Molly MacLaren

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EDUCATION

University of California, San Diego Sept 2021 - Mar 2025
B.S. in Computer Engineering *3.56/4.0*

Received A+ in CSE 130: Programming Languages, CSE 231: Advanced Compiler Design, MUS 15: Progressive Rock!

Other coursework: Advanced Data Structures, Systems Programming, Algorithm Design, Software Engineering, AI: Search and Reasoning, Discrete Math, CS Theory, Operating Systems, Security, Engineering Statistics, Analog Design, Circuits and Systems, Signal Analysis, Advanced Digital Design, CPU Architecture

EXPERIENCE

UCSD Computer Science and Engineering (CSE) Sept 2024 - Present
Tutor for CSE 12: Intro to Data Structures *San Diego, CA*

- Held weekly tutor hours, 1-on-1 sessions with students from a variety of backgrounds and majors, to identify and correct misconceptions and provide guidance in implementing data structures in Java.

Lawrence Livermore National Laboratory June 2024 - Sept 2024
Applied Formal Methods Research Assistant *Livermore, CA*

- Evaluated capabilities and usability of frameworks Creusot and Prusti for formally verifying code written in Rust.
- Formally verified the underlying data structure and union-find algorithm of the *egg* e-graph library.
- Submitted case study and usability analysis to FormaliSE 2025 conference (currently under review).

SALAD Lab, UCSD CSE June 2023 - Present
Programming Languages Research Assistant *San Diego, CA*

- Analyzed frequency and time consumption of compiler error resolution among programmers in the Rust language.
- Contributed Analysis and Results for a paper in HATRA, part of SPLASH 2023.
- Developed SALT, a VScode extension hosting a public-facing study to analyze effectiveness of Rust tools.
- Incorporated study sign-up, logging system for compiler errors and IDE interactions, and database to receive logs. Currently has 300+ users and 50+ active research participants.

Ujima Lab, UCSD CSE Sept 2022 - Aug 2023
Privacy and Security Research Assitant *San Diego, CA*

- Designed and deployed surveys based on weaknesses discovered in VR and gaming privacy policies.
- Performed NLP analysis on 30k online posts to find the most pressing privacy topics in gaming communities.
- Presented a poster at JSOE's Undergrad Research Symposium and a workshop paper in WIPS, part of SOUPS 2023.

ACM Cyber, UCSD Student Org Apr 2022 - Present
Competitions Comittee and Board Member *San Diego, CA*

- Hosted informational events for undergraduates on a variety of security topics from steganography to memory safety.
- Organized Capture-the-Flag (CTF) teams for club members to practice cybersecurity skills.
- Forensics and OSINT challenge writer for SDCTF since 2023.

TECHNICAL STRENGTHS

Languages Rust, Python, Haskell, C, C++, Java, Typescript, HTML, CSS, System Verilog, ARM Assembly
Tools Git, Unix, VS Code, SQLite, AWS, Azure