Brief Syllabus of COSC 5340, Spring 2003
Computational Learning Theory
MW 2:00 ~ 3:15 PM, Maes 113

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Office Hours: MWF 9:00 ~ 10:00 AM or by appointment

Topics:

We start with an introduction to some important learning models, from which we will get a clearer idea about machine learning from different aspects. Then, we will shift to an important model, PAC (Probably Approximately Correct), and use it to reveal the complexity concerns in learning theory. After that, we will further shift to learnability. We will investigate a remarkable model for adaptive learners initiated by E. Mark Gold in late 1960s and its prodigious results accumulated in early 1990s. Some background on computability such as recursion theory and complexity theory will be introduced before we get into the details of the subject.

Prerequisites: MATH 2305, COSC 3302, COSC 5320, or equivalent courses.

Textbooks:


Examinations: (400 points) One midterms (100 points for each) and one final project(150 points on presentation and 150 points on final report)

Assignments: (200 points) About 5 or 6 programming assignments will be given.

Attendance and Pop quizzes: (100 points) Some attendance and pop quizzes will be taken and given impulsively.

Grading Policy: You will have at least 600 points to gain. Your grade is based on the scheme shown in the following table.

<table>
<thead>
<tr>
<th>Points</th>
<th>Grade</th>
<th>Grade</th>
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<tbody>
<tr>
<td>540 ~ 600</td>
<td>A</td>
<td>Excellent</td>
</tr>
<tr>
<td>420 ~ 539</td>
<td>B</td>
<td>Good</td>
</tr>
<tr>
<td>300 ~ 419</td>
<td>C</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>200 ~ 299</td>
<td>D</td>
<td>Passing</td>
</tr>
<tr>
<td>0 ~ 199</td>
<td>F</td>
<td>Failure</td>
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