Jianxing Qin

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EDUCATION

Duke University Aug 2023 – Present

Ph.D. in Computer Science

- Advisor: Danyang Zhuo

Shanghai Jiao Tong University Aug 2019 – Jun 2023

B.Eng in Computer Science and Technology

- Advisor: Qinxiang Cao
- Dissertation: VST-IDE: An Interactive Tool for Program Verification (Symbolic Execution)

PUBLICATIONS

1. Jianxing Qin, Jingrong Chen, Xinhao Kong, Yongji Wu, Tianjun Yuan, Liang Luo, Zhaodong Wang, Ying Zhang, Tingjun Chen, Alvin R. Lebeck, Danyang Zhuo. *Phantora: Maximizing Code Reuse in Simulation-based Machine Learning System Performance Estimation.* Accepted by NSDI 2026.
2. Jianxing Qin, Alexander Du, Danfeng Zhang, Matthew Lentz, Danyang Zhuo. *Can Large Language Models Verify System Software? A Case Study Using FSCQ as a Benchmark.* The ACM SIGOPS 20th Workshop on Hot Topics in Operating Systems (HotOS), 2025.
3. Litao Zhou, Jianxing Qin, Qishi Wang, Andrew W. Appel, Qinxiang Cao. *VST-A: A Foundationally Sound Annotation Verifier*. The 51st ACM SIGPLAN Symposium on Principles of Programming Languages (POPL), 2024.

RESEARCH EXPERIENCES

Research Assistant, Duke University Aug 2023 – Present

Advisor: Prof. Danyang Zhuo, Department of Computer Science

Topic: GPU cluster simulator for performance analysis on machine learning workloads

- Implement simulator for GPU cluster on deep learning workloads
- Run training workloads as-is without the real GPU cluster
- Avoid reimplementation of the ML framework in the simulator, seamless support most features

Research Assistant, Shanghai Jiao Tong University Feb 2021 – Jun 2023

Advisor: Prof. Qinxiang Cao, John Hopcroft Center for Computer Science

Dissertation: Interactive verification of annotated programs

- Developed separation logic based assertion annotations of program states compatible with C
- Checked annotated C source codes and verified the corresponding user-defined specifications
- Developed a proof assistant like programming environment

Topic: Verification of annotated programs

- Implemented foundationally sound annotation verifier based on VST
- Published on POPL 2024

Research Intern, Duke University May 2022 – Sep 2022

Advisor: Prof. Danyang Zhuo, Department of Computer Science

Topic: Solver-aided development of network functions

- Leverage the power of SMT solvers in middlebox development
- Push-button verification for modular network function frameworks like Click
- Explored synthesis techniques (syntax-guided, counterexample-guided) for network functions