

A Complete Reinforcement Learning System (Capstone): Learning Objectives

Module 00: Welcome to the Course

Understand the prerequisites, goals and roadmap for the course.

Milestone 01: Formalize Word Problem as MDP

Final Project: Milestone 1

Understand the state and action space

Understand the reward function that you need to implement.

Use the Lunar Lander environment

Milestone 2: Choosing The Right Algorithm

Weekly Learning Goals

Understand how to solve this MDP by deciding which of the many algorithms you have learned about are a good fit for this problem.

Milestone 3: Identify Key Performance Parameters

Weekly Learning Goals

Discuss the meta-parameter choices that you will have to make to fully implement the agent.

Decide on the function approximator

Understand choices in the optimizer for updating the action-values and how to do exploration

Milestone 4: Implement Your Agent

Weekly Learning Goals

Understand how we will update our estimates of the action values.

Recall the details of the Adam algorithm.

Project Resources

Understand how to make your agent more sample efficient, when using function approximation.

Recall the experience replay method, and how it relates to Dyna.

Milestone 5: Submit Your Parameter Study!

Weekly Learning Goals

Select appropriate meta-parameters

Implement a complete reinforcement learning system to land your module on the moon

