

Ashkan Y. Zadeh

PhD Candidate, Computer Science

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Profile

Curiosity leads me, challenge shapes me, and impact drives me. Hi, I'm Ashkan.

Technical Skills

Generative AI & LLMs	Large Language Models (LLMs), Vision-Language Models (VLMs), Hugging Face, Prompt Engineering, RAG, Information Retrieval
Deep Learning	PyTorch, Neural Networks, NLP, Transformers, Transfer Learning, Fine-Tuning
Machine Learning	Classical ML, Feature Engineering & Selection, Model Evaluation
Programming & SWE	Python, OOP, Data Structures, APIs, Testing & Debugging, Git/GitHub
Data & Analytics	SQL/NoSQL, Data Pre-processing, EDA, Large-Scale Data Handling, Visualization
Explainable / HC-AI	XAI, Natural-Language Explanations, User-Centred Studies
Control & Robotics	Model Predictive Control (MPC), Fuzzy Control, Evolutionary Optimisation, ROS, MATLAB

Education

PhD, Computer Science

2023 – Present

Queensland University of Technology (QUT)

Brisbane, QLD

➤ *Thesis:* A Model for Generating Human-Centric Explanations for Automated Vehicles

MSc, Mechanical Engineering (Dynamics & Control Systems)

2019 – 2022

University of Guilan

Iran

➤ *Thesis:* Safety and Energy Management System Control of Hybrid Autonomous Vehicles

BSc, Mechanical Engineering

2013 – 2018

Islamic Azad University

Iran

➤ *Final Project:* Mechanical Design of a Robotic Manipulator Arm (SolidWorks)

Selected Publications

- 2026** X-Blocks: A Linguistic Knowledge Acquisition Framework for Scenario-Aware Explanations in Automated Vehicles. Yousefi Zadeh, A., Li, X., Rakotonirainy, A., Schroeter, R., Glaser, S., & Zhu, Z. *Advanced Engineering Informatics*, Elsevier — Under Review. [\[Preprint\]](#)
- 2026** Explainability in Automated Driving: From Spatial Attention to Human-Centred Reasoning. Rakotonirainy, A., Yousefi Zadeh, A., Zhu, Z., Benrachou, D., Elhenawy, M., Glaser, S., Li, X., Schroeter, R., Gouillou, M., & Delhomme, P. *Human Interaction and Emerging Technologies Conference (IHET 2026)*. [\[Link\]](#)
- 2026** NARRATE: A Multimodal Real-World Australian Driving Dataset for Human-Centred Explanations in Automated Driving. Yousefi Zadeh, A., Zhu, Z., Li, X., Rakotonirainy, A., Glaser, S., Schroeter, R., Delhomme, P., & Mehraban, Z. *The 19th European Conference on Computer Vision (ECCV 2026), DriveX Workshop* — Accepted (Archival Track). [\[OpenReview\]](#)
- 2025** PsyLingXAV: A Psycholinguistics Design Framework for XAI in Automated Vehicles. Yousefi Zadeh, A., Li, X., Rakotonirainy, A., Schroeter, R., & Glaser, S. *XAI-2025 (3rd World Conference on eXplainable Artificial Intelligence)*. [\[Link\]](#)
- 2024** Integrated Intelligent Control Systems for Eco and Safe Driving in Autonomous Vehicles. Yousefi Zadeh, A., Jamali, A., Mallipeddi, R., & Khayyam, H. *IEEE Transactions on Intelligent Transportation Systems*. [\[Link\]](#)
- 2024** Fuzzy Adaptive Cruise Control with Model Predictive Control for Automated Driving. Mehraban, Z., Yousefi Zadeh, A., Jamali, A., Mallipeddi, R., & Khayyam, H. *Engineering Applications of Artificial Intelligence*. [\[Link\]](#)

Experience

Doctoral Researcher

Jun 2023 – Present

ARC Training Centre for Automated Vehicles in Rural & Remote Regions (AVR3)

Brisbane, QLD

- › Building LLM/VLM-based frameworks for generating human-centred explanations in automated driving.
- › Constructed NARRATE, a multimodal real-world Australian driving dataset (accepted at ECCV 2026 DriveX).
- › Supervisors: Dr. Xiaomeng Li, Prof. Andry Rakotonirainy, Prof. Ronald Schroeter, Prof. Sebastien Glaser. Formerly CARRS-Q.

Tutor — Computing & Data for Engineers

Feb 2024 – Present

Queensland University of Technology (QUT)

Brisbane, QLD

- › Taught EGB 103 (QUT) and EGD 103 (QUT College): Python programming and data fundamentals.

Technical Committee Member

Jan 2025 – Present

IEEE Consumer Technology Society — Automotive CE Applications

Remote

AdHoc Committee Member — Autonomous Vehicles

Sep 2024 – Present

IEEE Vehicular Technology Society

Remote

Peer Reviewer

Apr 2022 – Present

IEEE T-ITS & IEEE Access

Remote

Python Developer

Nov 2022 – Mar 2023

HeyvaAI

Iran

- › Coded, deployed, and debugged production AI development projects.

R&D Expert, Autonomous Vehicles

Nov 2022 – Dec 2022

Cheetah Research Center, University of Tehran

Iran

Selected Achievements & Certifications

- › **2024 — IEEE Scholarship:** IEEE Academia-Industry Summer School on Human-Centric AI-empowered Autonomy, Swinburne University.
- › **2023–2024 — Research Scholarships:** ARC Postgraduate Research Stipend & QUT Postgraduate Research Award (QUTPRA).
- › **2023 — QUT Runner-Up & Faculty Finalist:** Visualise Your Thesis Competition.
- › **2021 — Machine Learning Summer School (MLSS),** Taipei; **Self-Driving Cars,** University of Toronto (Coursera).
- › **2020 — IBM Data Science Professional Certificate** & IBM Data Science Badges.
- › **2019–2022 — Top 15% GPA,** Dynamics & Control division, University of Guilan.

Languages

English Professional proficiency

Persian Native proficiency