

Alireza Hoseinpour

Computer Science Master's Student at Bowling Green State University (BGSU)

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Research Interests

- ◊ **AI4SE and SE4AI**
 - ◊ **Software Analytics**
 - ◊ **Empirical Software Engineering**
 - ◊ **Software Maintenance and Evolution**
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Education

- ◊ **Bowling Green State University (BGSU), OH, USA** Spring 2025 – Present
M.Sc. in Computer Science
 - *GPA:* (4/4)
 - *Research Supervisor:* Dr. Abbas Heydarnoori
 - ◊ **Sharif University of Technology (SUT), Tehran, Iran** Fall 2018 – Spring 2024
B.Sc. in Computer Engineering
 - *GPA:* (16.26/20) (Last 6 semesters 17.5/20)
 - *Thesis Supervisor:* Dr. Mahdieh Soleymani
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Research Experience

- ◊ **Research Assistant, BGSU** Spring 2025 – Present
Supervisor: Dr. Abbas Heydarnoori
 - Solving critical software maintenance challenges with the help of AI.
 - Implemented an autonomous LLM agent for issue-commit link recovery.
 - Fine-tuned open-source LLMs for automatic issue report assignment.
 - Integrating RAG with LLM reasoning for automated issue report classification.
 - Empirically analyzing defects in LLM-generated tests, focusing on failure patterns and recovery strategies.
 - ◊ **Undergraduate Thesis Research, SUT** Spring 2023 – Fall 2023
Supervisor: Dr. Mahdieh Soleymani
 - Investigated the robustness of CNNs and Vision Transformers under distribution shifts from spurious correlations, conducting large-scale experiments with varied training strategies.
 - Designed and implemented novel datasets with synthetic spurious signals to test generalization.
 - Showed that fine-tuning improves minority-group robustness (via DFR), while classifier-only tuning offers a cost-efficient alternative.
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Publications

- ◊ **Under Review**
 - A. Akhavan, **A. Hoseinpour**, A. Heydarnoori, and M. Keshani. “**LinkAnchor: An Autonomous LLM-Based Agent for Issue-to-Commit Link Recovery.**” *arXiv preprint*, Aug. 2025. DOI: [10.48550/arXiv.2508.12232](https://doi.org/10.48550/arXiv.2508.12232).
 - A. Khosravani, **A. Hoseinpour**, A. Akhavan, M. Keshani, and A. Heydarnoori. “**Supervised Fine-Tuning of Large Language Models for Automatic Issue Assignment.**” n.d.
- ◊ **In Preparation**
 - **A. Hoseinpour**, A. Akhavan, A. Khosravani, M. Keshani, and A. Heydarnoori. “**Retrieval-Augmented LLM Reasoning for Issue Report Classification: An Empirical Study.**” n.d.
 - **A. Hoseinpour**, A. Akhavan, M. Keshani, and A. Heydarnoori. “**AI-Generated Test Failures in Action: An Empirical Analysis of Failure and Recovery Patterns.**” n.d.

- ◊ **Published**
- **A. Hoseinpour**, M. Taherkhani, F. HosseiniNoohdani, H. Asadollahzadeh, and M. Soleymani Baghshah. “**Evaluating Robustness of Pre-Trained Deep Neural Networks Against Spurious Correlations.**” *ECCV OOD Workshop*, Oct. 2023. [Workshop Paper](#).
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Teaching Assistantships	◊ BGSU:	
	– Software Engineering : Dr. Heydarnoori	Spring 2025
	◊ SUT:	
	– Computer Simulation : Dr. Safaei	Spring 2023
	– Database Design : Dr. Baharifard	Spring 2023
	– Compiler Design : Dr. HosseiniMardi	Spring 2023
	– Logical Circuits : Dr. Arshadi	Fall 2022
	– Compiler Design : Dr. HosseiniMardi	Fall 2022
	– Software Engineering Principles : Dr. Baharifard	Fall 2022

Selected Courses	◊ BGSU:	
	– Software Testing & Quality Assurance (A)	– Data Science Programming (A, in progress)
	– Database Management Systems (A)	– Seminar in Computer Science (A)
	◊ SUT:	
	– Software Engineering (20/20)	– Design of Algorithms (17.7/20)
	– Systems Analysis & Design (17.9/20)	– Data & Network Security (18.5/20)
	– Database Design (17.8/20)	– Compiler Design (17.4/20)

Honors and Awards	◊ 2nd Place, BGSU ACM Hackathon	Apr 2025
	Awarded for developing Piqniq , an emergency alert app designed to support users during panic attacks. Event details: Hackathon Website .	

Work Experience & Projects	◊ Software Engineer at Digikala	Sep 2022 – Apr 2024
	Digikala is the largest e-commerce company in Iran with 40+ million users.	
	– Developed scalable systems and real-time user interaction infrastructure to support high-traffic promotions.	
	– Engineered software for two Black Friday events, with zero downtime and meeting commercial goals.	
	– Technologies: PHP, Redis, Memcached, Kafka, MySQL, REST APIs, Jenkins, GitLab, Git, Scrum.	
	◊ Co-founder at AYOT	Feb 2021 – Aug 2023
	AYOT is an IoT platform for smart home appliances in partnership with SUT’s startup accelerator.	
	– Developed the engine for cross-company IoT device interoperability	
	– Mentored interns from the Computer Engineering department.	
	– Technologies: Python, FastAPI, PostgreSQL, Kafka, Redis, Docker, REST APIs, MQTT.	
	◊ Software Engineer at Tapsell	Jan 2022 – Sep 2022
	Tapsell is a leading AdTech company in Iran.	
	– Designed and implemented Tapsell’s Creative Management Platform (CMP) product from scratch.	

- **Technologies:** Java, Kotlin, Spring Boot, Redis, MongoDB, PostgreSQL, REST APIs, Caffeine, Kubernetes, GitLab CI/CD, Maven, Git, JUnit, Mockito, Scrum.
- ◊ **Software Engineer at Farazpardazan** Feb 2019 – Sep 2019
- Faraz Pardazan develops advanced digital solutions for banking, payments, and financial services.
- Contributed to "Hamrah Novin", the official mobile banking application of [EN Bank](#).
 - **Technologies:** Java, Spring Boot, Hibernate, SQL.
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Voluntary Experiences

- ◊ **"She'r ta Code" (First)** Nov 2023 – Apr 2024
- She'r ta Code is a Spaghetti Code contest that focuses on UBs and exploits the architectural behaviors of computers and compilers.
- Contributed as part of the sponsorship and marketing team, helping secure support and promote the event.
 - Assisted with organizational tasks, ensuring smooth competition execution.
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Skills

- ◊ **Programming:** Python, Java, Kotlin, C/C++, PHP
 - ◊ **ML/DL:** PyTorch, TensorFlow, Scikit-learn, Hugging Face Transformers
 - ◊ **Agent Frameworks:** OpenAI, LlamaIndex
 - ◊ **Data Analysis:** Pandas, NumPy, Matplotlib
 - ◊ **Databases:** SQL, MongoDB, Redis, Memcached, Neo4j
 - ◊ **Languages:** Persian (native), English (fluent, TOEFL iBT 104/120)
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References

- ◊ **Dr. Abbas Heydarnoori**, BGSU
aheydar@bgsu.edu
- ◊ **Dr. Mehdi Keshani**, BGSU
mkeshani@bgsu.edu
- ◊ **Dr. Michael Decker**, BGSU
mdecke@bgsu.edu