Machine Learning: Foundations **Spring Semester, 1996/7**

FINAL PROJECT: May 21

Lecturer: Yishay Mansour

Final Project.

Goal:
The goal of the final project it to compose various ideas that where learned in the course in to one project. You will have to implement the project, but much more important than this you will have to analyze your results and draw conclusions based on your analysis. The most important thing would be to use the right analysis for the results of the project.

Project idea :
There will be a great flexibility in what you would like to do in the project. You should get your idea approved by **June 4** (last class) at the latest.

The project should include trying to merge ideas that where studied in different classes, or trying new idea based on what was learned in class. Here is a short list of possible projects:

1. Run AdaBoost when the weak hypothesis are decision trees.
2. Build Decision tree where the predicate in each node is a decision tree.
3. Chose one of the algorithms that has an external control parameter. Modify it, so that rather than receiving the parameter externally, it will run Cross Validation on various values of this parameter, and chose the best.
4. Compare the various tree pruning techniques.
5. Build a decision tree algorithm that uses more than one splitting criteria.

Methodology:
After you chose a project, you should chose at least three different issues that you like to test. For each one: State what you expect the results to be, give a detailed table or graph showing the actual results, discuss the results you received.

The final report should include figures describing the various experiments and results.

Time Table:

1. Decide on the project and get it approved by either me of Mariano (email: mariano). Try to do this soon, you have at most two weeks for this. At this point you should also decide what you would like to test, and what is your expectation of the results.
2. Implement your program and run your experiments. Show the results to Mariano and get him to approve it.
3. Write a final report that describes your results and submit it.

The final report is due June 22.