

Molly MacLaren

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EDUCATION

University of California, San Diego

B.S. Computer Engineering

Sept 2021 - Mar 2025

3.56/4.0

Carnegie Mellon School of Computer Science

P.h.D. Software Engineering

Aug 2025 -

EXPERIENCE

UCSD Computer Science and Engineering (CSE)

Tutor for CSE 12: Intro to Data Structures

Sept 2024 - Dec 2024

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

Applied Formal Methods Research Assistant

June 2024 - Sept 2024 / May 2025 - Aug 2025

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.
- Wrote usability analysis of Rust formal verifiers for realistic software development workflows.

SALAD Lab, UCSD CSE

Programming Languages Research Assistant

June 2023 - Present

San Diego, CA

- Analyzed frequency and time consumption of compiler debug sessions 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

Privacy and Security Research Assistant

Sept 2022 - Aug 2023

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

Competitions Committee and Board Member

Apr 2022 - Present

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.

PUBLICATIONS AND PREPRINTS

- *Publication:* Ruochen Wang, **Molly MacLaren**, Michael Coblenz, "REVIS: An Error Visualization Tool for Rust", HATRA 2023, <https://arxiv.org/abs/2309.06640>
- *Publication:* **Molly MacLaren**, Jared Jose, Runpeng Jian, Zheng Zeng, Jay Jhaveri, Imani N.S. Munyaka, "Work in Progress: Privacy Protection for Children 13+ in Virtual Worlds", WIPS 2023, <https://macla.ren/wips2023-final49.pdf>