CS 3600
Introduction to Artificial Intelligence

James M. Rehg

School of Interactive Computing

College of Computing

Georgia Tech

First Day

Logistics

Introduction to Teaching Team

Goals for this Class

Background on Artificial Intelligence

T-Square

Will be set-up by tomorrow

Everything will be announced there

All assignments will be obtained and turned-in there

Lecture slides will be posted in the resources folder weekly

Introductions

Instructor: Jim Rehg

Full Professor in School of IC

Ph.D. from CMU (in 1995)

DEC CRL (1995) → Georgia Tech (2001)

Married with 4 kids (ages 9, 11, 16, 19)

http://rehg.org

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Office hours will be announced soon

Introductions

Grad TAs:
    Shagun Jhaver

    Yun Liu

Undergrad TAs:
    Oleg Filatov (Head TA)

    Manav Dutta

    Arjun Garg

    Caroline Paulus

Office hours to be announced this week

Overload Requests

Do the process online (follow CoC policy)

Please decide ASAP if you are just holding the class
  so others can get in!

What is AI?

AI = Rational Agents

How to think and act rationally?

S = state of the world (perceived by agent)

A = set of possible agent actions

$S \times A$ … is reeeeeaaaalllly big!

Approximations and efficient algorithms are critical

The world is inherently uncertain and ambiguous

Probabilistic models and methods are critical

Topics We'll Cover

Defining Agents and Environments

Formulating AI as search

Games and AI

Logic and Logical Inference

Probability and Probabilistic Reasoning
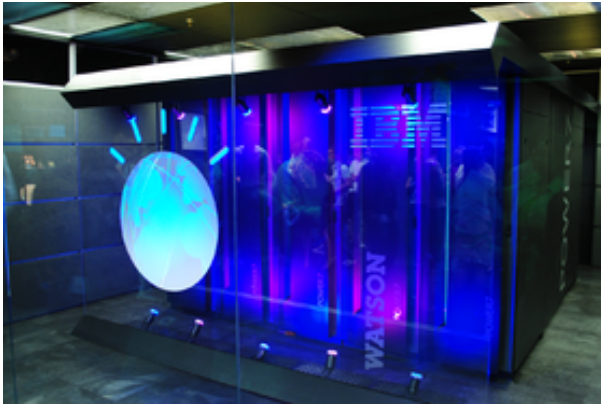
Dynamic Bayes Networks and HMMs

Decision making: Planning and MDPs
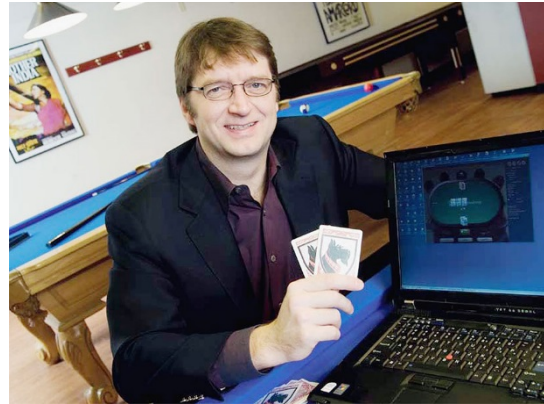
Supervised Learning: Neural Nets, SVMs, Decision Trees

"Hot" Topics in AI

Natural Language Processing

Large-scale Probabilistic Search

Perception, Planning, Actuation

Brains vs AI

Claudico: Best No-Limit Texas Hold'em Agent in World (CMU)

Humans: Jason Les, Doug Polk, Bjorn Li and Dong Kim (top 10)

Competition: April 2015 at Rivers Casino, Pittsburgh PA

Outcome: Humans won! ($732,713 of virtual money, Bjorn Li tops)

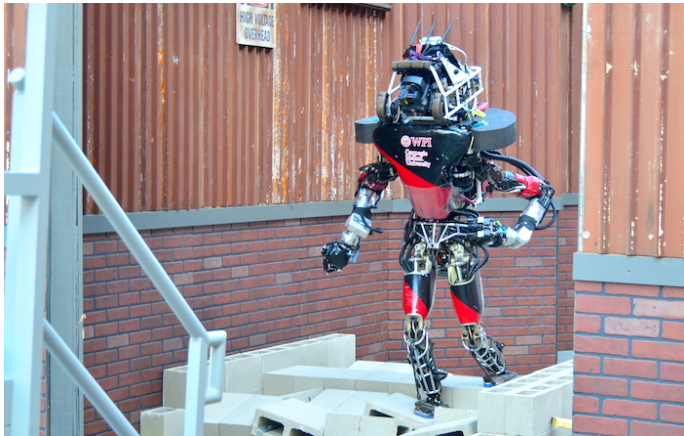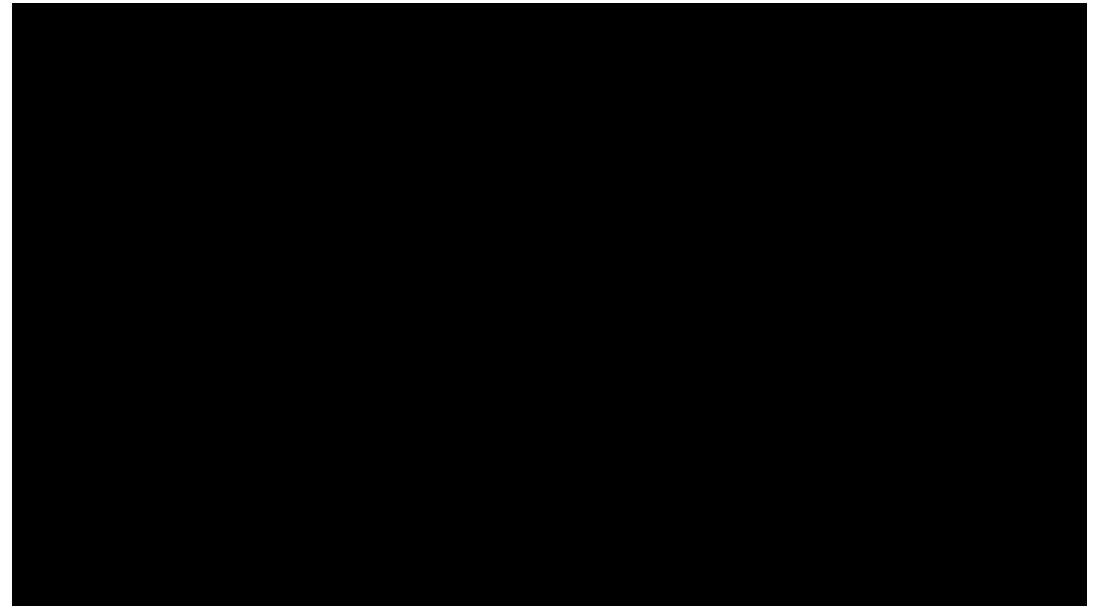Tuomas Sandholm (CMU)

"statistically speaking the game was tie"

Doug Polk

"Betting $19,000 to win a $700 pot just isn't something that a person would do"

DARPA Robotics Challenge

Questions?