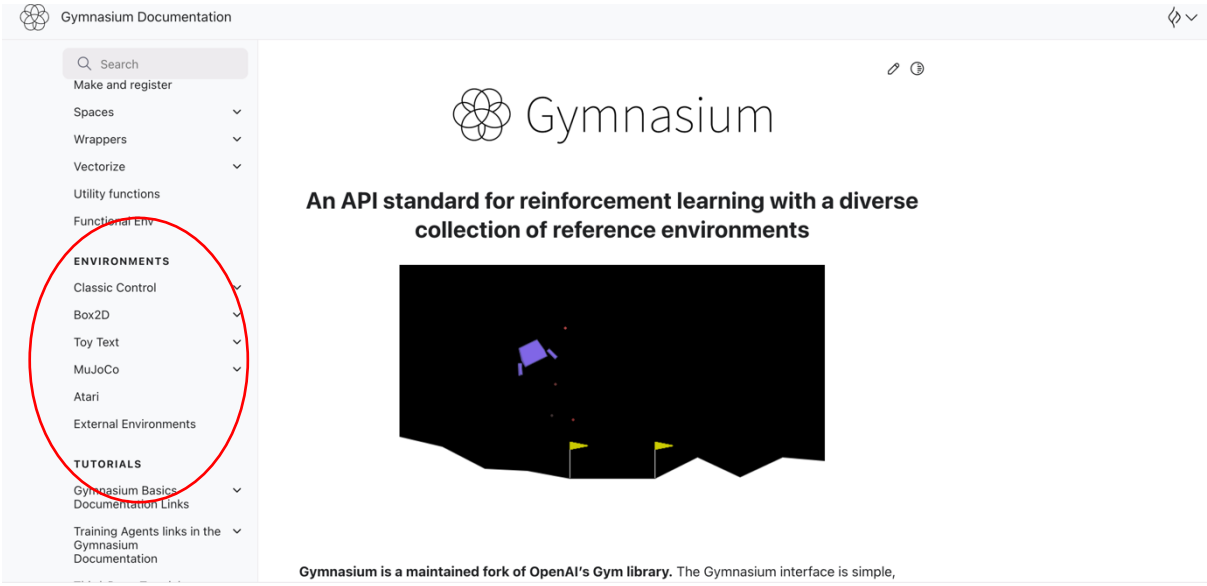
SIT796 Reinforcement Learning

Pass Task 1.1: Reinforcement Learning Environments

Overview

During week 1, you have learnt about Machine Learning, AI and Reinforcement Learning. You have also been briefed about some basic reinforcement learning terminology along with examples of learning environments.

In this task you, will conduct a case study about one of the gym environments from here: https://gymnasium.farama.org/ . Navigate to the 'Environments' section on the left side (see screenshot below), and pick any 1 environment within any of the categories (Classic Control, Box2D etc.,).



To complete this assignment, you may refer to the lecture material from Week 1.

Submission Details

Submit a report (via OnTrack) discussing the following aspects for any chosen gym environment:

- Describe the states, actions, transition functions and rewards for it.
- Is it a discrete or continuous state environment? Justify.
- Is it a discrete or continuous action environment? Justify.
- Is the transition function deterministic or probabilistic? Why?
- What would the optimal policy look like? Describe how the reward function enables the learning of such an optimal policy.

Constraints

The submitted report should not exceed **600 words** in length. Please make sure the report is well-organised, and maintains a high quality of writing with appropriate references included if required.