

# Doing Stuff with Long Short Term Memory networks

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## Abstract

While deep learning methods in Natural Language Processing are arguably overhyped, recurrent neural networks (RNNs), and in particular LSTM networks, emerge as very capable learners for sequential data. Thus, my group started using them everywhere. After briefly explaining what they are and why they are cool, I will describe some recent work in which we use LSTMs as a building block. Depending on my mood (and considering audience requests via email before the talk), I will discuss some of the following: learning a shared representation in a multi-task setting; learning to disambiguate English prepositions using multi-lingual data; learning feature representations for syntactic parsing; representing trees as vectors; learning to disambiguate coordinating conjunctions; learning morphological inflections; and learning to detect hypernyms in a large corpus. All of these achieve state of the art results. Other potential topics include work in which we try to shed some light on what's being captured by LSTM-based sentence representations, as well as the ability of LSTMs to learn hierarchical structures.