Alireza Hoseinpour

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

 OH, USA — ✉ Email — in Linkedin — Website

Research Interests

◇ **ML and Data Science**

◇ **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. Mahdieh 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. 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.

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.

– 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.

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.

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)

References

◇ **Dr. Abbas Heydarnoori**, BGSU
aheydar@bgsu.edu

◇ **Dr. Mehdi Keshani**, BGSU
mkeshani@bgsu.edu

◇ **Dr. Michael Decker**, BGSU
mdecke@bgsu.edu