

# Ashkan Y. Zadeh

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AI & Automated Vehicles Researcher

## Research Interests

Automated Vehicles, Human-Centred AI, Explainable AI, Natural Language Processing, Large Language Models, Human-Machine Interaction (HMI)

## Education

<b>Queensland University of Technology</b> <i>PhD, Computer Science</i> <i>Thesis: A Model for Generating Human-Centric Explanations for Automated Vehicles</i>	<b>Brisbane, QLD</b> 2023–Present
<b>University of Guilan</b> <i>MSc, Mechanical Engineering (Dynamics &amp; Control Systems)</i> <i>Thesis: Safety and Energy Management System Control of Hybrid Autonomous Vehicles</i>	<b>Iran</b> 2019–2022
<b>Islamic Azad University</b> <i>BSc, Mechanical Engineering</i> <i>Final Project: Mechanical Design of a Robotic Manipulator Arm with SolidWorks</i>	<b>Iran</b> 2013–2018

## Work Experience

<b>IEEE Consumer Technology Society</b> <i>Automotive CE Applications Technical Committee Member</i> <i>Committee member for automotive consumer electronics applications</i> <a href="#">Learn More</a>	<b>Australia · Remote</b> Jan 2025–Present
<b>IEEE Vehicular Technology Society</b> <i>AdHoc Committee on Autonomous Vehicles</i> <i>Committee focused on autonomous vehicle technology</i> <a href="#">Learn More</a>	<b>Australia · Remote</b> Sep 2024–Present
<b>QUT (Queensland University of Technology)</b> <i>Tutor</i> <ul style="list-style-type: none"><li>○ “EGB 103 - Computing and Data for Engineers” Course - QUT</li><li>○ “EGD 103 - Computing and Data for Engineers” Course - QUT College</li></ul>	<b>Brisbane, QLD · On-site</b> Feb 2024–Present
<b>ARC Training Centre for Automated Vehicles in Rural and Remote Regions (AVR3)</b> <i>Doctoral Researcher</i> <ul style="list-style-type: none"><li>○ Formerly Centre for Accident Research &amp; Road Safety – Queensland (CARRS-Q)</li><li>○ Thesis: A Model for Generating Human-Centric Explanations for Automated Vehicles</li><li>○ Supervisors: Dr. Xiaomeng Li, Prof. Andry Rakotonirainy, Prof. Ronald Schroeter, Prof. Sebastien Glaser</li></ul>	<b>Brisbane, QLD</b> Jun 2023–Present
<b>IEEE</b> <i>Peer Reviewer</i> <ul style="list-style-type: none"><li>○ IEEE Transactions on Intelligent Transportation Systems</li><li>○ IEEE Access</li></ul>	<b>Apr 2022–Present</b>
<b>HeyvaAI</b> <i>Python Developer</i> <ul style="list-style-type: none"><li>○ Responsible for coding, deploying, and debugging development AI projects</li></ul>	<b>Iran</b> Nov 2022–Mar 2023
<b>Cheetah Research Center</b> <i>R&amp;D Expert in Autonomous Vehicles</i> <ul style="list-style-type: none"><li>○ Autonomous Vehicles Research Institute of University of Tehran (Cheetah)</li></ul>	<b>Iran</b> Nov 2022–Dec 2022

## Skills

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**Programming:** Python, MATLAB

**Computational:** Machine Learning, Neural Networks, NLP, LLMs, Fuzzy Logic, Evolutionary Algorithms

**Simulation:** Simulink

**Soft Skills:** Time Management, Teamwork, Problem-Solving, Documentation, Engaging Presentation

**Other:** PyTorch, ROS, Microsoft Office, Git

## Selected Publications

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**2026:** Yousefi Zadeh, A., Li, X., Rakotonirainy, A., Schroeter, R., Glaser, S & Z. Zhu. "X-Blocks: Linguistic Building Blocks of Natural Language Explanations for Automated Vehicles". *Expert Systems With Applications, Elsevier*, **Submitted. Preprint**

**2025:** Yousefi Zadeh, A., Li, X., Rakotonirainy, A., Schroeter, R., & Glaser, S. "PsyLingXAV: A Psycholinguistics Design Framework for XAI in Automated Vehicles". *XAI-2025 (The 3rd World Conference on eXplainable Artificial Intelligence)*, **Link**

**2024:** Yousefi Zadeh, A., Jamali, A., Mallipeddi, R., & Khayyam, H. "Integrated Intelligent Control Systems for Eco and Safe Driving in Autonomous Vehicles". *IEEE Transactions on Intelligent Transportation Systems*. **DOI: 10.1109/TITS.2024.3479332**

**2024:** Mehraban, Z., Yousefi Zadeh, A., Jamali, A., Mallipeddi, R., & Khayyam, H. "Fuzzy Adaptive Cruise Control with Model Predictive Control for Automated Driving". *Engineering Applications of Artificial Intelligence*. **Link**

## Achievements

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**2024:** IEEE Scholarship: Recipient of IEEE Academia-Industry Summer School (AISS) on "Towards Human-Centric Artificial Intelligence (AI)-empowered Autonomy", Swinburne University of Technology, VIC

**2023:** CARRS-Q Team Member: Nudgeathon 2023 (Behavioural Economics Competition), Brisbane, QLD

**2023:** QUT Runner-Up: 2023 Visualise Your Thesis Competition, Brisbane, QLD

**2023:** QUT Faculty of Health Finalist: 2023 Visualise Your Thesis Competition, Brisbane, QLD

**2023–2024:** Postgraduate Research Scholarship: 2023 ARC Postgraduate Research Stipend, 2024 QUT Postgraduate Research Award (QUTPRA), Brisbane, QLD

**2020:** Data Science Badges: The International Business Machines Corporation (IBM)

**2019–2022:** Top 15% Students: Ranked within the top 15% GPA among the graduating class in the Dynamics and Control division, University of Guilan, Iran

## Certificates

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**2024:** IEEE Academia-Industry Summer School (AISS) on "Towards Human-Centric AI-empowered Autonomy", IEEE Systems, Man, and Cybernetics Society

**2022:** An introduction to peer review, Web of Science Academy

**2021:** Machine Learning Summer School (MLSS), MLSS 2021 Taipei, August 2-20

**2021:** Introduction to Self-Driving Cars, University of Toronto - Coursera

**2021:** Robotics Spring Workshop, Sharif University of Technology

**2020:** AI and Deep Learning methods in Autonomous Robotics, ARAS (Advanced Robotics and Automated System) | K. N. Toosi University of Technology

**2020:** IBM Data Science Professional Certificate, IBM-Coursera

**2020:** Intermediate Machine Learning, Kaggle

**2019:** Foundations of Data Science: Computational Thinking with Python, University of California, Berkeley -

edX

2019: Python for Data Science, University of Tehran

## Interests

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**Engineering:** Automated Vehicles, Machine/Deep Learning, XAI, NLP, User-Centred Studies

**Technical Writing:** Writing scientific articles and peer review scientific papers

**Sports:** Martial arts, mountaineering, nature tourism

## Languages

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**English:** Professional proficiency

**Persian:** Native proficiency

