Course wrap up

CS 486/686
University of Waterloo
Lecture 24: July 23, 2015

Outline

- Course wrap up
- Final exam info (see course website)
- Other AI courses
- AI research
- AI jobs

Topics Covered

- Search algorithms
- Probabilistic Inference
- Decision Making under Uncertainty
- Machine Learning
- A bit of Natural Language Processing
- A bit of Robotics

Topics That We Didn't Cover

- Computer Vision
- Natural Language Processing
- Robotics
- Multi-agent Systems

Other AI courses

- CS485/685: Machine Learning (F15 Ben-David, W16 Poupart)
- CS489/698: Big Data Infrastructure (W16)
- CS489/698: Computational Audio (W16)
- CS498/698: Computer Vision
- CS798: Games for Health (F15)
- CS786: Prob. Inference and Machine Learning
- CS784: Computational Linguistics
- STAT440/840: Computational Inference
- STAT441/841: Statistical Learning – Classification
- STAT442/890 Data visualization

AI research group

- Web: ai.uwaterloo.ca
- Professors:
  - Shai Ben David (learning theory)
  - Chrysanne DiMarco (computational linguistics)
  - Peter Van Beek (constraint programming)
  - Robin Cohen (multi-agent systems, user modeling)
  - Pascal Poupart (machine learning, natural language processing, health informatics)
  - Jesse Hoey (health informatics, machine learning, computer vision)
  - Kate Larson (game theory, mechanism design)
  - Richard Mann (computational audio, computer vision)

My research projects

- **Reasoning Under Uncertainty and Machine Learning**
  - Lifelong machine learning
  - Sum-Product Networks
  - Bayesian moment matching
  - Data Complexity Analysis

- **Natural language processing**
  - Conversational agents
  - Topic modeling

- **Health Informatics**
  - Mobile health, activity tracking

AI jobs

- Data Science: golden age of Machine Learning

- All large companies have AI R&D groups
  - Google, Microsoft, IBM, Amazon, Yahoo, Baidu, Huawei, SAP

- Many small companies use AI
  - Kik Interactive, In the Chat, Slyce, Maluuba, HockeyTech

- AI is a growing industry: it has the potential to revolutionize the computer industry!