

# Kiana Kiashemshaki

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 [Kiana Kiashemshaki](#) |  [Personal Website](#) |  [Google Scholar](#) |  [GitHub](#)

## RESEARCH INTERESTS

Cybersecurity | Systems & Cloud Security | IoT & Edge Security | LLM/AI Security | Digital Forensics

## EDUCATION

- Bowling Green State University** 2023–2025  
*Master of Science in Computer Science (Specialization: Cybersecurity)* GPA: 3.8/4 Bowling Green, OH, USA
- Azad University** 2015–2019  
*Bachelor of Computer Engineering (Specialization: Software)* GPA: 4/4 Tehran, Iran

## RESEARCH EXPERIENCE

- University of Washington** July 2025 – Present  
*Cybersecurity Researcher* Remote, WA, USA
  - Harden ICS/SCADA & microgrid systems, threat-model converters and support secure control designs.
  - Analyze OT/IT logs & traffic, run lab attack sims, craft detections/playbooks.
  - Research smart-grid intrusion detection (ML approaches) and deliver actionable recommendations.
  - Co-design security and fault-tolerance patterns for converters and hybrid microgrids, and evaluate them at system level.
- Bowling Green State University** Jan 2025 – Present  
*Graduate Research Assistant* Bowling Green, OH, USA
  - Study system and cloud security with emphasis on secure OS behavior and runtime monitoring.
  - Reconstruct user activity from Windows artifacts (e.g., LNK/Jump Lists) to support incident timelines.
  - Build clean, repeatable workflows for evidence generation and validation across OS versions.
  - Translate findings into guidance for monitoring, incident response, and secure operations.

## TEACHING EXPERIENCE

**Bowling Green State University** | Graduate Teaching Assistant

- CS 3080 — Operating Systems taught by Prof Hassan Rajaei Fall 2023
- CS 4170 — Introduction to Parallel Programming taught by Prof Hassan Rajaei Fall 2023
- CS 3080 — Operating Systems taught by Prof Hassan Rajaei Spring 2024
- CS 2190 — Computer Organization taught by Prof Hassan Rajaei Spring 2024
- CS 3080 — Operating Systems taught by Prof Hassan Rajaei Fall 2024
- CS 4390 — Network Architecture & Applications taught by Prof Hassan Rajaei Fall 2024
- CS 3080 — Operating Systems taught by Prof Hassan Rajaei Spring 2025
- CS 4390 — Network Architecture & Applications taught by Prof Hassan Rajaei Spring 2025
- CS 4330 — Network Security & Forensics taught by Dr Ruinian Li Spring 2025
- CS 4320 — Computer & Mobile Forensics taught by Dr Ruinian Li Spring 2025

**Azad University** | Teaching Assistant

- Operating Systems (Undergraduate core) Fall 2017, Spring 2018
- Computer Networks (Undergraduate core) Fall 2018, Spring 2019

## VOLUNTEER EXPERIENCE

- The Secure Signals Project** Apr 2025 – Present  
*Web Application Penetration Tester* Remote
  - Perform manual and automated testing on web applications to identify vulnerabilities (OWASP Top 10).
  - Use OWASP ZAP and Burp Suite to simulate attacks, analyze responses, and evaluate security posture.
  - Document findings and provide remediation strategies to improve application resilience.

## INDUSTRIAL EXPERIENCE

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- **RedApple Digital Health** Oct 2025 – Present  
*Cloud Support Intern* Tustin, CA, U.S.
  - Supported AWS infrastructure operations, managing EC2 instances, S3 storage, and IAM permissions.
  - Assisted in deploying application updates through Bitbucket pipelines and monitored CI/CD build results.
  - Performed Linux server checks, log reviews, and troubleshooting to ensure uptime and reliability.
  - Collaborated with developers to resolve deployment issues and document runbooks for recurring tasks.
- **Hamravesh** Sep 2021 – Jul 2022  
*Network Security Engineer* Tehran, Iran
  - Designed network architectures for containerized/cloud platforms and evaluated reliability under load and failure scenarios.
  - Modeled and tested traffic flows across proxies/load balancers to characterize tail latency and failure domains; informed HA patterns.
  - Implemented segmentation and least-privilege connectivity for Kubernetes workloads; authored runbooks for incident response and rollback.

## SELECTED PUBLICATIONS

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- S. Joshi, K. Kiashemshaki, S. Roy. *Comparing LNK File and Jump List Artifacts on Windows 11 with those on Windows 10*. *IEEE International Conference on Electro Information Technology (EIT)*, 2025.
- K. Kiashemshaki, M.J. Torkamani, N. Mahmoudi. *Secure Coding for Web Applications: Frameworks, Challenges, and the Role of LLMs*. arXiv preprint, 2025.
- K. Kiashemshaki, E.N. Chukwuani, M.J. Torkamani, N. Mahmoudi. *Secure and Scalable Blockchain Voting: A Comparative Framework and the Role of Large Language Models*. arXiv preprint, 2025.
- K. Kiashemshaki, M.J. Torkamani, N. Mahmoudi, M.S. Bilehsavar. *Simulating a Bias Mitigation Scenario in Large Language Models*. arXiv preprint, 2025.

## MANUSCRIPTS IN PREPARATION

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- S. Joshi, K. Kiashemshaki, S. Roy. \*Extended Comparative Analysis of LNK File and Jump List Artifacts on Windows 10 and 11 for Advanced Forensic Investigations\*. **Submitted to IEEE Transactions on Information Forensics and Security (TIFS)**.
- K. Kiashemshaki, et al. \*Secure and Automated System Pipelines for Electrical Power Systems: A Distributed Security Framework\*. Manuscript in preparation, 2025.
- K. Kiashemshaki, et al. \*A Systematic Review of Cloud Security Monitoring Techniques: From Traditional SIEM to AI-driven Models\*. Manuscript in preparation, 2025.

## ACADEMIC PROJECTS

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- **Developing Hands-On Modules on Digital Forensics** Spring 2025  
*Educational Project – BGSU* Bowling Green, OH
  - Designed lab modules for disk, memory, and Android forensics that teach beginners how artifacts are created and interpreted.
  - Built step-by-step exercises and answer keys to make results reproducible and learning measurable.
- **SQL Injection Vulnerability Testing on DVWA** Fall 2024  
*Application and Cloud Security Project – BGSU* Bowling Green, OH
  - Evaluated a cloud-hosted web app by executing SQLi test cases (e.g., UNION-based) to expose data leakage risks.
  - Mapped findings to OWASP Top 10 and proposed mitigations (parameterized queries, least-privilege DB roles).
- **Memory Forensics to Recover LUKS Encryption Keys** Fall 2024  
*System Security Project – BGSU* Bowling Green, OH
  - Analyzed OS memory snapshots to locate and validate LUKS key material under controlled lab conditions.
  - Demonstrated when keys persist in RAM and discussed defenses (secure erase on lock/suspend, cold-boot resistance).
- **Deleted File Recovery** Spring 2023  
*System Forensics Project – BGSU* Bowling Green, OH
  - Recovered deleted files and metadata using hex-level inspection and standard forensic workflows.
  - Assessed residual data risks (slack space, unallocated clusters) and implications for multi-tenant systems.

## TECHNICAL SKILLS & RESEARCH TOOLS

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- **Methods & Research:** Threat modeling, fault/attack injection, runtime monitoring, anomaly detection (time series/ML-lite), system-level evaluation, reproducible experiments, incident timelines & postmortems
- **Cybersecurity & Forensics:** Autopsy, Magnet AXIOM, FTK Imager, Eric Zimmerman tools, Wireshark, Snort/Suricata, OWASP ZAP, Burp Suite, incident response
- **Distributed & Cloud Computing:** AWS, Docker, Kubernetes, Terraform, Ansible, Jenkins, GitHub Actions, CI/CD pipelines, cloud security & forensics
- **Systems & OS:** Linux/Windows server administration, virtualization (VMware, Hyper-V), Active Directory, DNS, DHCP
- **Programming & Data:** Python (Pandas, NumPy, scikit-learn), SQL, Bash, PowerShell
- **Research Tools:** LaTeX, Git, academic writing & documentation
- **Languages:** English (TOEFL iBT: 107 - Advanced), Persian (Native), Spanish (Limited), Arabic (Limited)

## HONORS & AWARDS

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- **Full Tuition Waiver — Department of Computer Science** *Bowling Green, OH, USA*  
*Bowling Green State University* Aug 2023 – May 2025
  - Awarded a full tuition waiver for the entire master's program based on academic excellence.
- **ACM Hackathon — 2nd Place** *Bowling Green, OH, USA*  
*Bowling Green State University* Apr 2025
  - Built an emergency-alert app ([Piqniq](#)) in a 24-hour team challenge to support users during panic attacks.
- **Ohio Cyber Range Institute (OCRI) — Statewide CTE, Participant** *Remote*  
*Ohio Cyber Range Institute* Apr 2025
  - Competed in a Capture-the-Flag cybersecurity event, solving real-world security problems in a collaborative team setting.
- **Outstanding Teaching Assistant Award** *Tehran, Iran*  
*Azad University* May 2018
  - Recognized as Best Graduate Teaching Assistant for contributions to Computer Science courses.

## SERVICE & PROFESSIONAL MEMBERSHIP

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- Member, Women in CyberSecurity (WiCyS) – participated in workshops and community.
- Member, Association for Computing Machinery (ACM) – engaged in research seminars and technical events in computing systems.

## GRADUATE COURSEWORK

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- **Security/Forensics:** Computer Systems Security, Network Security & Forensics, Computer & Mobile Forensics, Law, Evidence & Procedure in Forensic Science
- **Methods & Data:** Research Methods in Computer Science, Data Science Programming, Data Visualization
- **Software/AI:** Secure Software Engineering, AI for Software Engineering
- **Theory:** Design & Analysis of Algorithms

## REFERENCES

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- Prof. Hassan Rajaei: Professor of Computer Science, Bowling Green State University (TA supervisor)  
[hrajayi@bgsu.edu](mailto:hrajayi@bgsu.edu) | (419)-372-2002
- Dr. Sankardas Roy: Associate Professor of Computer Science, Bowling Green State University (RA supervisor)  
[sanroy@bgsu.edu](mailto:sanroy@bgsu.edu) | (419)-372-2342
- Dr. Vahid Dargahi: Associate Professor, School of Engineering & Technology, University of Washington (RA supervisor)  
[vdargahi@uw.edu](mailto:vdargahi@uw.edu) | (253)-692-5812
- Dr. Ruinian Li: Associate Professor of Computer Science, Bowling Green State University (TA supervisor & Instructor)  
[lir@bgsu.edu](mailto:lir@bgsu.edu) | (419)-372-0216