PAUL G. ALLEN SCHOOL
OF COMPUTER SCIENCE & ENGINEERING

CSE 573 - Artificial Intelligence I - Winter 2023
Tuesday/Thursday, 10:00-11:20 AM in **CSE2 G04** ~~GUG 218~~
Lecture zoom link: https://washington.zoom.us/j/93511863677
Staff email : cse573-wi23-staff@cs.washington.edu

Instructor: Hanna Hajishirzi
Office hours: Monday, 10:00-10:45 AM (zoom)
Zoom link: https://washington.zoom.us/j/92210602318

TA: Skyler Hallinan
Office hours: Wed 4:15-5:00 PM, Fri 12:15-1:00PM
Zoom link:
https://washington.zoom.us/j/2356030978

TA: Diya Joy
Office hours: Tue/Thu, 2:30-3:15 PM
Location: CSE2 (Gates) 323

Schedule [subject to change!]

Week	Dates	Topics & Lecture Notes	Readings	Programming Assignments	Written Assignments
1	Jan 3, 5	Introduction;	R&N 1-2; 3.1-3.4 Search Visualization Tool	PS0 No Due Date	
2	Jan 10, 12	Search; Informed Search;	R&N 3.5-3.7, 4; 5.1-5.4		
3	Jan 17, 19	Informed Search; Adversarial Search;	R&N 5.5		
4	Jan 24, 26	Adversarial Search; Expectimax;	R&N 17	PS1 Due: Jan 24	
5	Jan 31, Feb 2	Markov Decision Processes (MDPs)	R&N 22.1-22.5		HW1 Due: Feb 2
6	Feb 7, 9	Reinforcement Learning	R&N 22; 12, 13.1-13.4	PS2 Due: Feb 7	
7	Feb 14, 16	Reinforcement Learning II; Machine Learning 1	R&N 19, 19.6-19.9		Project Proposal Due: Feb 14
8	Feb 21, 23	Machine Learning 2; Neural Networks	R&N 21		Paper Report Due: Feb 21
9	Feb 28, Mar 2	Bayes Nets;	R&N 14.1-14.3	PS3 Due: Feb 28	
10	Mar 7, 9	Hidden Markov Models (HMMs); Conclusion	R&N 14.2		HW2 Due: Mar 7
11	Mar 14	Finals		PS4 Due: Mar 14	Project Presentation Due: Mar 15 Project Report Due: Mar 17

Textbooks

- Optional: Stuart Russell & Peter Norvig, Artificial Intelligence: A Modern Approach, Prentice-Hall, Third Edition (2009) [R&N].

- Useful: Mausam, Andrey Kolobov. Planning with Markov Decision Processes: An AI Perspective Synthesis Lectures on Artificial Intelligence and Machine Learning. Morgan and Claypool Publishers. June 2012. (free online version if accessed from UW) [M&K]
- Useful: Richard Sutton & Andrew Barto, Reinforcement Learning: An Introduction, MIT Press. (limited chapters; freely available online) [S&B]

Programming Assignments

This quarter, we will do The Pac-Man Projects. Please complete the versions listed below, as they differ in places from the originals.

- Project 0: Python Tutorial (Not Graded)
- Project 1: Search in Pacman (Due: **Tuesday, 1/24** at 11:59 PM)
- Project 2: MultiAgent Pacman (Due: **Tuesday, 2/7** at 11:59 PM)
- Project 3: MDPs & RL (Due: **Tuesday, 2/28** at 11:59 PM)
- Project 4: Machine Learning (Due: **Tuesday, 3/14** at 11:59 PM)

Writing Assignments and Paper Report

- Writing Assignment 1 (HW1) [PDF] [Google Doc link] (Due: Thursday, Feb. 2 by 11:59pm)
- Paper Report [PDF] [Google Doc link] (Due: Tuesday, Feb. 21 by 11:59pm)
- Writing Assignment 2 (HW2) [PDF] [Google Doc link] (Due: Tuesday, Mar. 7 at 11:59pm)

Assignments, Discussion Board

Please use Ed for course related questions.

Final Project

Please follow these instructions regarding your final project:

- Projects can be done in a group of one to two students.
- We encourage you to work on research projects that are close to your interests. As a reference, we also provide a list of potential projects. Your final project can also be a re-implementation of one of the recent papers from AI/ML/NLP/Computer vision conferences.
- **Project Proposal** (20 points, Due: Feb 14th) The project proposal is a 1-page summary of the project topic, motivation, definition, dataset, and resources. It should also include the milestones, detailed experiment plan, and the timeline to complete each milestone.
- **Project Presentation** (40 points, Due: Mar 16th): We will have the poster presentation remotely. Each team should make a presentation in form of poster or slides, record a presentation over it and upload it for grading. More instructions can be found here.
- **Project Report** (40 points, Due: Mar 17th): Your write up should be about 4 pages maximum (not including references) in Camera-ready NeurIPS format. You may have unlimited appendices for clarifications, however, your main content should appear in the 4-page limit.

Course Administration and Policies

- Your **grade** will be 5% paper reports, 40% programming assignments, 25% homeworks, and 30% project.
- Assignments should be done individually unless otherwise specified. You may discuss the subject matter with other students in the class, but all final answers must be your own work. You are expected to maintain the utmost level of academic integrity in the course.
- **Late Policy (***EXCEPT FINAL PROJECT***)**: Each student has **Six** penalty-free late day for the whole quarter, other than that any late submission will be penalized at a penalty of 20% of the maximum grade per day.
- Penalty-free late days are not applicable to Final Project. The maximum late days that can be used per assignment is four.