

Majid Ghasemi

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Research interests Deep Reinforcement Learning, Ethical Reinforcement Learning, Machine Ethics, Multi-agent Reinforcement Learning, and Social Reinforcement Learning

Education **University of Waterloo** Waterloo, ON, Canada

Ph.D. in Electrical & Computer Engineering Sep 2025 – Present
Supervised by Mark Crowley
Research area: *Ethical decision making in multi-agent systems and how social learning can be a way to achieve it*

Wilfrid Laurier University (WLU) Waterloo, ON, Canada
MASc in Applied Computing Sep 2023 – May 2025
Supervised by Dariush Ebrahimi. *GPA: A+*.
Thesis title: *Reinforcement Learning for Scheduling and Routing: Electric Vehicles Charging and Patrol Scheduling*

Imam Khomeini Intl. University (IKIU) Qazvin, Iran
B.Sc. in Software Engineering Sep 2017 – March 2022
Supervised by Mahdi Bahaghighat. *GPA: A-*.

Honors and Winner of the Academic Excellence Gold Medal (WLU) 2025

scholarships Int'l Doctoral Student Award (University of Waterloo) 2025 – 2029

Graduate Scholarship (WLU) 2023 – 2025

Graduate Fellowship (WLU) 2023 – 2025

Differential Tuition Fee Waiver (WLU) 2023 – 2025

Excellence Students Tuition Fee Waiver (IKIU) 2017–2022

Publications **Optimal and Heuristic Solutions for Efficient Vehicle Patrol Scheduling in Dynamic Urban Safety**

Majid Ghasemi, Ebrahim Sarkhouh, Fadi Alzhouri, and Dariush Ebrahimi. 2025 IEEE 34th International Symposium on Industrial Electronics (ISIE).

Comparative Analysis of Reinforcement Learning for Reliable Real-Time EV Routing and Charging

Majid Ghasemi, Fadi Alzhouri, and Dariush Ebrahimi.

2025 21st International Conference on the Design of Reliable Communication Networks (DRCN).

Comprehensive Survey of Reinforcement Learning: From Algorithms to Practical Challenges

Majid Ghasemi, Amirhossein Mousavi, and Dariush Ebrahimi.

Preprint on Arxiv.

Introduction to Reinforcement Learning

Majid Ghasemi, and Dariush Ebrahimi.

Preprint on Arxiv.

Navigating Smart Order Routing in Fixed Income Trading with Linear Programming and Dijkstra's Algorithm

Cassel Robson, Marko Misic, Erika Capper, Mila Cvetanovska, *Majid Ghasemi*, Fadi Alzhouri, and Dariush Ebrahimi.

2024 International Conference on the Dynamics of Information Systems.

A high-accuracy phishing website detection method based on machine learning

Mahdi Bahaghighat, *Majid Ghasemi*, and Figen Ozen.

Journal of Information Security and Applications 77.

Research experience

UWEC EML/CompThink lab

Supervisor: Prof. Mark Crowley (University of Waterloo) Sep 2025 – Present
Developing socially informed and ethically grounded approaches to multi-agent reinforcement learning.

Edge Computing lab

Supervisor: Dr. Dariush Ebrahimi (WLU) Sep 2023 – May 2025
Conducted research on reinforcement learning for intelligent transportation systems, focusing on EV fleet management and routing optimization.

AIST lab

Supervisor: Dr. Mahdi Bahaghighat (IKIU) Sep Jan. 2021 – March 2022
Researched on phishing website detection with machine learning.

Teaching experience

Tutor

Fall 2025

ECE250: Data Structures & Algorithm

Delivering 1:1 tutoring sessions to students teaching the fundamentals

Teaching Assistant, Department of Computer Science (WLU) Winter 2025

CP468: Artificial Intelligence

Guest-lectured select topics; authored/marked quizzes; defined and evaluated term projects; maintained office hours and discussion support.

Teaching Assistant, Department of Computer Science (WLU) Fall 2024

CP468: Artificial Intelligence

Facilitated weekly tutorials; prepared assessments; graded assignments/exams; provided 1:1 support on foundational AI methods.

Teaching Assistant, Department of Computer Science (WLU) Winter 2024

CP312: Algorithm Design and Analysis

Ran problem-solving sessions; authored quiz questions; evaluated projects and papers; supported students on time/space analysis and classic algorithms.

Teaching Assistant, Department of Computer Science (WLU) Winter 2024

CP421: Data Mining

Delivered labs; set and marked quizzes; defined/evaluated course projects; supported students with data prep and model evaluation workflows.

Teaching Assistant, Department of Computer Science (WLU) Fall 2023

CP468: Artificial Intelligence

Led tutorials and occasional lectures; created quizzes and project specs; graded assignments/exams; held office hours for core AI topics.

Teaching Assistant, Department of Computer Engineering (IKIU) Winter 2022

Fundamentals of Programming

Led labs and tutorials; crafted quizzes and programming assignments; graded submissions and exams; supported students in core programming concepts.

Teaching Assistant, Department of Computer Engineering (IKIU) Fall 2021

Artificial Intelligence

Conducted tutorials; designed quizzes and project briefs; graded assignments/exams; provided office-hour support throughout the term.

Teaching Assistant, Department of Computer Engineering (IKIU) Fall 2021

Data Mining

Delivered practical sessions; set/marked assessments; defined and evaluated term projects; guided students on end-to-end analytics pipelines.

Industry experience	Gerdoos Software , AI Department	Tehran, Iran
	Junior Data Scientist	June 2022 – June 2023
	Built and maintained SQL pipelines to extract, clean, and aggregate data; performed exploratory analysis and market research to surface trends; and developed baseline ML models for segmentation and forecasting. Partnered with product and marketing to turn insights into decisions, and delivered concise KPI dashboards and reports for stakeholders.	
	Marketing Camp , Software Department	Alborz, Iran
	Frontend Developer	Dec 2018 – May 2019
	As part of the technical team, I helped plan and deliver the Winter Marketing Camp (WinterMC) in February 2019. We built and deployed a web application for participant registration and curated participant profiles, and implemented a real-time, team-based leaderboard that displayed scores and rankings throughout the event.	
	TestHub , Software Department	Alborz, Iran
	Frontend Developer	May 2018 – Nov 2018
	We explored forward-leaning concepts, including applying artificial intelligence to retail recommender systems, while I concurrently developed responsive admin panels and user dashboards using JavaScript, HTML, and CSS.	
Talks and presentations	Optimal and Heuristic Solutions for Efficient Vehicle Patrol Scheduling in Dynamic Urban Safety	
	June 2025	
	2025 IEEE 34th International Symposium on Industrial Electronics (ISIE)	
Skills	Programming	
	Proficient in: Python, JAX, C++, Pytorch, Tensorflow, Javascript, Numpy, Pandas, Matplotlib, and HTML/CSS.	
	Languages	
	English (fluent), Persian (native), Azerbaijani (native), and Turkish (intermediate)	
Mentorship	Academic Mentor	
	Aug. 2025 – Present	
	Offering free 1:1 academic and career mentorship to students. This initiative was started by me to support students from underrepresented backgrounds. Currently mentoring one student	
Grants	HU University of Applied Sciences Utrecht	
	Aug. 2022 – Aug. 2023	

Recipient of a grant to conduct research on Woman, Life, Freedom movement in Iran with computational social science and machine learning approaches.