

# README

1. In order to run the code make sure dataset is passed as parameter, and code file (NaiveBayesClassifier.py) and data file should be in same folder

Example:

```
python NaiveBayesClassifier.py amazon_cells_labelled.txt
```

2. On running this python script, the output is in the form of graphs.  
  
Please note when the first graph opens up, it needs to be closed for the second graph to be plotted on the screen.
3. In order to generate the learning curve I am calculating the accuracy and standard deviation using 10 fold cross validation with  $m=0$  and  $m=1$
4. Function plotLearningCurve plots the error bar plots for both  $m$  values (0 and 1)
5. For experiment 2 plotSmoothing function calculates the average and standard deviation values for  $m$  from 0.1 to 0.9 and from 1 to 10. Results for same are then plotted on error bars.
6. MAP function calculates the probability of each word in sentence for training set.
7. Predict function then predicts the values of test data sentences.