

CS671A: Introduction to Natural Language Processing
Assignment 3: Explanation sheet

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ORACLE CLASSIFIER:

Number of training examples: 315978

Features used: Let s_0, s_1, s_2 denote the top three elements of the stack and let b_0, b_1, b_2 denote the first three elements of the buffer. I have used the following features:

1. $POS(s_i), POS(b_i)$ for $i = 1, 2, 3$
2. $DEP(s_i), DEP(b_i)$ for $i = 1, 2, 3$ where DEP denotes the relation of the word with s or b in the Dependency graph.
3. Sum/concateration of word vectors of s_i, b_i , for $i = 1, 2, 3$ (word2vec Google News Model/ GLoVE model)

Accuracies obtained:

I have constructed the oracle classifier. However, my code for building a dependency graph on a new example was not working correctly. The predictor was always predicting shift as the operation. Thus, I have commented the portion of code that builds a parse for a new example. I believe my code for building the oracle is correct. Accuracy table for the performance of the classifier:

With Neural Nets: 0.54

With ADABOOST : 0.52