

# Timothy Zhou

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## Education

### University of California San Diego

Fall 2024 - Present

PhD student in the Programming Systems group.

### University of Illinois at Urbana-Champaign

Fall 2020 – Spring 2024

B.S. in Computer Science — CS GPA: 4.0

B.S. in Mathematics

GPA: 3.92

## Experience

### Carnegie Mellon University

Summer 2023

*REUSE 2023, with Julia Freeman and advised by Jonathan Aldrich*

- Developed operational semantics for a distributed reactive programming language with strong consistency and minimal locking.
- Formalized and proved various consistency properties (causally consistent propagation, glitch freedom) about the semantics.

### Carnegie Mellon University

Summer 2022 – Spring 2023

*REUSE 2022, with Ian McCormack and advised by Jonathan Aldrich, Joshua Sunshine*

- Worked on a formalization of a tool being developed by Google researchers for generating lifetime annotations for Rust foreign function wrappers of C++ programs.
- Discovered a soundness bug in the core program analysis as part of this process, which was acknowledged and [fixed](#).

### University of Illinois at Urbana Champaign

Fall 2021 – Spring 2022

*Undergraduate Researcher, with UMASS LASER and Talia Ringer*

- Worked with Professor Talia Ringer and members of UMASS LASER on the development of a neurosymbolic proof synthesis tool for Coq.
- Enriched machine learning models with identifier information that led to a 45% increase in theorems proved compared to the then state-of-the-art tools.

## Papers

[SPLASH  
SRC 2023]

Julia Freeman\* and Timothy Zhou\*.

[Historiographer: Strongly-Consistent Distributed Reactive Programming with Minimal Locking](#)

[TOPLAS  
2023]

Alex Sanchez-Stern\*, Emily First\*, Timothy Zhou, Zhanna Kaufman, Yuriy Brun, Talia Ringer.

[Passport: Improving Automated Formal Verification Using Identifiers](#)

[ICSE  
Demo]

Arpan Agrawal, Emily First, Zhanna Kaufman, Tom Reichel, Shizhuo Zhang, Timothy Zhou, Alex Sanchez-Stern, Talia Ringer, and Yuriy Brun.

[PProofster: Automated Formal Verification](#)

## Awards

- SPLASH 2023 SRC first place (undergraduate category, joint with Julia Freeman)