Programming Assignment 5

Week 5 - Semester 1 2015/16

To be made individually

1. (5 points) *Implementing Gaussian Naive Bayes*
   (a) Implement the Gaussian Naive Bayes Classifier. Apply it to the trainingsdata digits123-1 and test the result on digits123-2; calculate the accuracy.
   (b) Find the examples that are misclassified (in digits123-1 or in digits123-2) with the highest probability and try to give an explanation for the error. Can you see what caused the problem? Can you think of a way to improve this? Just make an analysis and proposal, do not implement it.
2. (5 points) *Comparing classifiers*
   Compare your Naive Bayes Classifier with your Logistic Regression Classifier to see which is better on the digits data. You can use your own implementations but if that is problematic you may replace one by some other learning system for classification (do mention where is comes from). Make a systematic comparison of both algorithms using crossvalidation and a statistical test using dataset digits123-1.