Yuntong Zhang

Contact Information	PLSE Lab (COM3 02-20) School of Computing National University of Singapore

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Research Interests

automatic programming, program repair, program analysis, software security, software testing

Education

National University of Singapore, Singapore

Ph.D. Candidate, Computer Science, August 2021 - present

- Topic: Role of Specification in Automatic Programming
- Advisor: Prof. Abhik Roychoudhury

Bachelor of Computing in Computer Science, 2017-2021
- GPA: 4.9/5.0
- Dean's List (AY2018/2019 Sem1, AY2019/2020 Sem2, AY2020/2021 Sem1).

Publications

SpecRover: Code Intent Extraction via LLMs. [link]   **ICSE'25**
Haifeng Ruan*, Yuntong Zhang*, Abhik Roychoudhury. (*Joint first authors ordered alphabetically)
47th International Conference on Software Engineering (ICSE). 2025.

EffFix: Efficient and Effective Repair of Pointer Manipulating Programs.
[link]   **TOSEM'25**
Yuntong Zhang, Andreea Costea, Ridwan Shariffdeen, Davin McCall, Abhik Roychoudhury.
ACM Transactions on Software Engineering and Methodology (TOSEM). 2025.

AutoCodeRover: Autonomous Program Improvement. [link]   **ISSTA'24**
Yuntong Zhang, Haifeng Ruan, Zhiyu Fan, and Abhik Roychoudhury.
Proceedings of the 33rd ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA). 2024.

Program Vulnerability Repair via Inductive Inference. [link]   **ISSTA'22**
Yuntong Zhang, Xiang Gao, Gregory J. Duck, and Abhik Roychoudhury.
Proceedings of the 31st ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA). 2022.

Hardening Binaries against More Memory Errors. [link]   **EuroSys'22**
Gregory J. Duck, Yuntong Zhang, and Roland HC Yap.
Proceedings of the Seventeenth European Conference on Computer Systems (EuroSys). 2022.

Preprints

Program Repair by Fuzzing over Patch and Input Space. [link]   **arXiv'23**
Yuntong Zhang, Ridwan Shariffdeen, Gregory J. Duck, Jiaqi Tan, Abhik Roychoudhury.

Honors and Awards

Research Achievement Award, School of Computing, NUS, AY2022/2023 Semester 1
Outstanding Undergraduate Researcher Prize, National University of Singapore, 2021

Teaching Experience

National University of Singapore, Singapore
Teaching Assistant   **August, 2018 - May 2020**
Prepared material and conducted tutorial/lab sessions for courses in School of Computing.

- CS2040S (Data Structures and Algorithms), AY2019/2020 Semester 2
- CS2106 (Introduction to Operating Systems), AY2019/2020 Semester 2

- CS1010S (Programming Methodology), AY2019/2020 Semester 1
- CS1101S (Programming Methodology), AY2018/2019 Semester 1

INDUSTRY EXPERIENCE	**Oracle Labs**, Australia (remote)

Oracle Labs, Australia (remote)
Research Intern   **Sep, 2024 - present**
Working on program repair.

Sea Group (Shopee), Singapore
Software Engineering Intern   **May, 2019 - August, 2019**
Worked in the back-end engineering team on server monitoring system.

Yitu Tech, Singapore
Research and Development Intern   **December, 2018 - March, 2019**
Worked on the internal AI office assistant system.