Benchmark results

The results of our benchmark for several Language Models using data from MMS.

Our preliminary results has been presented in (Rajda et al. 2022) and finally presented **in (Augustyniak et al. 2023) review at NeurIPS'23**.

Benchmark results - F1 Macro scores

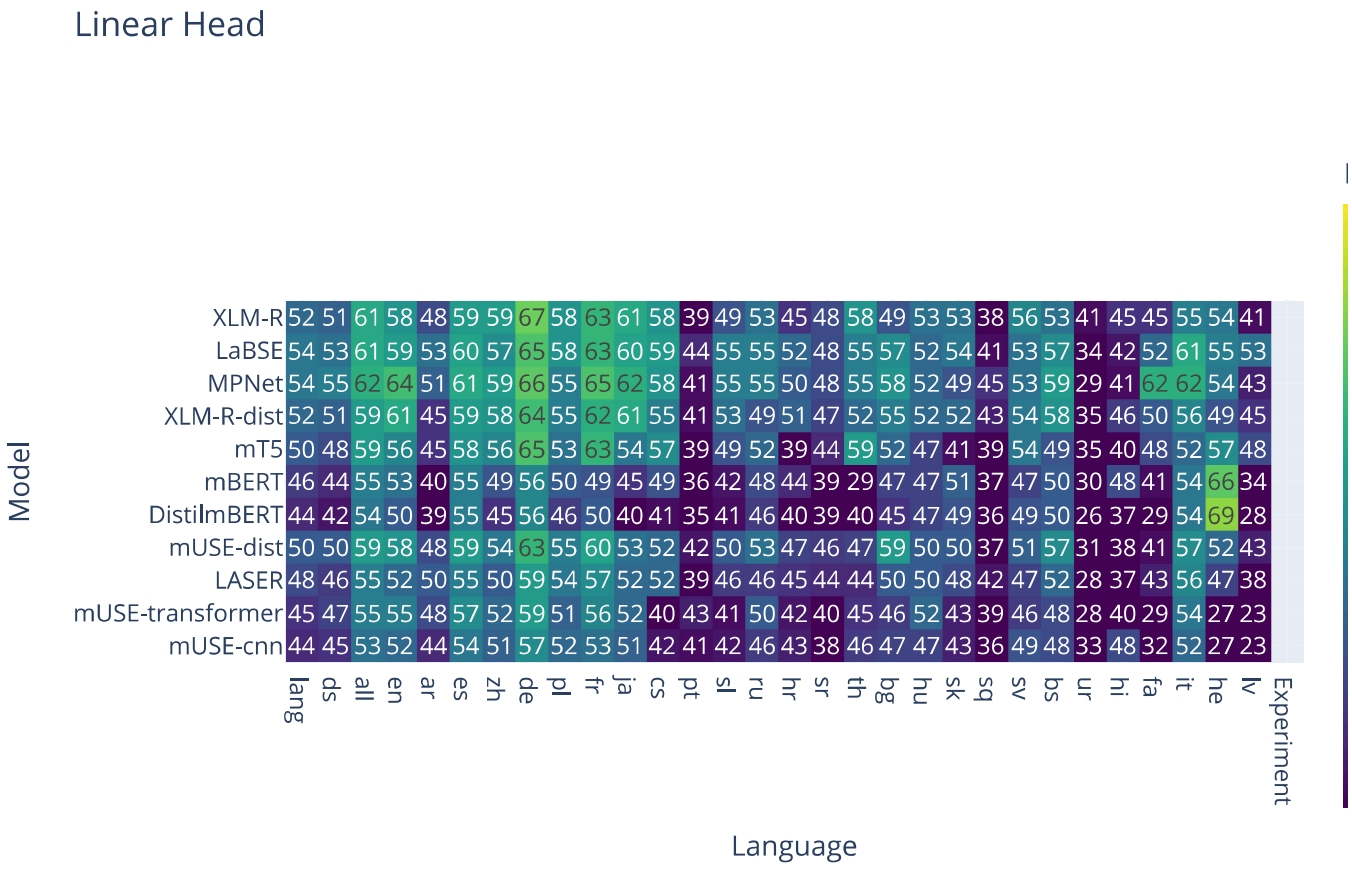
Models

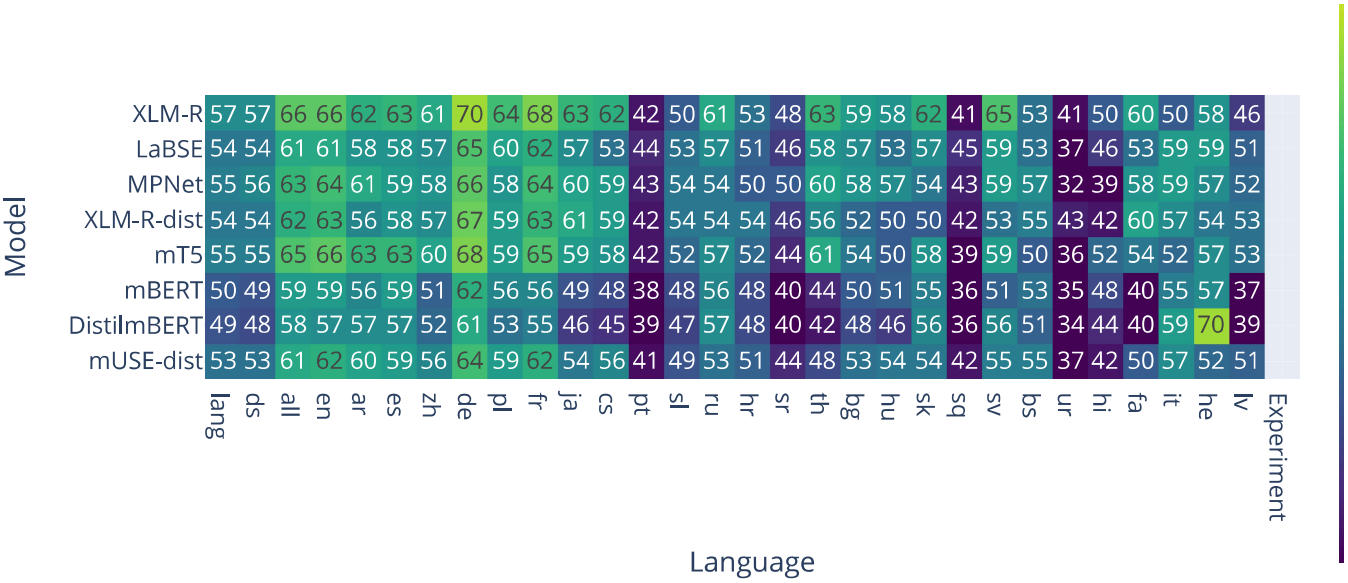
Model	Inf. time [s]	#params	#langs	base	data	reference
mT5	1.69	277M	101	T5	CC^b	(Xue et al. 2021)
LASER	1.64	52M	93	BiLSTM	$OPUS^c$	(Artetxe and Schwenk 2019)
mBERT	1.49	177M	104	BERT	Wiki	(Devlin et al. 2019)
MPNet**	1.38	278M	53	XLM-R	$OPUS^c$, $MUSE^d$, $Wikititles^e$	(Reimers and Gurevych 2020)
XLM-R-dist**	1.37	278M	53	XLM-R	$OPUS^c$, $MUSE^d$, $Wikititles^e$	(Reimers and Gurevych 2020)
XLM-R	1.37	278M	100	XLM-R	CC	(Conneau et al. 2020)
LaBSE	1.36	470M	109	BERT	CC, Wiki + mined bitexts	(Feng et al. 2020)
DistilmBERT	0.79	134M	104	BERT	Wiki	(Sanh et al. 2020)
mUSE-dist**	0.79	134M	53	DistilmBERT	$OPUS^c$, $MUSE^d$, $Wikititles^e$	(Reimers and Gurevych 2020)
mUSE-transformer*	0.65	85M	16	transformer	mined QA + bitexts, SNLI	(Yang et al. 2020)

Model	Inf. time [s]	#params	#langs	base	data	reference
mUSE-cnn*	0.12	68M	16	CNN	mined QA + bitexts, SNLI	(Yang et al. 2020)

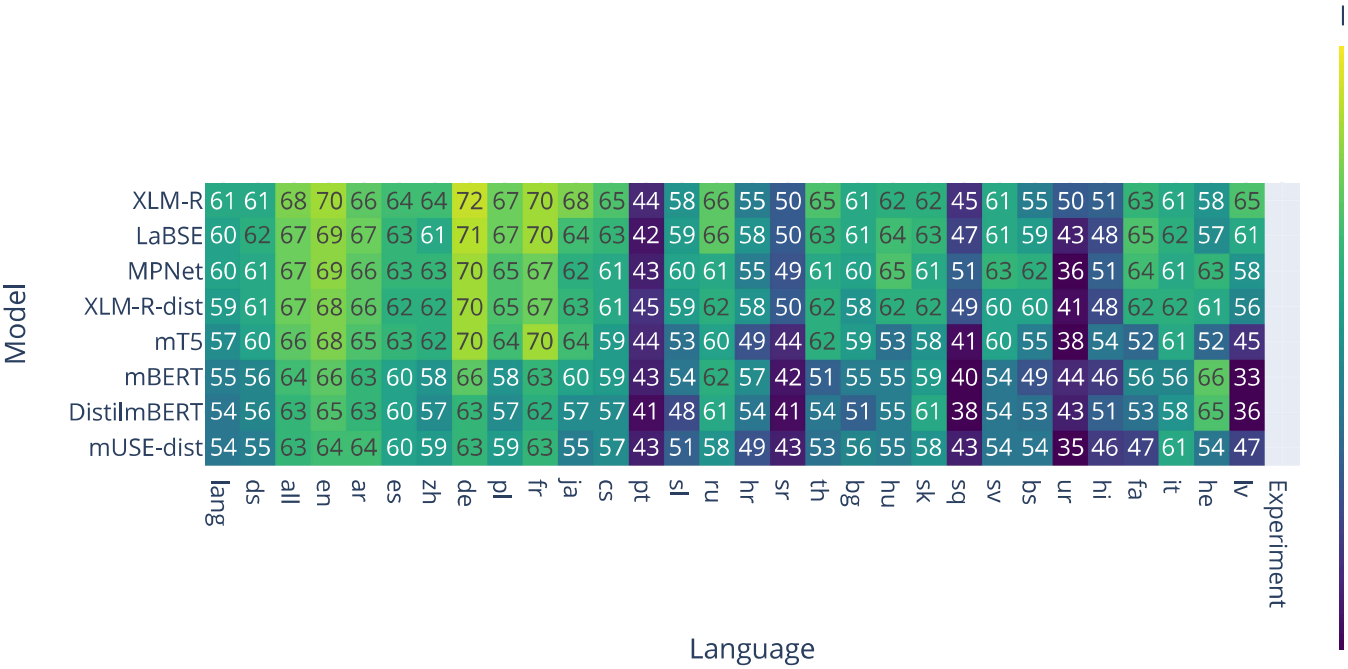
- * mUSE models were used in TensorFlow implementation in contrast to others in torch
- a Base model is either monolingual version on which it was based or another multilingual model which was used and adopted
- b Colossal Clean Crawled Corpus in multilingual version (mC4)
- c multiple datasets from OPUS website (https://opus.nlpl.eu)
- d bilingual dictionaries from MUSE (https://github.com/facebookresearch/MUSE)
- e just titles from wiki articles in multiple languages

Results





Fine-tuning



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