

# Richard Liu

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**EDUCATION**      **University of Illinois at Urbana-Champaign** August 2021 - May 2024 (anticipated)  
*B.S. in Mathematics & Computer Science*      4.0/4.0 GPA

**EXPERIENCE**      **TITANS CCD Intern** — *Sandia National Labs*      May 2023 - August 2023

- Created automated pentesting suite for 5G networks
- Projects TBD

**Embedded Systems Research** — *SPRAI*      April 2022 - June 2022

- Used QEMU snapshot fuzzer I wrote to test PLCs (programmable logic controllers)
- Worked with graduate students as part of SPRAI (Security and Privacy Research at Illinois)
- Wrote a paper on feasibility of snapshot fuzzing in QEMU

**QEMU** — *Google Summer of Code*      June 2022 - September 2022

- Developed snapshot/restore fuzzer for QEMU as part of my Google Summer of Code project
- Used C and integrated with libfuzzer

**AWARDS**      **CSAW** — *New York City, New York*      November 2022  
*NYUSEC*

- Competed on a team of 4 in a cybersecurity competition (CTF)
- Placed second place nationwide in the undergraduate division

**Actuarial Competition** — *Cupertino, CA*      February 2020 - April 2020  
*Modeling the Future*

- Cooperated with three other students on a paper about the impact of climate change on corn production and the insurance industry in Minnesota
- Won 2nd place out of 170 teams in nationwide competition and published a paper in the Actuarial Research Clearing House

**SKILLS**      **Linux & Systems Programming** (Rust, Bash, C, C++)  
**Web development** (React, TypeScript, NodeJS, Gatsby, Firebase, Tailwind)

**PORTFOLIO**      **UIUC Apartments:** Apartment hunting website for my local area. Scraped data with Python and used PostgreSQL + GCP Cloud Functions for the backend.  
**QEMU Snapshot Fuzzer:** QEMU fork with snapshot/restore features and libfuzzer integration  
**Plojo:** Systems level stenography translation software written in Rust