Joohan Kim

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Education

Carnegie Mellon University
B.S. in Information Systems
Additional Major in Computer Science (planned)
Minor in Information Security, Privacy, and Policy (planned)   Aug 2025 – May 2029 (expected)

- GPA: 3.82
- **Relevant Coursework:** Data Structures and Algorithms, Discrete Mathematics, Functional Programming (in progress), Usable Privacy and Security (in progress)

Experience

Research Mentor – Wireless Sensing (CSI)
Independent Academic Research Mentorship   Jul 2025 – Dec 2025

- Designed and implemented an end-to-end Wi-Fi sensing system using Nexmon-modified firmware to capture Channel State Information (CSI) from commodity routers.
- Served as the primary technical contributor, developing Python pipelines for CSI parsing, denoising, phase unwrapping, and visualization.
- Applied signal processing techniques including FFT, PCA, and low-pass filtering to ensure robustness and reproducibility in competition environments.
- Mentored high school research teams by translating advanced signal processing concepts into deployable experimental workflows.

Projects

Secure, Automated Personal Server (Personal Project)   Jul 2025 – Sep 2025

- Implemented a Python-based server with TOTP authentication enabling just-in-time access to sensitive files.
- Reduced attack surface by enforcing ephemeral access and time-limited access controls

Activities

ScottyLabs – Internal Tooling Team   Jan 2026 – Present

- Triaged and resolved issues across internal tooling by reproducing bugs, isolating root causes, and proposing fixes.
- Improved reliability by adding input validation, edge-case handling, and regression tests for recurring failure modes.
- Streamlined workflows by refactoring brittle scripts/logic and documenting runbooks to reduce operational friction.
- Designing and implementing a database schema for a new internal project, handling data modeling, query optimization, and integration with existing tooling.

Plaid Parliament of Pwning (PPP) – Member
Carnegie Mellon University CTF Team   Jan 2026 – Present

CASI × Gray Swan Jailbreak-athon – 3rd Place
Team "The Crooks"   Mar 2026

- Placed 3rd out of 25+ teams in a red-teaming competition targeting layered LLM defenses (input filters, output filters, full pipelines) on Gray Swan's Staged Attack Arena platform.
- Identified vulnerabilities across progressively hardened model configurations, contributing research data back to frontier AI labs.

Skills

Programming Languages: Python, C/C++, SML, Java, JavaScript, TypeScript, SQL, Bash

Systems & Security: Linux, macOS, Windows, SSH, TOTP Authentication, OWASP ZAP, Nmap, Wireshark, AI Red Teaming

Frameworks & Databases: Next.js, Svelte, React Native, PostgreSQL

Developer Tools: Git, Docker, LaTeX