

CompSci 590.7

Reinforcement Learning

Overview

Schedule

Assignments

Grading

Meeting Schedule

Important notes:

- Links on the on the left are **broken** but will be fixed shortly!
- This is an ambitious schedule that will probably slip, but there is time built in to the end to accomodate this.
- Unless otherwise stated, chapters refer to **Algorithms for Decision Making**
- **SB** refers to the **Sutton and Barto** text

Date	Topic	Homework	Slides	Supplemental Material
01/07/26	Introduction	Read chapter 1	intro	SB chapter 1
01/12/26	Probability and Simple Decisions	Read chapters 2 and 6	probability SimpleDecisions	Foundations of Computer Science Sections 4.9-4.12
01/14/26	Simple Decisions			
01/21/26	Algorithms for MDPs	Read chapter 7	MDPs	SB chapters 3 and 4
01/26/26	Finish Algorithms for MDPs	HW1a assigned, due 2/6		
01/28/26	Approximations and Search	Read chapters 8 and 9	ApproxVI	Stable Function Approximation in Dynamic Programming
02/02/26	Approximations and Search (continued)		TreeSearch	
02/04/26	Search		TreeSearch	
02/09/26	Model Free RL	Read chapter 17	ModelFreeRL	SB chapter 6
02/11/26	Advanced Model Free RL	Read Human Level Control Through Deep Reinforcement Learning HW2 due 02/27/26	DeepRL	SB Chapter 9 David Silver's Slides
2/16/16/td>	Bandits	Read chapter 15	bandits	SB Chapter 2 Introduction to Multi-Armed Bandits by Aleksandrs Slivkins
2/16/26	Model Based Reinforcement Learning	Read chapter 16	ModelBasedRL	
2/18/26	Catch Up	Read chapters 10 and 11 Project details	SarsaAndLambda	SB Chapters 7,12

			and dates released!		
	2/23/26	Sarsa, Lambda, Policy Search (maybe)		PolicySearch	
		Policy Gradient	Read chapters 12 and 13		
		Finish Policy Gradient, Review Linear Programs			
		Learning From Demonstration	Read Chapter 18		
		Reproducibility, Shaping and Catch up	Read chapture 17.5, Policy Invariance Under Reward Transformations: Theory and Application to Reward Shaping,		Potential Shaping and Q-value Initialization are Equivalent Measuring the Reliability of Reinforcement Learning Algorithms
		Hidden Markov Models and Particle Filters	Read chapter 19		
		POMDP basics	Read chapters 19 and 20		POMDPs for Dummies
		POMDPs (approximate solutions)	Read chapters 21, 22 and 23		
		Matrix Games	Read chapter 24		
		Markov Games	Read chapter 26, 27		
		Catch up, extra topics (abstraction, hierarchy, etc.), projects			