

# Richard Liu

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EDUCATION	<b>University of Illinois at Urbana-Champaign</b> August 2021 - May 2024 (anticipated) <i>B.S. in Mathematics &amp; Computer Science</i>
EXPERIENCE	<b>Embedded Systems Research — SPRAI</b> April 2022 - ongoing <ul style="list-style-type: none"><li>Used QEMU snapshot fuzzer I wrote to test PLCs (programmable logic controllers)</li><li>Worked with graduate students as part of SPRAI (Security and Privacy Research at Illinois)</li><li>Wrote a paper on feasibility of snapshot fuzzing in QEMU</li></ul> <b>QEMU — Google Summer of Code</b> June 2022 - September 2022 <ul style="list-style-type: none"><li>Developed snapshot/restore fuzzer for QEMU as part of my Google Summer of Code project</li><li>Used C and integrated with libfuzzer</li></ul> <b>Cyber Tractor Challenge — John Deere</b> July 2022 <ul style="list-style-type: none"><li>Explored CAN bus/ISOBUS internals, John Deere's tech stack, and tractor hacking</li><li>Learned about RPM package management and embedded Linux</li></ul>
AWARDS	<b>Actuarial Competition — Cupertino, CA</b> February 2020 - April 2020 <i>Modeling the Future</i> <ul style="list-style-type: none"><li>Cooperated with three other students on a paper about the impact of climate change on corn production and the insurance industry in Minnesota</li><li>Won 2nd place out of 170 teams in nationwide competition and published a paper in the Actuarial Research Clearing House</li></ul>
SKILLS	<b>Linux &amp; Systems Programming</b> (Rust, Bash, C, C++) <b>Web development</b> (React, TypeScript, NodeJS, Gatsby, Firebase, Tailwind) <b>Functional Programming</b> (Haskell, Elm, PureScript)
PORTFOLIO	<b>QEMU Snapshot Fuzzer:</b> QEMU fork with snapshot/restore features and libfuzzer integration <b>Plojo:</b> Systems level stenography translation software written in Rust