

Mitchell Zakocs

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Relevant Experience

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

Jun 2021 - Present

- Auditing and writing tools to find bugs and exploit vulnerabilities in critical software (Chrome, Baseband, Linux)
- 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 working towards 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
- Worked alongside some of the masterminds behind the James Webb Space Telescope project, hardware engineers straight from MIT, and other interns from universities all around the US

Business Operations Analyst Intern, Culdesac • Tempe, AZ

Aug 2021 - Dec 2021

- Designed meaningful data dashboards at a startup company by amassing insights & visualizations using Looker and SQL; influenced large company decisions regarding leases, deposits, properties, future markets, etc.
- Ventured into data engineering and data pipeline management using LookML, dbt, and Google BigQuery

Software Applications Engineer Intern, Ordertech • Tempe, AZ

Mar 2020 - Aug 2020

- Engineered a unified communications system using WebRTC, Java, Python, and JavaScript for integrated phone call and text chat functionality; yielded company up to 35% increased revenue on certain clients for CRM services
- Devised a productivity-focused cloud email system for managing customer support tickets and internal tasks

Electrical Software Engineer Intern, Circuit Specialists • Tempe, AZ

Aug 2019 - Jan 2020

- Developed software for embedded microcontrollers in Python and C programming languages
 - Launched projects for clients involving extensive integrated PCB design, custom firmware programming, debugging, soldering, reverse-engineering, troubleshooting, rewiring, battery rebuilding, and more
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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 and contains plenty of information that is 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
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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; SWE Volunteer @ Interplanetary Initiative*
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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

Scudder Award: Award for outstanding academic excellence, high standards of character, and intellectual curiosity

Relevant Skills

Languages: C, C++, Python, x86 Assembly, JavaScript, Java, C#, HTML, CSS

Technologies: AFL, libFuzzer, IDAPython, Unicorn, Capstone, React, Node.js, Express.js, Material-UI, Chrome API

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

Miscellaneous: Git, GitHub, IDAPro, Ghidra, gdb, Kubernetes, Visual Studio, Linux / Unix, LLVM