

Administrivia

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Office Hours: by arrangement

Assignment: worth 10% and due last day of lectures

Objective

To give you a taste of doing research!

There will be:

- foundational lectures (FL)
- papers to read and discuss (PD)
- lectures on current areas of research (RL)
- a research assignment

Topics

- ***Informed Search***
- ***Planning***
 - **Single Agent**
 - **Multiple Agent**
- ***Constraint Satisfaction***
- ***Learning for/from Planning/Search***
- ***Plan Execution/Monitoring***
- ***Learning From Execution***
- ***What happens if AI succeeds?***

Tentative Syllabus

Lecture Number

0. [FL] Overview
1. [FL] Informed Search (A*)
2. [RL] Optimal Efficiency of A* Revisited
3. [RL] Predicting the Impact of Heuristics on the Size of Search Trees
4. [PD] Any-time Search
5. [FL] Planning – Least Commitment (LC)
6. [FL] Constraint Satisfaction
7. [RL/PD] Abstract Operators & LC order constraints
8. [PD] Hierarchical Planning
9. [PD] Automatically Creating Heuristics
10. [PD] Planning & Execution
11. [PD] Automatically Correcting Domain Models
12. [PD] The Technological Singularity & Transhumanism

Papers for Lectures

Lecture Number

- 1.