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One-Shot Text Classification with Multilingual-BERT

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Abstract : Detecting user intent from natural language expression has a wide variety of use cases in different natural language processing applications. Recently few-shot training has a spike of usage on commercial domains. Due to the lack of significant sample features, the downstream task performance has been limited or leads to an unstable result across different domains. As a state-of-the-art method, the pre-trained BERT model gathering the sentence-level information from a large text corpus shows improvement on several NLP benchmarks. In this research, we are proposing a method to change multi-class classification tasks into binary classification tasks, then use the confidence score to rank the results. As a language model, BERT performs well on sequence data. In our experiment, we change the objective from predicting labels into finding the relations between words in sequence data. Our proposed method achieved 71.0% accuracy in the internal intent detection dataset and 63.9% accuracy in the HuffPost dataset. Acknowledgment: This work was supported by NCKU-B109-K003, which is the collaboration between National Cheng Kung University, Taiwan, and SoftBank Corp., Tokyo.
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