

Timothy Zhou

ttzhou@ucsd.edu tzhou.dev

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, B.S. in Mathematics
GPA: 3.92 (CS GPA: 4.0)

Experience

Carnegie Mellon University Summer 2023
Research Intern, REUSE 2023

- Developed an operational semantics and proved properties (causal consistency, glitch-freedom) about a distributed reactive programming language with strong consistency and minimal locking.

Carnegie Mellon University Summer 2022 – Spring 2023
Research Intern, REUSE 2022

- Built a formal model capturing key aspects of Crubit, a tool being developed by Google for generating lifetime annotations for Rust foreign function wrappers of C++ programs.
- Identified a soundness bug in the core program analysis, which was acknowledged and [fixed](#).

University of Illinois at Urbana Champaign Fall 2021 – Spring 2022
Undergraduate Researcher, ITP Lab

- Implemented tooling to enrich representations of Coq proof states with additional identifier information, improving a machine learning-based proof synthesis tool.

Publications

(* = Equal Contribution)

POPL 26 ChopChop: A Programmable Framework for Semantically Constraining the
(Cond. Accepted) Output of Language Models [\[pdf\]](#)
 Shaan Nagy*, [Timothy Zhou*](#), Nadia Polikarpova, Loris D'Antoni

ICML 25 Flexible and Efficient Grammar-Constrained Decoding [\[pdf\]](#)
 Kanghee Park, [Timothy Zhou](#), Loris D'Antoni

TOPLAS 23 Passport: Improving Automated Formal Verification Using Identifiers [\[pdf\]](#)
 Alex Sanchez-Stern*, Emily First*, [Timothy Zhou](#), Zhanna Kaufman, Yuriy
 Brun, Talia Ringer

Workshop, Demo Papers, and Talks

SPLASH SRC 23 Historiographer: Strongly-Consistent Distributed Reactive Programming with
 Minimal Locking [\[pdf\]](#)
 Julia Freeman* and [Timothy Zhou*](#)

ICSE 23 (Demo) Flexible and Efficient Grammar-Constrained Decoding [\[pdf\]](#)
 Kanghee Park, [Timothy Zhou](#), Loris D'Antoni

SoCalPLS 24 Analyzing Prefixes of Programs

Awards

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- First Place — SPLASH 2023 Student Research Competition (undergraduate category)