

ResNet 50	SGD / Step	ACC					SGD / Step	ROC				
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	91.48	91.22	91.98	91.31	91.8	1.00E-01	0.8516	0.8495	0.8616	0.8002	0.8375
	1.00E-02	94.56	94.28	94.51	94.32	94.36	1.00E-02	0.9279	0.9288	0.9244	0.9303	0.9295
	1.00E-03	93.68	93.83	93.81	93.73	93.63	1.00E-03	0.9198	0.9141	0.9156	0.9172	0.9162
	1.00E-04	92.15	92.14	92.18	92.19	92.16	1.00E-04	0.8668	0.8678	0.8607	0.8701	0.8687
	SGD / Cosine						SGD / Cosine					
	1.00E-01	92.31	91.19	91.46	91.84	89.35	1.00E-01	0.8736	0.8416	0.8537	0.853	0.8364
	1.00E-02	94.29	94.19	94.47	94.38	94.42	1.00E-02	0.927	0.9229	0.9311	0.9253	0.9293
	1.00E-03	93.62	93.8	93.69	93.84	93.75	1.00E-03	0.9179	0.9164	0.917	0.9198	0.9154
	1.00E-04	92.37	92.06	92.18	92.25	92.14	1.00E-04	0.8689	0.8676	0.8645	0.8659	0.8545
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.29	92.11	92.10	92.24	92.16	1.00E-02	0.8725	0.8779	0.8772	0.8711	0.8766
	1.00E-03	92.31	92.69	92.81	92.81	92.84	1.00E-03	0.8880	0.8976	0.8959	0.8987	0.9039
	1.00E-04	93.99	95.08	95.26	95.29	95.34	1.00E-04	0.9376	0.9480	0.9524	0.9513	0.9512
	1.00E-05	93.42	94.59	94.80	94.52	94.58	1.00E-05	0.9169	0.9357	0.9371	0.9336	0.9341
AlexNet	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	0	0	0	0	0	1.00E-01	0	0	0	0	0
	1.00E-02	92.95	93.13	93.17	93.12	93.14	1.00E-02	0.9023	0.9044	0.9074	0.9065	0.9068
	1.00E-03	92.93	92.91	93.09	93.12	93.12	1.00E-03	0.8994	0.8978	0.8984	0.9008	0.9018
	1.00E-04	92.46	92.47	92.49	92.46	92.37	1.00E-04	0.8691	0.8685	0.8627	0.8731	0.8647
	SGD / Cosine						SGD / Cosine					
	1.00E-01	0	0	0	0	0	1.00E-01	0	0	0	0	0
	1.00E-02	92.66	93.07	93.07	93.09	93.19	1.00E-02	0.8931	0.905	0.9124	0.9076	0.9126
	1.00E-03	93.04	93.12	93.13	93	93	1.00E-03	0.8989	0.8983	0.8992	0.8996	0.8994
	1.00E-04	92.4	92.49	92.38	92.43	92.53	1.00E-04	0.8669	0.8697	0.8698	0.8673	0.8652
	Adam / Cosine						Adam / Cosine					
	1.00E-02	91.22	91.22	91.22	91.22	91.22	1.00E-02	0.5000	0.5003	0.5000	0.5000	0.6797
	1.00E-03	92.32	91.22	91.22	91.22	92.59	1.00E-03	0.8747	0.5000	0.5000	0.5000	0.8996
	1.00E-04	92.94	93.81	93.74	93.93	93.62	1.00E-04	0.9082	0.9280	0.9254	0.9283	0.9263
	1.00E-05	92.64	93.36	93.33	93.32	93.44	1.00E-05	0.8817	0.9127	0.8961	0.9078	0.9021
VGG13BN	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	92.29	92.34	92.27	0	92.31	1.00E-01	0.8774	0.8822	0.8829	0	0.8831
	1.00E-02	94.23	94.2	94.37	94.24	94.5	1.00E-02	0.9333	0.9296	0.9342	0.9343	0.9331
	1.00E-03	93.51	93.4	93.44	93.43	93.4	1.00E-03	0.9143	0.9126	0.9138	0.916	0.9136
	1.00E-04	92.18	92.35	92.34	92.36	92.33	1.00E-04	0.8781	0.8768	0.8758	0.8767	0.8742
	SGD / Cosine						SGD / Cosine					
	1.00E-01	92.36	92.48	92.5	92.3	92.19	1.00E-01	0.8869	0.8921	0.8912	0.8832	0.8798
	1.00E-02	94.5	94.26	94.19	94.41	94.34	1.00E-02	0.9349	0.9362	0.9364	0.9342	0.9362
	1.00E-03	93.47	93.44	93.41	93.33	93.39	1.00E-03	0.9116	0.9148	0.9132	0.9149	0.9154
	1.00E-04	92.31	92.34	92.3	92.2	92.29	1.00E-04	0.8738	0.8734	0.8773	0.8772	0.876
	Adam / Cosine						Adam / Cosine					
	1.00E-02	91.74	91.22	91.22	91.22	91.22	1.00E-02	0.8698	0.5441	0.5528	0.6266	0.5941

	1.00E-03	92.40	92.44	93.00	93.06	93.00	1.00E-03	0.8911	0.8974	0.9161	0.9141	0.9145
	1.00E-04	94.92	95.01	94.96	94.74	95.07	1.00E-04	0.9521	0.9529	0.9509	0.9479	0.9499
	1.00E-05	94.12	94.14	94.05	94.00	94.08	1.00E-05	0.9421	0.9373	0.9363	0.9368	0.9383
PNASNet5	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	92.93	94.92	94.84	94.67	95.01	1.00E-01	0.904	0.9441	0.9426	0.9395	0.9373
	1.00E-02	94.51	94.42	94.33	94.46	94.38	1.00E-02	0.9341	0.931	0.9297	0.9246	0.9297
	1.00E-03	93.16	93.02	92.95	93.12	93.12	1.00E-03	0.8969	0.8908	0.8935	0.8959	0.8948
	1.00E-04	91.64	91.59	91.68	91.74	91.65	1.00E-04	0.828	0.8272	0.8263	0.8253	0.8319
	SGD / Cosine						SGD / Cosine					
	1.00E-01	93.45	94.98	95.1	95.16	95.06	1.00E-01	0.9126	0.9445	0.9393	0.9449	0.9365
	1.00E-02	94.4	94.47	94.33	94.19	94.53	1.00E-02	0.9316	0.933	0.9316	0.932	0.929
	1.00E-03	93.13	93.14	92.98	93.05	93.14	1.00E-03	0.8933	0.8934	0.8928	0.8904	0.8918
	1.00E-04	91.63	91.61	91.58	91.64	91.77	1.00E-04	0.8265	0.8242	0.8213	0.8289	0.825
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.53	92.37	92.56	91.96	92.31	1.00E-02	0.8876	0.8962	0.8872	0.8587	0.8847
	1.00E-03	93.05	94.54	94.74	94.37	94.66	1.00E-03	0.9209	0.9456	0.9459	0.9448	0.9465
	1.00E-04	93.49	96.01	95.90	95.87	96.05	1.00E-04	0.9147	0.9525	0.9572	0.9553	0.9560
	1.00E-05	92.87	94.32	94.42	94.41	94.44	1.00E-05	0.8912	0.9353	0.9342	0.9310	0.9350
Resnet152	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	92.1	91.83	91.76	91.8	91.74	1.00E-01	0.8652	0.8508	0.8428	0.8532	0.8414
	1.00E-02	94.5	94.62	94.53	94.44	94.61	1.00E-02	0.9309	0.9306	0.9336	0.9301	0.9312
	1.00E-03	93.66	93.77	93.68	93.75	93.86	1.00E-03	0.9159	0.9216	0.9201	0.9199	0.9192
	1.00E-04	92.44	92.26	92.51	92.36	92.43	1.00E-04	0.8698	0.8658	0.8721	0.8678	0.8535
	SGD / Cosine						SGD / Cosine					
	1.00E-01	92.15	91.69	91.89	92.18	91.61	1.00E-01	0.8715	0.8461	0.8579	0.8666	0.8445
	1.00E-02	94.68	94.11	94.42	94	94.86	1.00E-02	0.9303	0.9277	0.9332	0.93	0.9337
	1.00E-03	93.81	93.71	93.64	93.69	93.71	1.00E-03	0.9209	0.9195	0.921	0.9201	0.9223
	1.00E-04	92.42	92.39	92.37	92.51	92.36	1.00E-04	0.8722	0.8761	0.8691	0.8699	0.8639
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.33	92.24	92.38	92.14	92.05	1.00E-02	0.8716	0.8829	0.8730	0.8713	0.8798
	1.00E-03	92.49	92.77	92.75	92.73	92.75	1.00E-03	0.8855	0.8982	0.8943	0.8949	0.9020
	1.00E-04	94.13	95.21	95.28	95.20	95.49	1.00E-04	0.9370	0.9551	0.9535	0.9562	0.9549
	1.00E-05	93.34	94.95	94.73	94.94	94.77	1.00E-05	0.9229	0.9418	0.9402	0.9400	0.9453
MobileNetV3 Sm	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	92.22	93.78	94.04	94.02	93.69	1.00E-01	0.8868	0.9275	0.9349	0.9321	0.9293
	1.00E-02	93.89	94.01	93.95	94.14	94.06	1.00E-02	0.9338	0.933	0.9335	0.9354	0.9307
	1.00E-03	93.17	92.96	93.04	92.94	93.14	1.00E-03	0.9017	0.8944	0.8966	0.8968	0.8993
	1.00E-04	91.82	92.05	91.97	92.19	91.85	1.00E-04	0.8333	0.8487	0.8409	0.8531	0.8439
	SGD / Cosine						SGD / Cosine					
	1.00E-01	92.49	93.78	93.73	94.1	94.4	1.00E-01	0.8962	0.9312	0.9278	0.9299	0.9393
	1.00E-02	93.62	94.01	93.86	94.04	93.95	1.00E-02	0.9321	0.9347	0.9271	0.9296	0.9332
	1.00E-03	92.92	93.08	93.03	93.1	93.06	1.00E-03	0.8999	0.899	0.8966	0.8994	0.8991

	1.00E-04	92.04	91.98	92.15	91.88	91.91	1.00E-04	0.8513	0.8471	0.8479	0.8384	0.8547
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.4	92.97	92.67	93.09	92.87	1.00E-02	0.8944	0.9143	0.9042	0.9146	0.9078
	1.00E-03	92.69	94.5	94.62	94.69	94.49	1.00E-03	0.908	0.9418	0.9455	0.9452	0.944
	1.00E-04	92.09	94.33	94.16	94.24	94.08	1.00E-04	0.8664	0.9372	0.9326	0.9308	0.9302
	1.00E-05	91.22	92.59	92.64	92.58	92.61	1.00E-05	0.8526	0.8938	0.8961	0.8905	0.8896
DeiT Tiny	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	91.34	0	91.41	0	91.22	1.00E-01	0.7999	0	0.7918	0	0.8127
	1.00E-02	94.46	94.44	94.51	94.46	94.57	1.00E-02	0.94	0.9381	0.9381	0.9367	0.9406
	1.00E-03	94.49	94.42	94.44	94.62	94.34	1.00E-03	0.9354	0.9386	0.9368	0.9355	0.9328
	1.00E-04	92.93	92.76	92.87	92.91	93.05	1.00E-04	0.8928	0.8881	0.8966	0.8927	0.8945
	SGD / Cosine						SGD / Cosine					
	1.00E-01	91.3	0	91.32	91.22	0	1.00E-01	0.815	0	0.792	0.7564	0
	1.00E-02	94.28	94.32	94.63	94.34	94.66	1.00E-02	0.9293	0.9328	0.9392	0.9349	0.9356
	1.00E-03	94.37	94.43	94.32	94.32	94.31	1.00E-03	0.9374	0.9348	0.9372	0.9346	0.9349
	1.00E-04	92.98	93.09	93.04	93.05	92.97	1.00E-04	0.8899	0.894	0.8944	0.8933	0.8919
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.19	92.2	91.44	91.61	91.87	1.00E-02	0.8606	0.8496	0.8132	0.8249	0.8245
	1.00E-03	92.66	93.13	92.93	92.95	92.84	1.00E-03	0.8819	0.9036	0.9006	0.8969	0.9020
	1.00E-04	92.53	95.11	95.26	95.38	95.12	1.00E-04	0.8731	0.9509	0.9510	0.9509	0.9501
	1.00E-05	91.29	94.06	94.48	94.46	94.56	1.00E-05	0.8558	0.9305	0.9385	0.9335	0.9359
DeiT Small	SGD / Step						SGD / Step					
	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
	1.00E-01	0	0	91.39	0	0	1.00E-01	0	0	0.8113	0	0
	1.00E-02	94.89	95.06	94.98	94.82	94.99	1.00E-02	0.944	0.9426	0.9451	0.9407	0.9439
	1.00E-03	94.45	94.59	94.34	94.38	94.33	1.00E-03	0.9372	0.935	0.9336	0.9346	0.9282
	1.00E-04	92.71	92.53	92.7	92.62	92.48	1.00E-04	0.8902	0.8798	0.8802	0.8833	0.8693
	SGD / Cosine						SGD / Cosine					
	1.00E-01	0	0	0	0	91.22	1.00E-01	0	0	0	0	0.626
	1.00E-02	95.02	95.17	94.5	94.79	95.23	1.00E-02	0.944	0.9433	0.9355	0.9391	0.9438
	1.00E-03	94.44	94.59	94.44	94.58	94.44	1.00E-03	0.9365	0.9341	0.9309	0.9344	0.93
	1.00E-04	92.52	92.57	92.54	92.69	92.63	1.00E-04	0.8822	0.8874	0.8791	0.8905	0.885
	Adam / Cosine						Adam / Cosine					
	1.00E-02	92.36	91.70	91.68	91.36	91.25	1.00E-02	0.8745	0.8251	0.8245	0.8083	0.8173
	1.00E-03	92.59	93.10	92.86	93.05	93.30	1.00E-03	0.8882	0.9064	0.8993	0.9069	0.9047
	1.00E-04	92.79	95.92	95.96	95.91	96.16	1.00E-04	0.8960	0.9548	0.9579	0.9583	0.9571
	1.00E-05	92.43	94.66	95.17	95.06	95.14	1.00E-05	0.8737	0.9390	0.9479	0.9490	0.9461
ShuffleNet_V2_X	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0
SGD / Step	1.00E-01	92.83	93.36	93.56	93.41	93.58	1.00E-01	0.8997	0.9200	0.9232	0.9212	0.9251
	1.00E-02	92.77	92.89	92.87	92.78	92.91	1.00E-02	0.9108	0.9066	0.9062	0.9072	0.9049
	1.00E-03	91.22	91.22	91.22	91.22	91.22	1.00E-03	0.8457	0.8433	0.8430	0.8454	0.8449
	1.00E-04	91.22	91.22	91.22	91.22	91.22	1.00E-04	0.4437	0.4778	0.4942	0.4842	0.4567
SGD / Cosine	1.00E-01	93.11	93.64	93.68	93.70	93.53	1.00E-01	0.9147	0.9267	0.9251	0.9262	0.9257
	1.00E-02	92.89	92.89	92.83	92.87	92.84	1.00E-02	0.9113	0.9070	0.9077	0.9074	0.9081

	1.00E-03	91.22	91.22	91.22	91.22	91.22	1.00E-03	0.8468	0.8422	0.8419	0.8451	0.8436
	1.00E-04	91.22	91.22	91.22	91.22	91.22	1.00E-04	0.5189	0.4716	0.4950	0.5757	0.4961
Adam / Cosine	1.00E-02	92.52	92.62	92.80	92.80	92.77	1.00E-02	0.8936	0.8992	0.9039	0.9062	0.9039
	1.00E-03	93.58	93.69	93.76	93.78	93.73	1.00E-03	0.9243	0.9251	0.9259	0.9274	0.9289
	1.00E-04	93.32	93.00	93.05	93.05	93.08	1.00E-04	0.9221	0.9114	0.9121	0.9111	0.9137
	1.00E-05	91.22	91.22	91.22	91.22	91.22	1.00E-05	0.8631	0.8556	0.8571	0.8606	0.8584
SqueezeNet1_1 lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	lr \ wd	1.00E-03	1.00E-04	1.00E-05	1.00E-06	0	0
SGD / Step	1.00E-01	91.22	91.22	91.22	91.22	91.22	1.00E-01	0.0000	0.0000	0.0000	0.0000	0.0000
	1.00E-02	92.34	92.45	92.54	92.49	92.44	1.00E-02	0.8741	0.8812	0.8855	0.8850	0.8850
	1.00E-03	92.99	92.92	92.89	92.98	92.87	1.00E-03	0.8883	0.8989	0.8805	0.8979	0.8913
	1.00E-04	92.59	92.58	92.44	92.56	92.31	1.00E-04	0.8492	0.8601	0.8601	0.8630	0.8605
SGD / Cosine	1.00E-01	91.22	91.22	91.22	91.22	91.22	1.00E-01	0.0000	0.0000	0.0000	0.0000	0.0000
	1.00E-02	92.80	91.22	92.60	92.96	92.99	1.00E-02	0.8991	0.0000	0.8857	0.9033	0.9063
	1.00E-03	93.12	93.21	93.06	92.83	92.75	1.00E-03	0.8971	0.8892	0.8966	0.8930	0.8854
	1.00E-04	92.45	92.47	92.51	92.40	92.33	1.00E-04	0.8412	0.8360	0.8493	0.7920	0.8362
Adam / Cosine	1.00E-02	91.22	91.22	91.22	91.23	91.22	1.00E-02	0.7872	0.5026	0.7567	0.7886	0.5000
	1.00E-03	91.96	92.46	92.40	92.58	92.61	1.00E-03	0.8724	0.8917	0.8931	0.8963	0.8973
	1.00E-04	91.52	93.12	93.37	93.16	93.37	1.00E-04	0.8643	0.9073	0.9037	0.9033	0.9038
	1.00E-05	91.22	92.63	92.62	92.80	92.57	1.00E-05	0.8536	0.8787	0.8427	0.8741	0.8608