

# Mitchell Zakocs

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## Relevant Experience

**Arizona State University SEFCOM Lab • Computer Security Researcher • Tempe, AZ**

*Jun 2021 - Present*

- Competing on a team for DARPA's AIxCC aiming to combine LLM research with low-level security research
- Creating tools to find and exploit vulnerabilities in critical software (Linux kernel, Cellular basebands, Chromium)
- Participated in CTF competitions with Shellphish, mainly solving exploitation and reverse-engineering challenges

**Tesla • Product Security Engineer Intern • Tempe, AZ**

*May 2024 - Aug 2024*

- Audited remote attack surfaces on vehicles and wrote 10+ advanced fuzzers for critical wireless/radio firmware
- Developed and deployed critical Linux software exploit mitigations for Optimus and other AI platforms
- Reviewed pull requests, managed Jira tickets, and assisted with design decisions regarding build infrastructure, backend services, and application development

**NASA • Software Simulation Engineer Intern • Greenbelt, MD**

*May 2022 - Aug 2022*

- Interned on the ILLUMA-T team working with laser/optical communications on the International Space Station
  - Tasked with writing a Python simulator for the payload and integrating it with their custom flight control software
  - Used PyQt, CFDP, multithreading, and extensive design planning to build performant and reliable software
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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 cellular baseband SoCs
- Over 150 stars on GitHub; contains knowledge and techniques found nowhere else on the internet

**Coconut CubeSat ([github.com/ASU-SDSL/coconut-fsw](https://github.com/ASU-SDSL/coconut-fsw))**

*2022-2024*

- Volunteering as the lead developer for the satellite's firmware team at the ASU Interplanetary Initiative
  - Wrote honors undergrad thesis on simulating, fuzzing, and unit-testing the flight software
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## Education & Certifications

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

*2021 - 2025 (Current Senior)*

- BS Computer Science, Dean's List, 3.88 GPA
  - Extracurriculars: **Researcher** @ SEFCOM Security Lab; **Officer** @ ASU Hacking Club; **Member** @ Shellphish Hacking Team; **Software Lead** @ Sun Devil Satellite Laboratory; Member @ Hacker Devils
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## Awards & Achievements

**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

**Study Abroad Summer 2023:** Participated in international literature program in Switzerland, Germany, and France

**Pwn2Own 2023:** Toronto WyzeCam Winner (1 vuln, w/ SEFCOM), Vancouver Tesla Model S Entrant (11 vulns, solo)

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## Relevant Skills

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

**Technologies:** AFL, libFuzzer, syzkaller, QEMU, glibc, Linux Kernel, IDAPython, Unicorn, Capstone

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

**Miscellaneous:** IDA Pro, Ghidra, gdb, pwntools, Git, GitHub, Kubernetes, vim, LLVM, Protobuf, Software Exploitation