ZHAO, Huan

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EDUCATION

National University of Singapore | *Ph.D. in Computer Science* — Aug 2023 – Present
- Advised by Prof. Abhik Roychoudhury and Prof. Umang Mathur

National University of Singapore | *Bachelor of Computing* — Aug 2019 – Jun 2023
- Highest Distinction with Honours; second major in Statistics

The University of Hong Kong | *Visiting Student* — Jan – Aug 2022

PUBLICATIONS

[NDSS'27] Agentic Orchestration for Hybrid Fuzzing [pdf]
Zhengxiong Luo*, Huan Zhao*, Mehtab Zafar, Cristian Cadar, Abhik Roychoudhury (* *equal contribution*)
The Network and Distributed System Security Symposium

[ASE'26] Automated Lemma Discovery in Agentic Program Verification [pdf] [code]
Huan Zhao*, Haoxin Tu*, Zhengyao Liu, Martin C. Rinard, Abhik Roychoudhury (* *equal contribution*)
41st IEEE/ACM International Conference on Automated Software Engineering

[FSE'26] Agentic Verification of Software Systems [pdf] [code]
Haoxin Tu, Huan Zhao, Yahui Song, Mehtab Zafar, Ruijie Meng, Abhik Roychoudhury
34th ACM International Conference on the Foundations of Software Engineering

[S&P'26] Agentic Concolic Execution [pdf] [code]
Zhengxiong Luo, Huan Zhao, Dylan Wolff, Cristian Cadar, Abhik Roychoudhury
47th IEEE Symposium on Security and Privacy

[ASPLOS'25] Selectively Uniform Concurrency Testing [pdf] [code]
Huan Zhao, Dylan Wolff, Umang Mathur, Abhik Roychoudhury
30th ACM International Conference on Architectural Support for Programming Languages and Operating Systems

INTERNSHIPS

Oracle Labs, Australia | *Research Intern* — Jun – Sep 2025
- Built non-invasive request tracing mechanisms for cloud-native microservices
- Developed analysis techniques for runtime traces to guide security policy hardening

Thales Group, Singapore | *Software Engineer Intern* — May – Nov 2021
- Engineered trustworthy microservice pipelines in mission-critical government software
- Co-designed and documented RESTful API specifications with external partners

HONOURS AND AWARDS

Distinguished Artifact Reviewer Award, ISSTA	2026
SoC Research Achievement Award, NUS	2026
SIG Travel Grant, ACM	2025
SoC Research Incentive Award, NUS	2023
SoC Dean's List (Top 5%), NUS	2022
NASA Exchange Scholarship, NUS	2022

TALKS

Automated Lemma Discovery in Agentic Program Verification. ASE 2026, U of Melbourne (virtual) 2026.

Agentic Concolic Execution. KLEE Workshop 2026, S&P 2026, AWS (Santa Clara, CA) 2026.

Selectively Uniform Concurrency Testing. ASPLOS 2025, Singapore Programming Languages Summit 2024.

TEACHING

National University of Singapore | *Teaching Assistant*

- CS3234 Logic for Proofs and Programs — Spring 2026
- CS3230 Design and Analysis of Algorithms — Spring & Fall 2022
- TIC2003 Software Development Project — Spring 2022
- CS2030S Programming Methodology II — Spring 2021
- CS1101S Programming Methodology I — Fall 2020

MENTORING

Cheah Gee Nung Ian, Luoqi Xu. **BComp Dissertation:** Concurrency Testing for Real-World Python — exp. 2027
Zi Shen Lim. **Semester Project:** Concurrency Testing for Multi-Process Python — 2026
Dick Ong, Ivan Tan. **BComp Dissertation:** Concurrency Testing for Free-threaded Python — 2026
Arsyad Kamili. **BComp Dissertation:** Concurrency Testing for Detecting Isolation Level Bugs in DBMS — 2025
Awarded Bronze Medal, ACM Student Research Competition (undergrad.), SPLASH 2025

ACADEMIC SERVICES

Program Committee Member, ICSE 2027 Research Track (Shadow)
Reviewer, ACM Transactions on Software Engineering and Methodology (TOSEM) 2026
Reviewer, IEEE Transactions on Dependable and Secure Computing (TDSC) 2026
Program Committee Member, ASE 2026 Artifact Evaluation
Program Committee Member, ISSTA 2026 Artifact Evaluation
Program Committee Member, PLDI (2025 & 2026) Artifact Evaluation
Program Committee Member, POPL 2026 Artifact Evaluation
Co-Organizer, Fuzzing and Software Security Summer School 2025 Hackathon
External Reviewer, APLAS 2025, TACAS 2025
Student Volunteer, ICFP/OOPSLA 2025, PLDI 2025