

# Richard Liu

Graduate student at UIUC with a passion in cybersecurity, in particular in embedded systems, reverse engineering, and emulation.

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## EXPERIENCE

### **Battelle Memorial Institute, Columbus, OH — Cyber Security Intern**

MAY 2024 - AUGUST 2024

Reverse engineered firmware on mobile chipsets. Gained an in-depth understanding of the bluetooth protocol stack. Leveraged hardware capabilities to develop fuzz testing tools to discover vulnerabilities.

### **Sandia National Labs, Albuquerque, NM — R&D Undergraduate Intern**

MAY 2023 - DECEMBER 2023

Reverse engineered embedded systems with Ghidra and documented the findings. Performed dynamic analysis through creative use of diagnostic memory primitives and crash vectors. Performed low level binary exploitation.

### **QEMU — Google Summer of Code**

JUNE 2022 - SEPTEMBER 2022

Developed a snapshot/restore fuzzer for QEMU. Integrated Libfuzzer test harness and coverage information from within QEMU.

### **SIGPwny, UIUC — Club Admin**

AUGUST 2022 - PRESENT

Led our school's cybersecurity club in various competitions, such as eCTF, MITRE's annual embedded security competition, and CSAW, a national CTF for undergraduates.

## EDUCATION

### **B.S. in Mathematics & Computer Science — University of Illinois at Urbana-Champaign**

AUGUST 2021 - MAY 2024

3.9/4.0 GPA

### **M.S. in Computer Science — University of Illinois at Urbana-Champaign**

AUGUST 2024 - MAY 2026 (expected)

## SKILLS

Reverse engineering  
Binary exploitation  
Ghidra  
GDB  
Python  
C

## AWARDS

**eCTF:** Led UIUC team to second place in nationwide embedded security competition

**CSAW:** Placed second nationwide in undergraduate division of CTF

**Modeling the Future:** Paper on impact of climate change on corn production, won second place nationwide

## Links

Linkedin:  
[linkedin.com/in/richard-liu-4775571a7](https://linkedin.com/in/richard-liu-4775571a7)

Personal Website: [rliu.dev](https://rliu.dev)