Andrew Sheehyun Kim

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AndrewKim1S

Currently a masters student in CS at UMD. Main research focus is computer security at SEED Lab, and work on projects related to program analysis, and breaking memory safety. Primary research interests include areas in Security, Systems, and Reverse Engineering.

Education

Sept 2025 - Present **MS in Computer Science**, *University of Maryland*, College Park

Sept 2022 - May 2025 **BS in Computer Science**, *University of Wisconsin*, Madison, *3.76*

Experience

April 2025 - Present **Research Assistant**, *Secure and Sound Software Lab (SEED)*
Conducting research related to program analysis (fuzzing) and breaking memory safety in programming languages (Rust).
Primary research areas include system/software security, program synthesis, and vulnerability analysis.
Responsibilities include developing new methods for program analysis, running experiments, and writing papers

March 2023 - January 2025 **Undergraduate Research Assistant**, *Autonomous and Resilient Controls Lab (ARC)*
Analyze pose estimation and object detection on edge computing systems
Tested VIO (Visual Inertial Odometry) algorithms on quadcopters
Built drones by integrating edge computing platforms (Jetson Xavier) to quadcopter platform

Skills

Languages C/C++, Python, Java, Shell Scripting/Bash

Security Concepts Binary Analysis, Reverse Engineering, Program Analysis, Vulnerability Research, Exploitation

Tools/Systems Linux, git, GDB, Virtualization(QEMU, Docker)

Personal Projects

Offensive Security & Systems Developed proof-of-concept offensive tools (C-based rootkits, shellcode, keyloggers, reverse shells, ELF virus) to improve my understanding of low-level system internals, the kernel, and exploitation techniques. Projects
Solved wargames on Over the Wire (Narnia, Behemoth, Utumno, & Maze) to build practical skills in binary exploitation, and reverse engineering.
Self studied core texts, including The Art of Exploitation and Practical Binary Analysis.