Parnian Shabani Kamran

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PROFESSIONAL SUMMARY

Master's student in Computer Science at UC Davis, passionate about building AI systems that secure the software supply chain, solve software engineering problems, and automate program verification. In my current role, as a summer intern, I prioritize software security vulnerabilities using AI agents and source-to-sink analysis. Skilled in developing AI agents for code generation and verification, agent orchestration, taint analysis and program analysis, and able to collaborate effectively across interdisciplinary teams. Seeking a software engineering role to apply my expertise in developing reliable AI systems.

SKILLS

Programming: Python, C++, Dafny, Rust, JavaScript
Libraries: LangChain, Pandas, NumPy, PyTorch, Scikit-Learn, Matplotlib, OpenCV

RESEARCH & WORK EXPERIENCE

Summer Intern, Software Supply Chain Security, Endor Labs, Palo Alto, CA *June 2025 - Sept 2025*

- Developing AI agents for prioritizing real software threats based on actual risk factors and noise reduction in SAST findings to improve Mean Time to Remediation

Research Assistant, Computer Science Department, University of California, Davis *Sept 2021 - Present*

- **Implemented proof-carrying code completion (PC^3) in the program verification language Dafny**, improving AI agents' reliability in code completion tasks using formal verification and Retrieval-Augmented Generation (RAG), published in the Automated and verifiable software system development workshop, Sept. 2024
- **End-to-end classification pipelines for malware detection**, spot malicious application patterns by incorporating 18 binary classifiers and two ensemble machine learning methods. Reduce features dimensionality up to 50% without sacrificing the performance, published in the Smart Applications, Communications and Networking Conference, April 2024
- **Predicting the reproducibility of software artifacts**, using Random Forest, Logistic Regression, and Synthetic Minority Oversampling Technique to predict build reproducibility across 3,722 Bugswarm (a software defect dataset) artifacts, achieving 93% accuracy and 94% recall for reproducible builds, March 2025
- **Optimized package confusion rules in OSSGadget (Microsoft's Open Source Tool)**: improving software supply chain security against malicious package confusion attacks, boosting identification accuracy by 38.6% on npm and PyPi packages by adapting Typomind's heuristic rules and reducing false positives, Dec. 2025

Software Engineer, Snapptrip (A local platform for accommodation and travel bookings) *Nov 2017 - Dec 2020*

- Developed responsive user interfaces for fulfillment workflows, and administrative dashboards, using React and AngularJS, WebSockets and REST API integrations

EDUCATION

M.Sc. Computer Science, *University of California, Davis* (GPA: 3.8/4) *Sept 2023 - Dec 2025*

M.Sc. Computer Engineering, *Amirkabir University of Technology* *Sept 2014 - Sept 2016*

B.Sc. Computer Engineering, *Isfahan University of Technology* *Sept 2008 - Sept 2013*

Relevant Coursework: Machine Learning, Design and Analysis of Algorithms, Computer Security, Programming Languages