

In this thesis, we explore the potential benefits of leveraging eye-tracking information for dependency parsing on the English part of the Dundee corpus. To achieve this, we cast dependency parsing as a sequence labelling task and then augment the neural model for sequence labelling with eye-tracking features. We also augment a graph-based parser with eye-tracking features and parse the Dundee Corpus to corroborate our findings from the sequence labelling parser. We then experiment with a variety of parser setups ranging from parsing with all features to a delexicalized parser. Our experiments show that for a parser with all features, although the improvements are positive for the LAS score they are not significant whereas our delexicalized parser significantly outperforms the baseline we established. We also analyze the contribution of various eye-tracking features towards the different parser setups and find that eye-tracking features contain information which is complementary in nature, thus implying that augmenting the parser with various gaze features grouped together provides better performance than any individual gaze feature.