Helwan University
Faculty of Computers and Information

Project Guidelines

Department of Computer Science
Machine Learning
Fall 2007

General Rules

- Every group presents their project in less than 10 min. (3 marks)
- Every group has to submit a written report (focus on writing scholarly not on decorating the document). (3 marks)
- The remaining 14 marks will be given on the work itself, i.e., analysis, simulation, and results.

Proposals

1. Being your own idea.
2. Compare the apparent error to the true error for the Bayes classifier over different sizes of the training set.
3. How well is the CV in estimating the error rate? Conduct your study on different sizes of the training sets.
4. For Bayes Classifier, plot the true ROC curve using simulation. Train on different training sets and plot the ROC after each training; compare the results to the true ROC.
5. use the LDA and QDA on a real data set; then, assess your classifier.
6. Repeat the above using Neural Networks (single layer).
7. Repeat the above using Neural Networks (two layers).
8. Repeat the above using Support Vector Machines (SVM).

Hint: Every group has to register with the TA and take a project number from above.