

# Cynthia Richey

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🌐 <https://thia.codes>

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## Education

2024 – **University of Pennsylvania**, Philadelphia, PA, United States  
*PhD, Computer Science*  
Advised by Benjamin C. Pierce.

2023 – 2024 **University of Washington**, Seattle, WA, United States  
*MSc, Computer Science*  
Advised by Zachary Tatlock & Chandrakana Nandi.

2019 – 2023 **University of Washington**, Seattle, WA, United States  
*BSc, Computer Science, Minor in Mathematics*

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## Publications

Preprint. **Fail Faster: Staging and Fast Randomness for High-Performance PBT**  
*Cynthia Richey\**, Joseph W. Cutler\*, Harrison Goldstein, Benjamin C. Pierce.

OOPSLA 2023. **Equality Saturation Theory Exploration à la Carte.** Anjali Pal, Brett Saiki, Ryan Tjoa\*, *Cynthia Richey\**, Amy Zhu, Oliver Flatt, Max Willsey, Zachary Tatlock, and Chandrakana Nandi.

ICFP 2023 SRC. **What is a “Good” Ruleset? Comparing Rulesets Using Equality Saturation.** *Cynthia Richey.*

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## Awards, Scholarships, & Grants

2024 – 2029 NSF Graduate Research Fellowship  
2024 Abel Lukens Stout Fellowship  
2023 First Place Undergraduate, ICFP SRC  
2022 – 2023 Burkhardt Family Endowed Scholarship  
2021 – 2022 Leo Maddox Foundation Scholarship  
2020 – 2021 Dreama Frost Endowed Scholarship  
2019 – 2023 Pell Grant

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## Employment

Aug 2025 – **University of Pennsylvania**, *Teaching Assistant*, Philadelphia, PA, United States.  
Dec 2025 CIS 5000: Software Foundations.

May 2025 – **Amazon Agentic Automated Reasoning Group**, *Applied Scientist Intern*,  
Aug 2025 Seattle, WA, United States.  
Scaling anti-unification of SMT formulas.

Aug 2024 – **University of Pennsylvania**, *Research Assistant*, Philadelphia, PA, United  
States.

Jun 2023 – **Certora**, *Research Intern*, Seattle, WA, United States.  
Sep 2023 Mutation testing of formal specifications.

Jun 2022 – **AT&T**, *Software Engineering Intern*, Atlanta, GA, United States.  
Sep 2022

Mar 2022 – **Paul G. Allen School of Computer Science & Engineering**, *Teaching*  
Jun 2022 *Assistant*, Seattle, WA, United States.  
CSE 341: Programming Languages.

Mar 2022 – **Paul G. Allen School of Computer Science & Engineering**, *Research*  
Jun 2023 *Assistant*, Seattle, WA, United States.

Sep 2020 – **University of Washington, Math Study Center**, *Tutor*, Seattle, WA,  
Mar 2022 United States.  
Provided drop-in tutoring in precalculus and calculus.

Jun 2021 – **Geneial**, *Software Engineer Intern*, Seattle, WA, United States.  
Mar 2022 Developed a homomorphic encryption application.