

# CYNTHIA RICHEY

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## EDUCATION

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**Master of Science in Computer Science** September 2023 - June 2024  
Paul G. Allen School of Computer Science & Engineering, University of Washington

**Bachelor of Science in Computer Science** 2019 - June 2023  
Paul G. Allen School of Computer Science & Engineering, University of Washington

## RESEARCH EXPERIENCE

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**Certora Inc.** June 2023 - September 2023  
*Research Intern*

- Developing mutation testing and equality saturation applications under Dr. Chandrakana Nandi.

**Paul G. Allen School of Computer Science & Engineering** March 2022 (*ongoing*)  
*Research Assistant*

- Conducting research on rewrite synthesis using equality saturation.
- Advised by Zachary Tatlock and Anjali Pal.

## PRESENTATIONS & POSTERS

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**What is a “Good” Ruleset? Comparing Rulesets Using Equality Saturation**  
*ICFP Student Research Competition (2023)*

**Renumo: Equality Saturation Theory Exploration à la Carte**  
*Allen School Undergraduate & Master’s Research Showcase (2023)*

**SlideRule: Programmable Theory Exploration for Automatic Rewrite Synthesis**  
*Allen School Annual Research Showcase (2023)*

## WORK EXPERIENCE

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**AT&T** June 2022 - September 2022  
*Software Engineer Intern*

- Intern on the TDP tools team, working with technologies such as Java, JavaScript, Spring Boot, and React.
- Processed tickets from beginning to end, both alone and as part of a team; reviewed pull requests.

**Paul G. Allen School of Computer Science & Engineering** March 2022 - June 2022  
*Teaching Assistant*

- Teaching assistant for CSE 341: Programming Languages, which covers functional programming paradigms and program interpretation in OCaml and Racket.
- Contributed substantially to the development of new assignments; documented, refactored, and extended course materials (including a series of fuzzers for testing students’ interpreters); managed grading; held office hours; taught a weekly lecture.

**Geneial** June 2021 - March 2022  
*Software Engineer Intern*

- Created a proof of concept supporting exact-match querying of an encrypted genomic database, using Google’s open-source homomorphic encryption (HME) transpiler.

- On the basis of my work, Geneial secured a contract with a leading American medical university to work HME technologies into their data pipeline.
- Primary development in C++; other technologies included Linux (Ubuntu), AWS, and Bazel.

## **UW Math Study Center**

September 2020 - March 2022

*Tutor*

- As an official employee of the UW Math Department, tutored students in precalculus and calculus.

## **HONORS & AWARDS**

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Dreama Frost Endowed Scholarship, Leo Maddox Foundation Scholarship, Burkhardt Family Endowed Scholarship

## **SKILLS**

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### **Languages & Technologies**

Rust, Java, C, C++, Linux, Git, OCaml, Racket, Coq  
JavaScript, Python, random DSLs my advisor writes