L01

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Course Website: http://www.cs.utoronto.ca/ strider/d84

1 Topics

1. Search
2. Constraint Satisfaction
3. Graphical Models
4. Inference
5. Logic (Maybe or maybe not)
6. Game trees
7. Reinforcement Learning
8. Decision Processes
9. Neural Networks (We get to code one!)

1.1 Learning Goals

1. know a number of common and widely applicable techniques in AI
2. Have an unerstanding of what types of problems can be solved through AI
3. Implement solutions
4. Use AI in a professional setting

2 AI applications

Robotics

1. Planning
2. Path finding

3. Localization

Games

1. Two or more/players (chess)
2. Chess!
3. Video games

Logic

1. Theorem Proving
2. Formal Analysis Automatically verify code correctness
3. Constraint Satisfaction Scheduling, figure out the optimal schedule.

Decision Making

1. Expert System (?)

Recommendation Systems

1. What people will like

Classifcation

1. Recognizing input based on certain categories
2. Spam detection

Pattern Analysis

3 "Intelligent" Agent

1. Percieve/measure/sense the environment
2. act.

The key for a lot of what we're doing is the **Utility Function**
Very often we will be trying to Maximize Utility (Over time)
Reactive Agent Expects things to happen and then react when they happen