
CMPT 310: Artificial Intelligence
Instructor: Hassan Khosravi
Spring 2011 SYLLABUS

Overview

The goal of this course is to provide students with a survey of different aspects of artificial intelligence (AI). A variety of approaches with general applicability will be developed. We will start with the AI-as-search paradigm, and discuss generic search strategies and heuristic-based improvements. Logic, in particular first-order logic, will be presented as a formalism for representing knowledge in AI systems. The use of probability as a mechanism for handling uncertainty in AI will be presented, with a focus on Bayesian networks. Finally, we will explore the design of AI systems that use learning to improve their performance on a given task.

Administrivia

Lectures: Monday, Wednesday, Friday 14:30-15:20

Hassan's office hours: Wednesday 3:30 -5:00

TA: Pantea Jabbari

TA's office hours: TBA

Prerequisites

CMPT 201 or 225 and MACM 101.

Topics

- Intelligent Agents
- uninformed and informed search
- Constraint Satisfaction Problems
- Game playing
- First-order Logic
- Reasoning under uncertainty
- Bayesian networks
- Learning

Grading

Evaluation will be based on pair programming and individual written assignments, as well as midterm and Final exams.

- _ 40% Assignments
- _ 20% Midterm
- _ 40% Final Exam
- _ 5% Class participation

Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C or better).

Textbooks

REQUIRED:

- Artificial Intelligence: A Modern Approach (2nd Edition), Stuart Russell, Peter Norvig, Prentice Hall, 2002.

REFERENCE:

- Computational Intelligence - A Logical Approach, David Poole et al, Oxford University Press.
- Artificial Intelligence (5th Edition). Structures and Strategies for Complex Problem Solving, George Luger, Addison Wesley.

Academic Honesty

Academic Honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty are subject to disciplinary action by the School; serious infractions are dealt with in accordance with the Code of Academic Honesty (T10.02) (<http://www.sfu.ca/policies/teaching/t10-02.htm>). Students are encouraged to read the School's policy information (<http://www.cs.sfu.ca/undergrad/Policies/>)