

Jinyang Li

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ACADEMIC APPOINTMENTS

Miami University, Oxford, Ohio, USA	2026-Present
Assistant Professor, Department of Computer Science and Software Engineering	

EDUCATION

George Mason University, Fairfax, Virginia, USA	2026
Ph.D. in Electrical and Computer Engineering	
Advisor: Prof. Weiwen Jiang	
Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA	2022
M.Eng. in Computer Science	
Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA	2020
B.S. in Computer Science	

RESEARCH INTERESTS

Core areas: Quantum Computing Systems; Quantum Design Automation; Variational Quantum Algorithms; Quantum Machine Learning.

Emerging directions: Distributed quantum computing and quantum computing for scientific discovery, including healthcare and life sciences.

PUBLICATIONS

Peer-Reviewed Journal Articles

- [J1] Jinyang Li, Samudra Dasgupta, Yuhong Song, Lei Yang, Travis Humble, and Weiwen Jiang. "Computational Performance Bounds Prediction in Quantum Computing with Unstable Noise." *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, 2025.
- [J2] Jinyang Li, Yuhong Song, Yipei Liu, Jianli Pan, Lei Yang, Travis Humble, and Weiwen Jiang. "QuSplit: Achieving Both High Fidelity and Throughput via Job Splitting on Noisy Quantum Computers." *Quantum Machine Intelligence (QMI)*, 2025.

Peer-Reviewed Conference Publications

- [C1] Lingjun Xiong, Jinyang Li, Lei Yang, Yu Zhang, and Weiwen Jiang. "TuneQEC: Noise-Aided Open Quantum Simulation via Tunable Quantum Error Correction." *IEEE/ACM International Conference on Computer-Aided Design (ICCAD)*, 2026. (Accepted)
- [C2] Jinyang Li, Ang Li, and Weiwen Jiang. "QUAPPROX: A Framework for Benchmarking the Approximability of Variational Quantum Circuit." *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2024.
- [C3] Yi Sheng, Junhuan Yang, Jinyang Li, Alaina James, Xiaowei Xu, Yiyu Shi, Jingtong Hu, Lei Yang, and Weiwen Jiang. "Data-Algorithm-Architecture Co-Optimization for Fair Neural Networks on Skin Lesion Dataset." *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2024.
- [C4] Jinyang Li, Zhepeng Wang, Zhirui Hu, Prasanna Date, Ang Li, and Weiwen Jiang. "A Novel Spatial-Temporal Variational Quantum Circuit to Enable Deep Learning on NISQ Devices." *IEEE International Conference on Quantum Computing and Engineering (QCE)*, 2023.
- [C5] Jinyang Li, Qiang Guan, Dingwen Tao, and Weiwen Jiang. "Carbon Emissions of Quantum Circuit Simulation: More than You Would Think." *International Green and Sustainable Computing Conference (IGSC)*, 2023.
- [C6] Zhepeng Wang, Jinyang Li, Zhirui Hu, Blake Gage, Elizabeth Iwasawa, and Weiwen Jiang. "QuMoS: A Framework for Preserving Security of Quantum Machine Learning Model." *IEEE International Conference on Quantum Computing and Engineering (QCE)*, 2023.
- [C7] Zhirui Hu, Jinyang Li, Zhenyu Pan, Shanglin Zhou, Lei Yang, Caiwen Ding, Omer Khan, Tong Geng, and Weiwen Jiang. "On the Design of Quantum Graph Convolutional Neural Network in the NISQ-Era and Beyond." *IEEE International Conference on Computer Design (ICCD)*, 2022.

Manuscripts Under Review

- [U1] Yuhong Song, Jinyang Li, Yipei Liu, Lei Yang, Travis Humble, and Weiwen Jiang. "AutoQEC: Design Automation for End-to-End Implementation of Quantum Error Correction Codes toward Fault-Tolerant Variational Quantum Circuits." *ACM Transactions on Quantum Computing*, under review.

SPONSORED RESEARCH AND GRANT ACTIVITY

Submitted and Pending Proposals

National Science Foundation (NSF), Improving Undergraduate STEM Education (IUSE), Track 3: Engaged Student Learning

Bridging the Quantum Divide: A Multi-Campus Consortium Model for QISE Education and Undergraduate Research

Co-PI | PI: Jessica Rosenberg | 2026 | Pending

Selected Sponsored Research Contributions During Doctoral Study

NSF CAREER | 2025-2030

Efficient and Scalable Deployment Automation for Quantum-Centric Computing

PI: Weiwen Jiang

Role: Research and proposal contributor; developed preliminary results for two research thrusts and led related research published in IEEE TCAD and Quantum Machine Intelligence.

NSF ECCS | 2025-2028

ENG-QUANT: SPV: Synthesis, Profiling, and Verification of Quantum Circuits

PI: Weiwen Jiang

Role: Research and proposal contributor; developed preliminary experiments and contributed to two research thrusts.

NSF OAC CSSI | 2025-2028

Collaborative Research: Elements: QuAIM: A Quantum Cyberinfrastructure with Automated Implementation Toolkits for Scientific Discovery

PI: Weiwen Jiang

Role: Research and proposal contributor; developed ST-VQC-based preliminary results and contributed to related research tasks.

DOE ASCR ARQC | 2024-2029

MACH-Q: Modular and Error-Aware Software Stack for Heterogeneous Quantum Computing Ecosystems

Role: Research contributor; collaborated with ORNL researchers on applying quantum performance prediction to circuit cutting.

TEACHING EXPERIENCE

Miami University

CSE 433/533 - Deep Learning

Instructor, Department of Computer Science and Software Engineering

Fall 2026

George Mason University

Lab Instructor

- ECE 286 - Electric Circuit Analysis II, Spring 2023

Teaching Assistant

- ECE 554 - Machine Learning for Embedded Systems, Spring 2024 (Graduate Level)
- ECE 286 - Electric Circuit Analysis II, Fall 2023
- ECE 285 - Electric Circuit Analysis I, Fall 2023
- ECE 465 - Computer Networking Protocols, Spring 2023
- ECE 421 - Classical Systems and Control Theory, Spring 2023
- ECE 330 - Circuit Theory, Spring 2023

RESEARCH MENTORING

Undergraduate Research Mentor, George Mason University

Mentored two undergraduate students in quantum computing fundamentals and hands-on research project implementation.

Summer 2024

PROFESSIONAL SERVICE

Program Committee Service

- Technical Program Committee Member, IEEE International Conference on Quantum Computing and Engineering (QCE), 2025

Journal Reviewing

- Reviewer, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)
- Reviewer, ACM Transactions on Design Automation of Electronic Systems (TODAES)

Conference Reviewing

- Reviewer for IEEE QCE, IEEE/ACM ICCAD, ACM/IEEE DAC, SC, ASP-DAC, and DATE