Mitchell Zakocs

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Relevant Experience

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

- Interned on a team working towards replacing radio communications on the ISS with laser/optical communication
- 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

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

- Writing automated tools to discover bugs and exploit vulnerabilities in critical software (Chrome, Windows)
- Analyzed and audited 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

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

Highlighted Projects

Personal Website (mitchellzakocs.com) ***2021***

- Designed, developed, and maintaining a personal website & technical blog using React and Next.js
- Contains several blog posts regarding computer security, software virtualization, kernel development, and more

CVE-2021-21551-POC (github.com/mzakocs/CVE-2021-21551-POC) ***2020***

- Reverse-engineered, analyzed, and documented a severe kernel vulnerability in a Dell BIOS Driver
- Wrote a well-documented and stable C++ exploit for the vulnerability and published a writeup in a blog post

Education & Certifications

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

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

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
PicoCTF 2021: Computer Security competition; scored Top 10 in the US for solo teams and Top 100 in the US overall
Scudder Award: Award for outstanding academic excellence, high standards of character, and intellectual curiosity

Relevant Skills

Languages: Python, JavaScript, Java, C++, C, x86 Assembly, C#, HTML, CSS
Technologies: React, Django, Qt, Node.js, Next.js, Express.js, jQuery, ExtJS, JSP, Material-UI, Chrome API, WinAPI
Data Management: MongoDB, PostgreSQL, BigQuery, REST, Looker, dbt, Apollo, GraphQL
Miscellaneous: Git, GitHub, Kubernetes, Docker, Visual Studio, gdb, CMake, Linux / Unix, Chrome Devtools