

Bernd Bohnet: Linguistic representations in neural network times

Structured representations have been important for enabling machines to understand human utterances and communicate with humans in a more natural fashion. The past decade has witnessed further dramatic improvements in Natural Language Processing as a result of the paradigm shift to neural networks. However, the role of structured linguistic representations has recently been attenuated by the emergence of neural Language Models (ELMO, Bert, etc.) that provide rich linguistic information represented in the layers of deep neural nets.

In this talk, I will present current state of the art techniques for part-of-speech tagging and dependency parsing. I will discuss techniques in which these explicit structural representations can still be usefully employed and illustrate their integration in downstream applications for instance via tree embeddings and convolutional neural networks.