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LaDA: Latent Dialogue Action For Zero-shot Cross-lingual Neural Network Language Modeling

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Abstract

Cross-lingual adaptation has proven effective in spoken language understanding (SLU) systems with limited resources. Existing methods are frequently unsatisfactory for intent detection and slot filling, particularly for distant languages that differ significantly from the source language in scripts, morphology, and syntax. Latent Dialogue Action (LaDA) layer is proposed to optimize decoding strategy in order to address the aforementioned issues. The model consists of an additional layer of latent dialogue action. It enables our model to improve a system's capability of handling conversations with complex multilingual intent and slot values of distant languages. To the best of our knowledge, this is the first exhaustive investigation of the use of latent variables for optimizing cross-lingual SLU policy during the decode stage. LaDA obtains state-of-the-art results on public datasets for both zero-shot and few-shot adaptation.

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