






# Mobina Amrollahi

 GitHub  LinkedIn  Email  Website  LeetCode

## Education

Iowa State University, Ames, IA

Ph.D. in **Computer Science** & Industrial Engineering GPA: 3.87/4.00 Aug. 2028 (Anticipated)

M.Sc. in **Computer Science** & Industrial Engineering Aug. 2026 (Anticipated)

Related Courses: Design & Analysis of Algorithms, Theory of Computation, Analysis, Theory of Linear Algebra, Advanced Topics in Machine Learning, Linear Programming.

Sharif University of Technology, Iran

2018 – 2023

B.S. in Industrial Engineering

## Publications

*Working Papers Under Review*

- **Amrollahi, M.**, Goldman, A., & Liu, J. *Measuring and Understanding Trust in Motion: Behavioral Archetypes in Human-Automated Guided Vehicle Interactions.*
- Gomez-Hernandez, A.\*, **Amrollahi, M.\***, Entezarizarch, E., Liu, J., & Yang, J. *A Systematic Review of Human-Centered Adaptive Systems: Design, Implications, and Future Directions. (\*Equal contribution)*

*Conference Proceedings*

- **Amrollahi, M.**, Wangira, R., & Liu, J. (2025). *Analysis and Modeling of Worker Trust in Automated Guided Vehicles for Manufacturing Workplace.*  
In **Proceedings of the 69<sup>th</sup> Human Factors and Ergonomics Society Annual Meeting (HFES).**

## Research Experiences

Iowa State University, [Human-centered Interactive Autonomy](#)

2023 – Present

**Graduate Research Assistant**

Mentor: Jundi Liu

Project: Characterizing Human Decisions in Shared Spaces with Autonomous Vehicles

- Developed a simulation framework for modeling interactions between humans and Automated Guided Vehicles in shared industrial spaces.
- Processed raw user coordinates, eye gaze data, and automated guided vehicle coordinate data; Extracted features such as Fréchet distance, fixation rate, and user's relative speed.
- Analyzed and predicted human crossing behavior using semi-supervised learning to infer intent from physiological and contextual features.

Project: A Systematic Review of Human-Centered Adaptive Systems: Design, Implications, and Future Directions

- Reviewed existing adaptive system applications to evaluate their effectiveness, identify implementation gaps, and explore how they maintain human involvement while leveraging automation.

## Selected Course Projects

Iowa State University

2023 – Present

**Post-Hazard Damage Levels Identification using Semantic Segmentation**

COMS 6730 – Advanced Topics in Machine Learning

- Implemented the Segmenter model for hurricane damage assessment, achieving the highest performance across all metrics in a comparative analysis against PSPNet, DeepLabV3+, and Attention U-Net.

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## Optimal Path Planning for an Omnidirectional Robot

COMS 5760 – Motion Planning for Robotics and Autonomous Systems

- Evaluated and compared RRT and RRT\* algorithms for motion planning of an omnidirectional robot, demonstrating the trade-off between rapid feasibility and asymptotic optimality.

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<b>Selected Honors</b>	2025	Alphonse Chapanis Award finalists of the 69 <sup>th</sup> HFES International Annual Meeting	
	2025	3 <sup>rd</sup> Place, 12th Annual IMSE Student Research Symposium, Iowa State University	
	2025	NSF IISE Annual Conference Student Travel Award (NSF Award ID CMMI-2511912)	
	2024	1 <sup>st</sup> Place, 12th Annual IMSE Student Research Symposium, Iowa State University	
	2023	Harold and Shirley Reihman Graduate Scholarship, Iowa State University	
	2023	UMN Provost Fellowship, University of Minnesota	
<b>Industry Experience</b>	<i>Digikala, Iran</i>		
	<b>Associate Product Owner</b> May 2022 – Sept. 2022		
	<ul style="list-style-type: none"><li>▪ Contributed to the development of a widely-used credit card as a payment method on Digikala, the largest e-commerce platform in the Middle East.</li><li>▪ Partnered with developers and designers to lead an agile release approach including discovery, design, user research, and wireframe creation.</li><li>▪ Participated in product planning sessions, contributed insights, and helped execute initiatives.</li></ul>		
<b>Teaching Experiences</b>	<i>Sharif University of Technology, Iran</i>		
	<b>Head Teaching Assistant</b> IE 21776: Information Technology		Fall 2023
	<ul style="list-style-type: none"><li>▪ Managed and coordinated 8 teaching assistants.</li><li>▪ Proofread and graded homework and final exam for 60 students.</li></ul>		
	<b>Teaching Assistant</b> IE 21972: Management Information Systems		Fall 2023
	<ul style="list-style-type: none"><li>▪ Conducted tutoring sessions; designed and graded homework and projects.</li></ul>		
<b>Service</b>	<i>CyMath, Ames, IA</i>		
	<b>Volunteer Tutor</b> March 2025 – Present		
	<ul style="list-style-type: none"><li>▪ Providing one-on-one math tutoring and mentorship to 6th–8th grade students.</li></ul>		
<b>Skills</b>	<b>Programming:</b> Python (PyTorch, Tensorflow), C++, R, $\text{\LaTeX}$		
	<b>Languages:</b> English (TOEFL iBT: 107/120)		