

CONTACT

✉ alan@codemuch.tech
☎ +1 (718) 689-4970
📍 New York City
🔗 ex0dus-0x

SUMMARY

Security engineer and researcher with passions in secure and decentralized systems, cryptography, and programming languages. Proficient in low-level systems programming languages such as C/C++ and Rust, full-stack web development, penetration testing, and Linux systems administration. Looking to harness leadership capabilities and problem-solving skills to write impactful and research-oriented open-sourced code for a more technically-capable future.

SKILLS

PROGRAMMING LANGUAGES:

C/C++, Rust, Python, x86 Assembly, Haskell, Golang, HTML/CSS, JavaScript

TOOLS & TECHNOLOGIES: Bash, Git, Make, QEMU/KVM, Docker, Vagrant, Heroku, Jekyll, Travis CI, Binary Ninja

OTHER:

Technical Writing / Presentation, English, Chinese Mandarin

EDUCATION

Francis Lewis High School Sep. 2015 to Current
GPA: 4.0/4.0 (93.5)

WORK EXPERIENCE

Trail Of Bits

Security Engineering Intern

New York
Oct. 2018 to Current

Under guidance of CEO Dan Guido, Trail of Bits is a security R&D company focused on developing open-sourced software and performing security audits. Collaborated with program analysis and cryptography team to produce a concolic execution tool for cryptographic verification. Contributed to symbolic execution tool Manticore and engaged in security audits.

NYU Secure Systems Lab

Research Intern

New York University
May 2018 to Current

Under guidance of Professor Justin Cappos, The NYU Secure Systems Lab conducts research in discovering security solutions for threats in modern-day software systems. Collaborated with PhD candidate on building crash replay system using Python and C. Independently worked on distributed password management protocol research project.

Virtual Enterprise International

VR Developer (contract)

Remote
Apr. 2018 to May 2018

Virtual Enterprise International is a nonprofit organization dedicated to supporting student-led Virtual Enterprise firms. Collaborated on Virtual Reality Experience for tradeshow marketing using the Metaverse platform and JavaScript for backend.

Nuapps

Chief Technical Officer

Francis Lewis H.S
Sep. 2017 to Current

Nuapps is a student-led Virtual Enterprise app development firm. Led development on several cutting-edge apps Introduced team to working with industry-level technologies, including version control and unit testing. Collaborated on building hardware arcade machine for tradeshow marketing.

Francis Lewis H.S

I.T. Intern

Francis Lewis H.S
Jun. 2016 to Jun. 2017

Provided software and hardware technical support for 5,000+ population school. Troubleshooted and diagnosed Windows 7 / macOS issues. Gained knowledge of server administration and the TCP/IP network stack. Assisted Patriot Battalion with website administration.

VOLUNTEERING

lewHacks()

Co-Founder and Director of Technology

Fresh Meadows, NY
Mar. 2017 to Spring 2018

lewHacks() is a student-led high school hackathon for Francis Lewis High School. Led development of hackathon tech stack, including front-end, and project management platform (JavaScript). Provided guidance to participants. Managed non-tech logistics for events, including sponsorship interaction and reward distribution.

PROJECTS

sandshrew

Concolic execution tool for cryptographic verification and analysis.

lagrange

Portable library for Lagrange polynomial interpolation within finite fields.

CrashSimulator

Crash-based record-replay system that enables debugging through anomaly injection.

Ghostpass

Dead simple two-round password management cryptographic protocol that focuses on security and portability.