






Howard Wu

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Skills

- Python | Ruby | Tailwind CSS | HTML | JavaScript | TypeScript | C | PostgreSQL | MSSQL | Node | Framework Motion | React | Vue | Git
- AWS | GCP | CI/CD | LaTeX | Docker | Lambda | OOP | I2C | Assembly (MIPS) | Linux/Kali Linux | Wireshark | Nmap | Metasploit | Nessus
- Burp Suite | Scripting (Python, Bash, PowerShell) | MITRE ATT&CK | NIST SP-800 | Proofpoint | Qualys | Trellix EDR/XDR | Graylog SIEM

Experience

Information Security Engineer Intern

Principal Financial Group

Des Moines, IA, USA 05/2023 - 09/2023

- Collaborated with the team to enhance application security, utilizing tools like Fortify for code analysis and vulnerability detection.
- Conducted vulnerability assessments and audits using tools like Dependabot and Fortify, ensuring compliance with security standards.
- Built a service account key rotation Python app hosted on internal environments that create Google service account private keys on new requests from developers within GCP, resulting in improved security through the concept of customer-managed key rotation and short-lived private keys.
- Developed scripts and automation tools to streamline security processes, such as certificate deployment and vulnerability scanning.

Cybersecurity Analyst Intern

Trava Security

Indianapolis, IN, USA 06/2022 - 05/2023

- Led ISO-27001 compliant projects for onboarding and conducting PoC on various security solutions, including Proofpoint Email security, ManageEngine Unified Endpoint Management (UEM), and Trellix Endpoint Detection and Response (EDR)/Incident Detection and Response (IDR).
- Automated the process of onboarding/offboarding through Python with the capability of creating and removing users by interacting with API on company used applications and softwares, resulting in improved efficiency and reduced manual errors from upper managers.
- Implemented and maintained Sophos internal endpoint management system to enhance security posture across the organization.
- Managed Qualys vulnerability management system for onboarding and offboarding devices, ensuring compliance with security policies and standards for customers.
- Developed a Qualys scan removal service using Python and GCP Cloud run, automating the process of removing outdated scan results.

Education

Bachelor of Science

University of California Santa Cruz

Santa Cruz, CA, USA 10/2019 - 03/2024

- Major in Computer Engineering and Minor in Computer Science

Certifications

- eLearnSecurity Junior Penetration Tester (eJPT) Certified (09/2023 - 09/2026)
- Associate of ISC2 (04/2023 - 05/2025)
- AWS Certified Solutions Architect (12/2021 - 12/2024)
- CompTIA Security+ ce (12/2020 - 12/2026)

Projects

- **NextJS Portfolio Website + Blogs (In Progress):** Developed a personal portfolio website utilizing Next.js and React, showcasing my development skills and technical blogs.
- **Web Proxy:** Developed a proxy HTTP server project aimed at converting HTTP requests from clients into HTTPS requests to web servers, while also implementing access control list filtering. Supported secure communication of HTTP 1.1 with HTTPS, handling only GET and HEAD requests, ensuring concurrency for multiple web clients using tools such as Wget, Curl, or web browsers. (Programmed in C)
- **Dirbreaker:** Developed a Ruby-based directory busting tool with concurrent, multi-threaded operation for brute forcing URIs on target websites, optimized for rapid URI discovery and directory busting through multi-threaded functionality. Configured for seamless Deployment on Docker for portability and ease of setup.
- **Gmail Filtering Solution:** Developed a Python application utilizing the Gmail API to filter emails received within the last 24 hours based on sender addresses provided in allowlist.txt and blocklist.txt files. Deployed as a Cloud Run app on GCP, scheduled to run daily via a Cloud Scheduler Job triggered over HTTP. Ensured security by storing secrets in GCP Secret Manager and referencing them as environmental variables within the codebase.

Mentorship & Others

- **Course Tutor (Intro to software engineering) at Jack Baskin Engineering UCSC:** Providing constructive feedback to enhance student Understanding. Guiding students in project organization, standups structuring, and fostering effective teamwork (10/2023 - 03/2024).
- **Coding Tutor (Code Ninjas Newport Beach):** Utilized instructional techniques and game-based curriculum to retain interest and maximize receptive learning in students (05/2022 - 08/2022).
- **Cybersecurity Challenge Enthusiast, Top 7% on [TryHackME](#) and Top 800 on [HackTheBox](#):** Demonstrated cybersecurity learning.