



Module PMRF-ISSS003/II/2024

Markov Decision Processes-II

Name of the PMRF student

Avik Kar

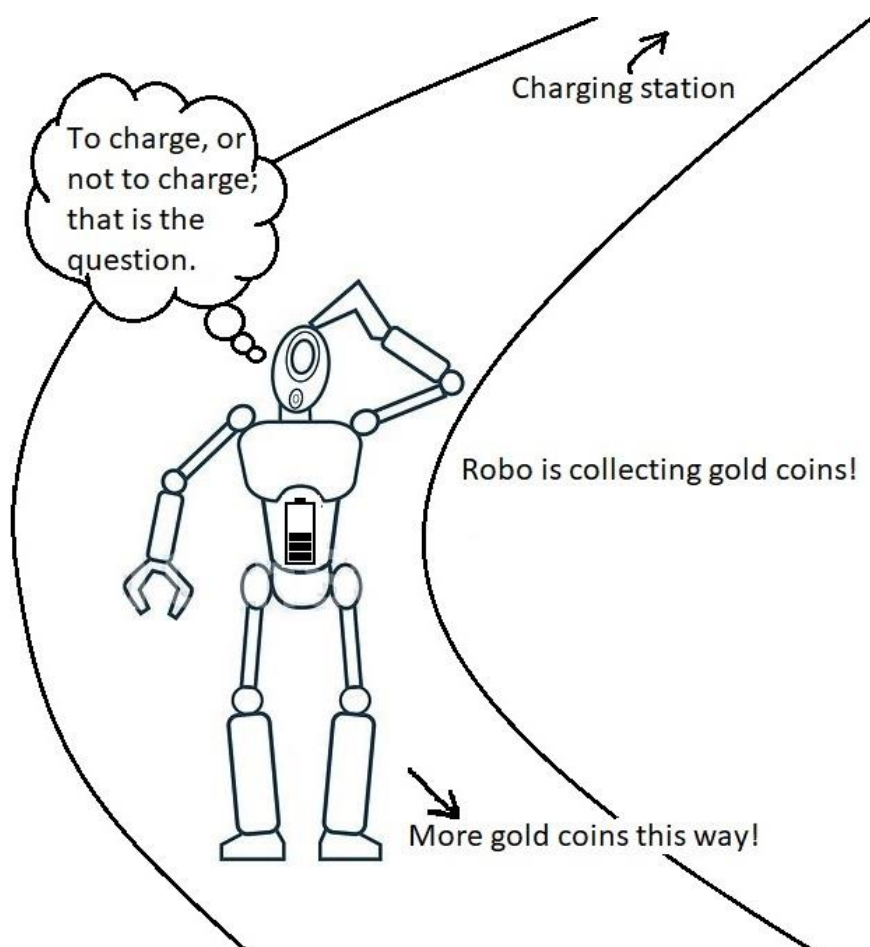
PhD fellow at dept. of ECE, IISc

Required background of the students taught

3rd/4th UG and PG students from any engineering discipline with interest in stochastic control, reinforcement learning, operations research etc. can take this course.
Prerequisite: A basic course on probability and a basic course on optimization.

Online session coordinator

Will be chosen from the list of registrants



Details of the content of the module

Course Outline

1. Fundamentals
 - i. Probability Theory and random processes
 - ii. Basics of optimization
2. Introduction to finite horizon MDPs
3. Introduction to infinite horizon MDPs
 - i. Value iteration
 - ii. Policy Iteration
 - iii. Linear programming
4. Constrained MDPs
5. Partially Observable MDPs

References:

1. Dynamic Programming and Optimal Control Vol-I and Vol-II by Bertsekas D.P.
2. Markov Decision Processes: Discrete Stochastic Dynamic Programming Martin L. Puterman
3. Partially Observed Markov Decision Processes: From Filtering to Controlled Sensing by Vikram Krishnamurthy

Schedule of the module

Start date: 27/01/2023

End date: 04/04/2023

Lecture time: Saturday, 3:00 pm to 5:00 pm

Number of Lectures: 15

Meeting link : Will be shared later

Contact email ID: iss.forum@gmail.com

Registration link: Click [here](#) or, scan the QR code

