Kiana Kiashemshaki

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Kiana Kiashemshaki | Kianakia.com | 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 Seattle, WA, USA
  - Secure ICS/SCADA and microgrid controls against cyber–physical attacks through threat modeling and resilient design.
  - Run controlled experiments on power/energy testbeds to measure reliability, safety, and security under faults and adversarial events.
  - Analyze control/telemetry data to detect abnormal behavior and propose response strategies for critical infrastructure.
  - 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

- **Hamravesh** *Sep 2021 – Jul 2022*
  Network 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.
- **Erst Host** *Jul 2019 – Jul 2021*
  Systems Engineer / Administrator Tehran, Iran
  - Operated Windows/Linux servers with scheduled patching and configuration baselines; validated updates via staged rollout and backout plans.
  - Automated routine administration (provisioning, backups, checks) and documented reproducible workflows for audits and recovery.
  - Managed identity and access (AD, groups, GPO); enforced least-privilege and reviewed logs for policy violations.
  - Performed log analysis during incidents and produced post-incident timelines and corrective actions.

SELECTED PUBLICATIONS

- 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

- 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

- **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

- **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

- **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 CTF, 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

- 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

- **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

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