Assignment - 3 Saransh Bhatnagar

Dependency parsing **150637**

Dependency parsing (DP) is a word centric parse that builds named, ordered relations between pairs of words in a sentence. The two words at either end of a relation are called respectively the head and the dependent.
An initial Rp vector is created consisting of head and dependent indices.

Feature vector: concatenated vector consisting of word embedding corresponding to word at the start of queue and the one hot encoding of pos tag, and similarly for top word of the stack and the rightmost child and leftmost child of the both the word at the start of the queue and word at the top of the stack.
Length of feature vector used came to be 496.

I applied arc-standard system as discussed in the slides. With correspondingly shift left arc and right arc as the operations based on the configuration/state of the queue Stack and dependency tree. I have used networkx library so as to create a dependency tree.

Classifier:
I have used Multi-layer perceptron for training and number of neurons in hidden layers are correspondingly (150,100).

Accuracy:
Test accuracy was around **85%**
Training was based on 1500 sentences and test 1500 sentences
And Train accuracy was around **88%**