Parham Mohammad Panahi

panahiparham.github.io • parham1@ualberta.ca • Github • LinkedIn
780-937-1410
Edmonton Alberta Canada

Education

2022 – Present
University of Alberta – Edmonton, Canada
M.Sc. in Computing Science (GPA: 4.0/4.0)
Advisor: Adam White
Research Topic: Reinforcement Learning

2016 – 2021
Azad University – Tehran, Iran
B.Sc. in Computer Science (GPA: 3.93/4.0)
Mentors: Mohammad Ali Fariborzi Araghi, Amin Mahmoodi.

Experience

Jan 2023 – Present
Research Assistant University of Alberta
I work on **Reinforcement Learning**, a machine learning paradigm for sequential decision making and control. My current research focus is twofold:
1. Creating RL algorithms that plan using Temporally Abstract Models of the world.
2. Investigating and improving methods used in training Deep RL agents.

Sept 2022 – Apr 2023
Teaching Assistant University of Alberta
Course: CMPUT 175 - Introduction to the Foundations of Computation II
Conducted Labs to assist and test students, Marked Labs and Assignments, helped students during Office Hours.

Nov 2021 – July 2022
Content Creator Caspian Net Pars
Designed and Produced Online Courses on Programming and Machine Learning.

Dec 2020 – Sep 2021
Research Assistant Azad University
Implemented a Deep Learning Audio/Visual Speech Recognition system for Farsi.

Sept 2018 – Apr 2019
Teaching Assistant Azad University
Course: Introductory and Advanced Programming
Conducted Labs and gave supplementary lectures on Programming Paradigms.

Research Projects

May 2023 – Present

Experience Replay in Deep Reinforcement Learning (On-going)
Collaborators: Andrew Patterson, Adam White, Martha White
Goals: Investigating and improving Experience Replay, a widely used and less understood approach for training Neural Networks in RL.

Jan 2023 – Present

Model Based Reinforcement Learning (On-going)
Collaborators: Kevin Roice, Scott Jordan, Adam White, Martha White
Goals: Creating RL algorithms that solve and reason about sub-problems to plan toward and achieve goals in the world.
Outcomes: We presented our findings as a poster at UpperBound 2023 in Edmonton.

Dec 2020 – Sep 2021

Audio-Visual Speech Recognition
Collaborator: Shahed Mohammadi
Outcomes: Implemented an end to end Lip Reading System for Farsi using STCNNs and LSTMs. Gathered and processed video data for visual speech recognition.

Selected Course Projects

Fall 2022

Average Reward Methods in Continuing Control
Empirical study of differential Q-learning on continuing Catch and Pendulum tasks.
Instructor: Adam White • Project Report

Fall 2022

Novel Content Generation with Machine Learning
Controlling generation of blended content via genetic algorithm and VQ-VAEs.
Instructor: Matthew Guzdial • Project Report

Honors and Scholarships

2023 University of Alberta FGSR Graduate Travel Award 2023 - 2024

2023 Admitted to the DLRL2023 Summer School Organized by CIFAR/MILA

2022 University of Alberta Graduate Recruitment Scholarship FALL 2022/23

2021 Rank 25 in National Mathematical Olympiad for University Students in Iran

Other Skills

Programming Languages: Python, Julia, C++, and many Machine Learning and Scientific Computing Packages, including Torch, TensorFlow, and Jax.

Languages: English (IELTS band 8), Farsi (native).