

Bo Wang

Ph.D. Candidate | bo_wang@u.nus.edu | <https://halocore.github.io/>

Research Interests

I am most interested in **automated code translation** for code migration, with a recent focus on the translation of C to safe Rust. I am also interested in program synthesis, compilers, software security, and automated reasoning in general.

Education

National University of Singapore (NUS)	2020/08 – present
Ph.D in Computer Science. Advisor: Prateek Saxena	Singapore

University of Science and Technology of China (USTC)	2016/09 – 2020/06
B.Eng in Computer Science and Technology	Hefei, China

Preprints

Mostly Automatic Translation of Language Interpreters from C to Safe Rust. arXiv:2606.27122 [Paper]

Bo Wang, Brandon Paulsen, Joey Dodds, Daniel Kroening, Umang Mathur, Prateek Saxena

Adversarial Agent Collaboration for C to Rust Translation. arXiv:2510.03879 [Paper]

Tianyu Li, Ruishi Li, **Bo Wang**, Brandon Paulsen, Umang Mathur, Prateek Saxena

Publications

Program Skeletons for Automated Program Translation. PLDI 2025 [Paper]

Bo Wang^{*}, Tianyu Li^{*}, Ruishi Li, Umang Mathur, Prateek Saxena

Translating C to Rust: Lessons from a User Study. NDSS 2025 [Paper]

Ruishi Li^{*}, **Bo Wang**^{*}, Tianyu Li, Prateek Saxena, Ashish Kundu

TransMap: Pinpointing Mistakes in Neural Code Translation. FSE 2023 [Paper] [Code]

Bo Wang, Ruishi Li, Mingkai Li, Prateek Saxena

User-Customizable Transpilation of Scripting Languages. OOPSLA 2023 [Paper] [Code]

Bo Wang, Aashish Kolluri, Teodora Baluta, Ivica Nikolić, Prateek Saxena

SynGuar: Guaranteeing Generalization in Programming by Example. FSE 2021 [Paper] [Code]

Bo Wang, Teodora Baluta, Aashish Kolluri, Prateek Saxena

Understanding Trigger-Action Programs Through Novel Visualizations of Program Differences. CHI 2021 [Paper]

Valerie Zhao, Lefan Zhang, **Bo Wang**, Michael L Littman, Shan Lu, Blase Ur

SSRules: Make it Easier to Write and Check Automation Rules for Smart Home Systems. JoS in 2020 (Chinese).

Bo Wang, Yu Zhang, Jianing Geng, Xiangyang Li

Research Experience

KISP Lab, National University of Singapore (Singapore).	2020/08 – present
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PhD Candidate. Advisor: Prateek Saxena

Topic: Program Synthesis and Automated Program Translation

Amazon AWS (VA, USA).	2025/09 – 2026/01
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Applied Scientist Intern. Mentor: Brandon Paulsen. Manager: Joey Dodds

Topic: Translation of C Programs to Safe Rust

SUPERgroup. University of Chicago (IL, USA).

2019/07 – 2019/09

Summer Intern. Advisor: Shan Lu

Topic: Checking and (Visualized) Debugging of Smart Home Systems

S4Plus Lab, University of Science and Technology of China (China).

2019/02 – 2020/06

Undergraduate Researcher. Advisor: Yu Zhang

Topic: Automated Safety Checking in Smart Home Systems

Teaching

- Teaching Assistant for **CS5231 System Security** - 2021/2022 Semester 2.
Instructor: Prateek Saxena. (National University of Singapore)
- Teaching Assistant for **CS3235 Computer Security** - 2022/2023 Semester 2.
Instructor: Prateek Saxena. (National University of Singapore)
- Teaching Assistant for **CS3235 Computer Security** - 2023/2024 Semester 2.
Instructor: Prateek Saxena. (National University of Singapore)

Skills and Hobbies

- **Programming Languages:** Python, JavaScript, Rust, C#, C++, Java, Verilog, Haskell, Coq
- **Applications & Tools:** Web (Frontend/Backend), Game Dev. (Unity), Server (Linux/LXC), Win .NET/WPF/UWP.
- **Sports:** Basketball, Badminton, Table tennis, Swimming, Squash