

Overview of CSCI-UA.473 - Artificial Intelligence: Self-Study

Texts:

Artificial Intelligence - A Modern Approach *by Russell and Norvig*

Week	Topic	Required Reading
1	Welcome & Overview	R&N chaps 1, 2
1	State space search	R&N 3.1-3.4
2	Hill climbing Gradient descent	R&N 4.1, 4.2
2	Propositional logic Online notes	R&N 7.1-7.4
3	Davis-Putnam algorithm Online notes	R&N 7.6
3	SAT Compilation Online notes	
4	First-order logic Online notes	R&N 8.1-8.2
4	First-order logic cntd.	R&N 8.3, 8.4
5	Probability	R&N 13.1, 13.2
5	Probability cntd.	R&N 13.3, 13.4, 13.5
6	Decision theory	R&N 16.1
6	Discuss solutions to midterm Zipf distribution Continuous distributions	
7	Reinforcement learning Discuss Prog3	
7	Gaussian distribution Machine learning Supervised learning Classification Naïve Bayes	
8	k nearest neighbors Linear separators	R&N 18.1, 18.2
8	Evaluation	Online notes
9	Gradient-based methods	Online notes
9	Deep learning	Online notes
10	Unsupervised learning Clustering	Online notes
10	Stochastic generative models	Online notes
11	Natural Language	R&N 23.1
11	Syntax Chart parser	R&N 23.2
12	Semantics Text interpretation Ambiguity	R&N 23.3.4
12	Naïve Bayes for text K-gram models	R&N 23.3.5
13	Vector models	Online notes