

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**

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. Mahdiah Soleymani

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. Mahdiah 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.

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](#).

**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. Hosseinmardi **Spring 2023**
- **Logical Circuits:** Dr. Arshadi **Fall 2022**
- **Compiler Design:** Dr. Hosseinmardi **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