Zero-Shot experiments on XQUAD with mT5

Julen Etxaniz Aragoneses and Oihane Cantero

Tutor: Ander Barrena

1 Description

We will perform zero-shot experiments with mT5 [3] on the XQUAD dataset [1].

2 Related work

The recent “Text-to-Text Transfer Transformer” (T5) leveraged a unified text-to-text format and scale to obtain state-of-the-art results on a wide variety of English-language NLP tasks.

3 Data

XQuAD (Cross-lingual Question Answering Dataset) [1] is a benchmark dataset for evaluating cross-lingual question answering performance. The dataset consists of a subset of 240 paragraphs and 1190 question-answer pairs from the development set of SQuAD v1.1 [2] together with their professional translations into ten languages: Spanish, German, Greek, Russian, Turkish, Arabic, Vietnamese, Thai, Chinese, and Hindi. Consequently, the dataset is entirely parallel across 11 languages.

4 Algorithm

Multilingual T5 (mT5) [3] is a massively multilingual pretrained text-to-text transformer model, trained following a similar recipe as T5. We will use the mT5 models available at HuggingFace with the Transformers library. We will use the Datasets library to load the dataset.

5 Evaluation

In order to evaluate on XQuAD, models should be trained on the SQuAD v1.1 training file. Model validation similarly should be conducted on the SQuAD v1.1 validation file. For evaluation, we will use the official SQuAD evaluation script.

References

[1] Artetxe, M., Ruder, S., & Yogatama, D. (2019). On the cross-lingual transferability of monolingual representations. arXiv preprint arXiv:1910.11856.

[2] Rajpurkar, P., Zhang, J., Lopyrev, K., & Liang, P. (2016). Squad: 100,000+ questions for machine comprehension of text. arXiv preprint arXiv:1606.05250.

[3] Xue, L., Constant, N., Roberts, A., Kale, M., Al-Rfou, R., Siddhant, A., ... & Raffel, C. (2020). mT5: A massively multilingual pre-trained text-to-text transformer. arXiv preprint arXiv:2010.11934.

[4] Raffel, C., Shazeer, N., Roberts, A., Lee, K., Narang, S., Matena, M., ... & Liu, P. J. (2019). Exploring the limits of transfer learning with a unified text-to-text transformer. arXiv preprint arXiv:1910.10683.