

Ressources

Deep RNNs Encode Soft Hierachical Syntax

- Terra Blevins, Omer Levy and Like Zettlemoyer
- *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (2018)*

Summary

- RNNs have surpassed the performance of SOTA NLP model which use explicit syntactic features, but do they acutally learn syntax?
- Training of a feed-forward network classifier on the internal representation of neural NLP models (Dependency Parsing, Semantic Role Labeling, Machine Translation and Language Modeling) to find out how much syntax is contained in the internal representations
- *Task 1:* Prediction of POS, parent, grandparent and great-grandparent constituency label for layer-wise representation of each word
- *Task 2:* Binary Classification whether a Dependency Arc exists between two words in the parse tree
- **Result:** Across all four types of supervision, the representations encode syntax beyond the explicit information (majority class baseline)
- Furthermore, deeper layers capture more high-level information as they cover a larger span of the input sentence (soft hierachy)

Helpful Ressources

- [Conference Poster of the paper](#)
 - [Blog Post](#) by Sebastian Ruder about the ACL 2018 Highlights. Good to get some context of the paper.
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