CS325 Artificial Intelligence – Spring 2013 Midterm Study Guide

March 1, 2013

Knowledge Questions

Expect knowledge questions like I ask in the homeworks and entry/exit surveys for ALL the materials we covered in the classes (see class notes). If you have doubts about answering the questions BEFORE the midterm, post them on Piazza and I will try to answer them.

Detailed Questions that Require Working Knowledge

You should study the following topics deeper to be able to solve small problems:

1. Tree/Graph Search Algorithms

2. Probability, Bayes Nets, Maximum Likelihood and Expectation Maximization (EM)

3. Supervised Learning: Perceptron, Linear Regression

4. Unsupervised Learning: k-Means Clustering, Using EM for Gaussian Clustering

5. Propositional Logic, Truth Tables, and Inference

6. Planning: Action Schemas

7. Planning under Uncertainty: Markov Decision Processes (MDPs), Value Iteration, Reinforcement Learning

8. State Estimation and Time Series Prediction: Hidden Markov Models and Particle Filters

Good luck in your preparations.
   -Cengiz Gunay, Ph.D.