

Reading Assignment 2

COMP 550, Fall 2020

Due date: Nov 2, 2020 9:00pm

Read the following paper and write a critical summary of it:

McDonald et al., 2005. Non-projective dependency parsing using spanning tree algorithms. In *Proceedings of Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing (HLT/EMNLP)*. <https://www.aclweb.org/anthology/H05-1066.pdf>

Your summary should include a description of the paper's contents, its strengths and limitations, and any points that you did not understand. I expect that there will be concepts that you do not understand! Do not worry, and document this in your write-up.

Also, discuss the following issues in your write-up:

1. What does projectivity mean in the context of this paper? Explain why the example in Figure 2 demonstrates non-projectivity, and what kind of constituent structure in general leads to non-projectivity.
2. Explain what edge factorization means. What are the advantages and disadvantages of edge factorization?
3. This paper is a classic paper which predates the current neural age of NLP. Give some examples of parts of the proposed system that you think could be usefully adapted by being implemented by a neural network. What are the potential costs and benefits?

Your summary should be **at most 1 page**. It will be graded on the basis of its coverage, linguistic quality, and clarity of argumentation.

Resources

- Jason Eisner's guide to reading papers: <https://www.cs.jhu.edu/~jason/advice/how-to-read-a-paper.html>