

Artificial Intelligence CMPS140

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Project Description: 1 page due May 12, 2009 - in class

This should have a title - some brief remarks about background - one or more citations - papers you will read.

Each student is to submit their own ten page report exclusive of code. You can collaborate with one other student - in which case the individual report should focus on your part of the work.

The project can involve material from other courses, eg adding AI to a computer game which you are doing in cmcs170. The work does not have to be original - replicating existing work is okay. For example you can implement a resolution theorem prover and test various heuristics, such as unit resolution.

The term project will involve presentation, either in class or with a poster.

The last two periods of class will be devoted to in class presentations. This will be limited to interesting and diverse projects and will be part of your presentation credit.

Project recommendations:

- Add AI to a computer game you designed - report on how the game is changed and report on other games that to your knowledge are using such techniques. Local experts include Professors Michael Mateas, Robert Levinson, Noah Wardrip-Fruin and Jim Whitehead.
- Work on an adversarial game such as GO or poker. Local experts include Charlie McDowell, and Ira Pohl.
- Write a philosophical paper about the possibility of strong AI, comment on Searle's position, comment on Lighthill's position.
- Write a social implications paper about the effect of AI on society. You might want to consider SDI, autonomous robotic fighting vehicles, or the Weizenbaum argument about non-emphatic intelligence.
- Implement and test an advanced form of A*, such as IDA, dynamic weighted search, bidirectional search, routines that exploit parallelism for speedup.
- Explore or extend the Warnsdorf rules to generalized regular graphs and test their effectiveness.
- Do further work on the Prisoner's Dilemma Problem – specifically implement a machine learning algorithm for your agent, and demonstrate improvement in performance (you will have access to a permanent storage memory). See Foaad Khosmood for more direction.