Amirhossein Rajabpour

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Research Interests Reinforcement Learning, Deep Learning, Representation Learning, Program Synthesis

Education

University of Alberta Edmonton, Canada
M.Sc. of Computing Science 2023 – Expected 2025
Supervisors: Levi Lelis & Sandra Zilles, GPA: 3.8

Amirkabir University of Technology (Tehran Polytechnic) Tehran, Iran
B.Sc. of Computer Engineering 2018 – 2023
Major in Artificial Intelligence, Minor in Computer Networks, GPA: 3.96/4

Publications

Common Benchmarks Undervalue the Generalization Power of Programmatic Policies. Amirhossein Rajabpour, Kiarash Aghakasiri, Sandra Zilles, Levi Lelis. NeurIPS Track Position (under review), 2025. [PDF]

Research Experience

Research Assistant | University of Alberta May 2023 – Present
Research on generalization power of neural policies vs programmatic ones on current influential benchmarks. Supervised by Levi Lelis and Sandra Zilles. [Link]

Individual Study Course Project | University of Alberta Jan 2023 – Apr 2024
Worked on various ways—Implemented hill-climbing search, hill-climbing with exploration, and genetic algorithm—to improve the work UNVEILING OPTIONS WITH NEURAL DECOMPOSITION. Supervised by Levi Lelis.

Reinforcement Learning 1 Course Project | University of Alberta Sep – Dec 2023
Compared generalization power of an expert agent that concentrates resources on a single task with a generalist agent that splits them across tasks, evaluating PPO, DQN, and APPO across various environments, MiniGrid scenarios, and budgets [Project Report].

Bachelors Thesis | Amirkabir University Mar – May 2023
Face aging platform using generative models e.g. CycleGAN and reversible models. Supervised by Mohammad Rahmati. [link]

Research Assistant | Amirkabir University Feb – Jun 2022
Supervised by Hamed Farbeh. Working on portfolio asset allocation using reinforcement learning and graph neural networks. I was responsible for implementing a graph convolutional network from a time series dataset.

Work Experience

Technical Advisement - Project Validation | Alberta Machine Intelligence Institute (Amii) Sep – Oct 2024
Conducting research on advanced AI/ML methods to enhance real-time intrusion detection and anomaly detection in high-speed network storage infrastructures. Focused on improving threat detection accuracy and scalability in multi-cloud environments.

Machine Learning Engineer | **R&D Dept. of Crouse PJS Co.** Oct 2021 – Jan 2022
Designed a light model using classical ML algorithms to detect malfunctioning LEDs by localizing them, clustering light pixels with fuzzy C-means, extracting luminance and wavelength, and applying regression models for each LED color.
DevOps Engineer Intern | **Graph Co.** Nov 2020 – Apr 2021
Working with Docker, Minikube, and other backend technologies

Technical Skills

Programming Languages: Python, C, Java, Kotlin, Octave
Artificial Intelligence: Tensorflow, Pytorch, Keras, Scikit learn, Fastai
OS: Windows, Linux (Ubuntu), MacOS
Database Systems: MySQL, PostgreSQL, MongoDB
Web Development: Django, Flask, HTML, CSS
Miscellaneous: Git, OpenCV, Docker, Jira, Selenium, Xampp

Teaching Assistant

University of Alberta
CMPUT 366 | Search & Planning in AI | Instructor: Levi Lelis Fall 2024, Winter 2025
CMPUT 291 | Intro to File and Database Management | Instructors: Davood Rafiei, Arash Dargahi Nobari Fall 2023, Winter 2024

Amirkabir University of Technology
Principles of AI | Instructor: Mahdi Javanmardi Fall 2022
Cloud Computing | Instructor: S.Ahmad Javadi Fall 2022
Internet of Things | Instructor: Siavash Khorsandi Fall 2022
Algorithm Design | Instructors: A. Bagheri, S. Shirali-Shahreza
Winter 2022, Fall-Winter 2021

Honors and Awards

Master's Admissions: Fully funded admission to UofA CS, ECE and Radiology & Diagnostic Imaging programs and University of Western Ontario CS program 2023
Bachelor's Scholarship: Awarded a 4-year scholarship from Amirkabir University of Technology 2019-2023
University Entrance Exam: Achieved top 1% place among more than 140,000 applicants of the Nationwide Mathematics University Entrance Exam 2018

Grad Courses

– Reinforcement Learning 1 (Marlos Machado) – Machine Learning (Lili Mou)
– Modelling Strategic Behavior (James Wright) – Reinforcement Learning 2 (Rich Sutton)

Language Skills

Persian: Native
English: TOEFL iBT: 109 (R: 26, L: 28, S: 26, W: 29)
German: Professional Working Proficiency (B2)

**To review my projects and certificates, check my Homepage. (Last update: June 2025)*