Mitchell Zakocs

mzakocs@gmail.com • Tempe, AZ
mitchellzakocs.com • linkedin.com/in/mitchzakocs • github.com/mzakocs

Relevant Experience

Computer Security Researcher • Arizona State University SEFCOM Lab • Tempe, AZ *Jun 2021 - Present*

- ➔ Auditing code and writing tools to find and exploit vulnerabilities in critical software (Chrome, Baseband, EDKII)
- ➔ Analyzed and hardened a laser communications system for satellites alongside DARPA, Arm®, and Honeywell
- ➔ Researched industry-standard software obfuscation solutions and wrote IDA Python plugins to mitigate them

Software Simulation Engineer Intern • NASA • Greenbelt, MD *May 2022 - Aug 2022*

- ➔ Interned on the ILLUMA-T team focused on replacing radio comms on the ISS with laser/optical comms
- ➔ Tasked with writing a Python simulator for the ISS hardware and integrating it with their flight control software
- ➔ Teamed with James Webb Space Telescope alumni, MIT engineers, and other interns from around the world

Business Operations Analyst Intern • Culdesac (Startup) • Tempe, AZ *Aug 2021 - Dec 2021*

- ➔ Designed meaningful insights & visualizations at a startup using Looker and SQL; influenced large company decisions regarding leases, construction projects, future markets, and financial growth

Electrical Engineer Intern • Circuit Specialists • Tempe, AZ *Aug 2019 - Jan 2020*

- ➔ Launched projects for clients involving integrated PCB design, debugging, soldering, reverse-engineering, troubleshooting, re-wiring, battery pack rebuilding, and custom firmware programming in C and MicroPython

Highlighted Projects

qualcomm_baseband_scripts (github.com/mzakocs/qualcomm_baseband_scripts) *2023*

- ➔ Released 10+ proprietary Python tools for reverse-engineering firmware from Qualcomm baseband modem SoCs
- ➔ Over 100 stars on GitHub; contains knowledge and techniques found nowhere else on the internet

Virtualization Obfuscator Analysis (github.com/mzakocs/VirtualizationObfuscatorAnalysis) *2021*

- ➔ Researched industry-standard software obfuscation solutions and generated methods to counter and improve them
- ➔ Collection of IDA Pro Databases, Adobe Illustrator Diagrams, and analysis tools related to obfuscation research

Education & Certifications

Arizona State University, Ira. A Fulton & Barrett Honors College • Tempe, AZ *2021 - 2025*

- ➔ BS Computer Science, Deans List, 3.99 GPA. Extracurriculars: **Researcher** @ SEFCOM Security Lab; **Officer** @ ASU Hacking Club; **Member** @ Shellphish Hacking Team; **SWE Volunteer** @ Sun Devil Satellite Laboratory

Awards & Achievements

Pwn2Own 2023: Toronto WyzeCam Winner (1 vuln, w/ SEFCOM), Vancouver Tesla Model S Entrant (11 vulns, solo)
Flinn Scholar: 1/20 students selected from nearly 1000 applicants to receive a prestigious full-ride scholarship
Seal of Biliteracy: Recognized fluency in Spanish through difficult standardized language & culture assessments

Relevant Skills

Languages: C, C++, Python, Assembly (x86/ARM/MIPS/etc), JavaScript, Java
Technologies: AFL, libFuzzer, libAFL, QEMU, IDAPython, Unicorn, Capstone, React, Node.js
Data Management: PostgreSQL, SQLite, MongoDB, BigQuery, REST, Looker, dbt, Apollo, GraphQL
Miscellaneous: IDAPro, Ghidra, gdb, pwntools, Git, GitHub, Kubernetes, Visual Studio, Linux / Unix, LLVM