

# Mitchell Zakocs

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## Relevant Experience

**Arizona State University SEFCOM Lab • Computer Security Researcher • 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

**NASA • Software Simulation Engineer Intern • 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

**Ordertech Corp. • Software Applications Engineer Intern • Tempe, AZ**

*Mar 2020 - Aug 2020*

- Engineered a customer support telephony system for SMS chats and phone calls using WebRTC, SIP, Java, Python, and JavaScript; yielded company up to 35% increased revenue on certain clients for CRM services

**Circuit Specialists • Electrical Engineer Intern • 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
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## Highlighted Projects

**Qualcomm Baseband Scripts ([github.com/mzakocs/qualcomm\\_baseband\\_scripts](https://github.com/mzakocs/qualcomm_baseband_scripts))**

*2023*

- Released 10+ advanced 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

**Coconut CubeSat Flight Software ([Currently Private](#))**

*2023*

- Flight software written in C with FreeRTOS; satellite project backed by NASA CubeSat Launch Initiative
  - Volunteering as the lead developer for the satellite's firmware team at the ASU Interplanetary Initiative
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## Education & Certifications

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

*2021 - 2025 (Current Junior)*

- 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
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## 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

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## Relevant Skills

**Languages:** C, C++, Python, Assembly (x86/ARM/MIPS/PPC/etc), Rust, JavaScript, Java

**Technologies:** AFL, libFuzzer, libAFL, QEMU, glibc, Linux Kernel, IDAPython, Unicorn, Capstone, Node.js

**Data Management:** PostgreSQL, SQLite, MongoDB, BigQuery, REST, Looker, dbt, Apollo, GraphQL

**Miscellaneous:** IDA Pro, Ghidra, gdb, pwntools, Git, GitHub, Kubernetes, Visual Studio, LLVM, Software Exploitation