Monte-Carlo Methods in Artificial Intelligence
Oregon State University, Corvallis
Location: 1007, Kelley Engineering Center

Monday, March 18, 2013
8:45-9:00: Introduction, Overview, Prasad Tadepalli
9:00-10:45: Approximate Inference in Bayesian Networks: random variables, conditional and joint distributions, inference by forward sampling, Weng-Keen Wong
11:00-12:00: Invasive Species Modeling, Tom Dietterich
12:00-1:30: Lunch
1:30-2:30: Decision Making in Markov Decision Processes: Evaluating policies, Alan Fern
2:45-5:00: Lab exercise: Writing policies for playing Galcon, Jed Irvine, Mandana Hamidi, Henry Trimbach

Tuesday, March 19, 2013
9:00-10:45: Conditioning on Evidence: rejection sampling, likelihood weighting, importance sampling, Weng-Keen Wong and Prasad Tadepalli
11:00-12:00: Monte-Carlo Localization for Robots, Bill Smart
12:00-1:30: Lunch
1:30-2:30: Policy Improvement: Computing rollout policies, recursive rollouts, Alan Fern
2:40-5:00: Lab exercise: policy rollout on Galcon, Jed Irvine, Walker Orr, Shan Xue

Wednesday, March 20, 2013
9:00-10:00: Markov Chain Monte Carlo methods, Gibbs Sampling, Prasad Tadepalli
10:00-10:45: Syndromic Surveillance, Weng-Keen Wong
11:00-12:00: Air Traffic Control, Kagan Tumer
12:00-1:30: Lunch
1:30-2:30: Monte Carlo Tree Search and UCT, Alan Fern
2:40-5:00: Lab exercise: Experiments with UCT, Introduction to team projects, Jed Irvine, Mandana Hamidi, Jana Doppa
5:30-7:30: Dinner at McMenamins

Thursday, March 21, 2013
9:00-10:00: Dynamic Bayesian Networks and Particle Filtering, Prasad Tadepalli
10:00-11:00: Ecosystem Management Problems, Tom Dietterich
11:15-12:00: Tournament Rules, Jed Irvine
12:00-1:30: Lunch
1:30-5:00: Team Project, Jed Irvine, Henry Trimbach, Jervis Pinto

Friday, March 22, 2013
9:00: Projects due
9:00-10:00: Partially Observable Markov Decision Processes, Tom Dietterich
10:00-11:00: Monte Carlo Planning in Games, Alan Fern
11:15-12:00: Student Presentations
12:00-1:30: Lunch
1:30-2:30: Student Presentations
2:30-3:30: Tournament Results, Jed Irvine, Jana Doppa, Jervis Pinto