.346 ±10.389	-0.026 ±0.027	-0.036 ±0.029	-0.022 ±0.020	-0.008 ± 0.045	-0.017 ±0.021	-0.027 ±0.062	-0.022 ±0.026	-0.029 ±0.043	-0.030 ±0.033	-0.028 ±0.035
	Pearson	0.163 ±0.376	0.127 ±0.343	0.112 ±0.383	0.087 ±0.331	0.120 ±0.338	-0.140 ±0.334	0.006 ±0.318	0.001 ±0.225	-0.135 ±0.326	0.240 ±0.416	-0.243 ±0.368	0.036 ±0.359	-0.266 ± 0.343	-0.051 ±0.337	-0.272 ± 0.380	0.240 ±0.349	-0.219 ±0.364	0.022 ±0.399	-0.193 ±0.423	0.009 ±0.417
subject_7	MSE	-0.053 ±0.028	0.001 ± 0.061	-0.071 ±0.047	-0.067 ±0.043	-0.072 ±0.046	-0.082 ±0.059	-0.033 ±0.018	-0.004 ±0.074	-0.071 ±0.040	1.895 ± 5.323	-0.053 ±0.028	-0.093 ±0.050	-0.065 ±0.044	-0.038 ±0.053	-0.066 ±0.051	-0.045 ±0.060	-0.050 ±0.038	-0.061 ±0.056	-0.022 ±0.050	-0.055 ±0.045
	Pearson	0.138 ±0.373	0.055 ±0.440	-0.081 ±0.447	0.115 ±0.360	0.006 ±0.360	-0.072 ±0.373	-0.101 ±0.345	0.035 ±0.177	0.127 ±0.361	0.243 ±0.418	-0.118 ±0.377	0.093 ±0.398	-0.056 ±0.400	0.075 ±0.325	-0.169 ± 0.426	0.087 ±0.340	-0.094 ±0.439	0.023 ±0.385	-0.134 ± 0.361	0.074 ±0.402
subject_8	MSE	-0.095 ±0.066	-0.118 ±0.090	-0.056 ±0.035	-0.041 ±0.039	-0.050 ±0.032	-0.054 ±0.046	-0.059 ±0.048	-0.040 ±0.098	-0.057 ±0.050	0.899 ± 3.249	-0.070 ±0.052	-0.086 ±0.042	-0.050 ±0.038	-0.028 ±0.059	-0.025 ± 0.034	-0.044 ±0.063	-0.044 ±0.035	-0.051 ±0.058	-0.043 ±0.029	-0.039 ±0.045
	Pearson	-0.104 ±0.371	-0.154 ±0.401	-0.179 ±0.406	-0.104 ±0.425	-0.132 ±0.413	-0.301 ± 0.305	-0.186 ±0.367	-0.019 ±0.120	-0.157 ±0.292	-0.108 ±0.289	-0.174 ±0.454	-0.144 ±0.457	-0.244 ±0.357	-0.126 ±0.369	-0.300 ± 0.355	-0.104 ±0.421	-0.264 ±0.351	-0.153 ±0.404	-0.286 ±0.325	-0.127 ±0.441
subject_9	MSE	-0.039 ±0.031	-0.008 ± 0.070	-0.054 ±0.020	-0.047 ±0.032	-0.046 ±0.020	-0.043 ±0.019	-0.044 ±0.021	-0.012 ±0.072	-0.050 ±0.044	2.091 ± 6.168	-0.045 ±0.020	-0.045 ±0.019	-0.014 ±0.017	-0.027 ±0.045	-0.026 ±0.019	-0.030 ±0.048	-0.015 ±0.016	-0.037 ±0.035	-0.039 ±0.024	-0.048 ±0.029
	Pearson	-0.036 ±0.351	0.200 ±0.422	0.083 ±0.419	0.259 ±0.387	-0.032 ±0.408	-0.018 ±0.365	0.051 ±0.299	0.028 ±0.194	0.125 ±0.428	0.201 ±0.404	-0.053 ±0.378	0.050 ±0.389	-0.267 ±0.348	0.153 ±0.345	-0.270 ± 0.387	0.243 ±0.434	-0.330 ± 0.402	0.128 ±0.401	-0.141 ±0.383	0.267 ±0.410