

Language models play an important role in many natural language processing tasks. In this thesis, we focus on language models built on artificial neural networks. We examine the possibilities of using morphological annotations in these models. We propose a neural network architecture for a language model that explicitly makes use of morphological annotation of the input sentence: instead of word forms it processes lemmata and morphological tags. Both the baseline and the proposed method are evaluated on their own by perplexity, and also in the context of machine translation by the means of automatic translation quality evaluation. While in isolation the proposed model significantly outperforms the baseline, there is no apparent gain in machine translation.