**Aspect Based Sentiment Analysis**

Analysing the sentiment of a review as a whole is not enough as the review might contain opinion of multiple aspects, some of them positive and the other negative.This project analyses the sentiment corresponding to aspects. 87000 reviews has been scrapped from [www.indeed.com](http://www.indeed.com) , using a customized scrapper for indeed.

There are seven aspects based on which the sentiment of reviews is analysed.These aspects are selected based on the count of nouns in the entire review dataset.A parts of speech tagger was used for this purpose.The seven aspects are learning, salary, team/colleagues ,work-life balance , culture and general category. Each aspect contain a pool of words similar to the main aspects.

Once the aspects are decided, the task is to classify a sentence to these aspects.A Word2Vec model has been trained with the training set being the tokenized sentences of the reviews. This model gives set similar words of a particular word which helps to generalise the pool of words in each aspects .This model is saved in a file for future use.

In sentence classification, initially a review is split into atomic sentences. These sentences are then tokenized to form a list of words.Each word is given as input into the word2vec model which analyses similarity with the pool of words.PorterStemmer is used to stem each tokens as the reviews might contain different forms of word. If there is a similarity of a word in a sentence with any word in the particular aspects, the sentence is saved in the file corresponding to its polarity which is measured using TextBlob. It gives a sentiment score for each sentence and each sentence belong to either of the five files namely- neg, sli\_neg, neutral, sli\_pos, pos.

Thus, the entire dataset is classified into any one of the aspect. This will be the final dataset for the CNN classifier.Once the classifier is trained, each sentence will be classified into aspect and passed to the CNN classifier which determines the polarity of the sentence for that particular aspect . At the end, the aggregate value is taken for predicting the sentiment.