Syllabus

COEN 166 Artificial Intelligence
Department of Computer Engineering
Santa Clara University

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Course website: http://www.cse.scu.edu/~mwang2/ai/
Office Hours: Tuesday & Thursday 7:00-7:30pm

Spring Quarter 2007

Course Description
Artificial Intelligence viewed as knowledge engineering. Historical perspective. Problems of representation: AI as a problem in language definition and implementation. Introduces representations, techniques, and architectures used to build applied systems and to account for intelligence from a computational point of view. Applications of rule chaining, heuristic search, constraint propagation, constraint search, inheritance, and other problem-solving paradigms. Applications of identification trees, neural nets, genetic algorithms, and other learning paradigms. Speculations on the contributions of human vision and language systems to human intelligence.

Prerequisite

Required Textbooks

Recommended Textbooks

References
16. "Computational Brain" by Patricia S. Churchland and Terry Sejnowsky, MIT Press, 1992

Grading Policy
Course grade is determined based on the total score (maximum 1000 points + 250 bonus points) from:
1. Mid-term and final exams of 250 points each (close book with one A4 note and a calculator.) Makeup exams (must have a very good reason for makeup) are much difficult than normal exams.
2. Two programming assignments of 100 points each (late penalty: 20 points/day.) Makeups are more difficult too.
3. A group (prefer 2-3 people in a team) programming term project of 250 points (late penalty: 60 points/day.) No makeup is allowed.
4. 18 Bonus assignments will be assigned at each lecture with 10 points each. Due before next lecture begin. The solution for bonus point will be posted on my protected web page. No late work accepted for bonus assignments. 75-80% of exam questions are similar to bonus.
5. 70 points for class attendance/attitude, total subjective.
6. Class average targeted at B-/ C+.
Table 1: Grade-score table

<table>
<thead>
<tr>
<th>Score</th>
<th>Grade</th>
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<tbody>
<tr>
<td>1000-1200</td>
<td>A-</td>
</tr>
<tr>
<td>950-999</td>
<td>A</td>
</tr>
<tr>
<td>900-949</td>
<td>B+</td>
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<tr>
<td>850-899</td>
<td>B</td>
</tr>
<tr>
<td>800-849</td>
<td>B-</td>
</tr>
<tr>
<td>750-799</td>
<td>C+</td>
</tr>
<tr>
<td>700-749</td>
<td>C</td>
</tr>
<tr>
<td>650-699</td>
<td>C-</td>
</tr>
<tr>
<td>0-649</td>
<td>F</td>
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Course Schedule (Tuesday/Thursday 5:15pm-7:00pm)

Table 2: Course Schedule

<table>
<thead>
<tr>
<th>#</th>
<th>week</th>
<th>readings</th>
<th>remarks</th>
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<tbody>
<tr>
<td>1</td>
<td>4/3 4/5</td>
<td>introduction</td>
<td>submit due 4/5</td>
</tr>
<tr>
<td>2</td>
<td>4/10 4/12</td>
<td>problem solving</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4/17 4/19</td>
<td>knowledge and reasoning</td>
<td>program 1 due 4/15</td>
</tr>
<tr>
<td>4</td>
<td>4/24 4/26</td>
<td>action logically</td>
<td>program 2 due 4/29 midterm exam 5/3</td>
</tr>
<tr>
<td>5</td>
<td>5/1 5/3</td>
<td>uncertain knowledge</td>
<td>program 2 due 4/29 mid term exam 5/3</td>
</tr>
<tr>
<td>6</td>
<td>5/8 5/10</td>
<td>learning</td>
<td>problem due 5/8 group &amp; topic due 5/10</td>
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<tr>
<td>7</td>
<td>5/15 5/17</td>
<td>vision</td>
<td>paper presentation 5/15 and 5/17</td>
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<tr>
<td>8</td>
<td>5/22 5/24</td>
<td>natural language processing</td>
<td>proposal due 5/22</td>
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<td>9</td>
<td>5/29 5/31</td>
<td>robotics</td>
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<td>6/5 6/7</td>
<td>expert systems</td>
<td>Final 6/7</td>
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<tr>
<td>11</td>
<td>6/12</td>
<td></td>
<td>project defense 6/12</td>
</tr>
</tbody>
</table>

Reminder
- No cheating, and no register complaint without talking to me first.
- No incomplete. Due date for withdraw is May 20.
- No sit-in or audit the class except formally registered.
- Read files under /home/mwang2/tips for help.
- Prepare a self-addressed and stamped envelope if you want your last programs or final to be returned.
- Handouts, homework and programming assignments will be posted on the web. You should check the class web site at least once a week. You are responsible for printing and bring the handout to the class.

Honor Code
All students taking course in the school of engineering agree, individually and collectively, they will neither give nor receive unpermitted aid in examinations or other course work that is to be used by the instructor as a basis of grading.

Disability Accommodation Policy:
To request academic accommodations for a disability, students must contact Disability Resources located in The Drahmann Center in Benson, room 214, (408) 554-4111; TTY (408) 554-5445. Students must provide documentation of a disability to Disability Resources prior to receiving accommodations.