Reinforcement Learning | **Fall Semester, 1999/2000**

Project: May 28, 2002

Lecturer: Yishay Mansour

Suggested projects

Branching Program Boosting: Implement the branching program boosting algorithm, and run it on the *project datasets*. Compare the performance of the branching program boosting algorithm to that of AdaBoost and that of Decision tree. (You will need to decide what to compare, and how to explain the results!)

AdaBoost Wrapper: Write a general AdaBoost program that can boost any other weak learner. (You need to define an interface, and the weak learner will be added at the linkage level.) Run the proposed algorith over three weak learners: (1) $h_{i,\alpha} = I[x_i \geq \alpha]$ (2) Naive Bayes, (3) Small decision tree (either limit the size when growing it or add a prunning phase).

Compare the results of the combined classifies with the results of the basic classifiers, and to each other.

Project Data Sets: There will be a new set of datasets linked to the course home page.

Theory project: Select a topic on which you would like to read more, and select 2-3 papers in the area. You will need to summiraze the papers, try to think what open problems they suggest, and try to think about the open problems. (The theory project has to be done by a *single* student alone!)

Other projects: If you have another idea of a project that you like to do, please talk with the lecturer to get it approved.

Approving the project:

You will need to hand in the proposed project that you like to perform, and the participants in two weeks!

Completing the project:

You have **one month** from the end of the term to complete the project.

Final report on the project

You should write a report about your project. The report should be in `html` format, so that we can link all the projects to the course home page. In writing your report remember to do the following.

When handing in the project You should do the following:

1. Send an e-mail with the html address of the final report.

2. Set up a meeting with the lecturer or the teaching assistant to present the project.

In case you did not do scribe: talk to me!