

YIFENG PENG

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EDUCATION

Stevens Institute of Technology | GPA 3.95/4

School of Engineering and Science

- Doctor of Philosophy

Hoboken, NJ

Feb 2023 - Dec 2026 (Expected)

University of Electronic Science and Technology of China | GPA 3.60/4

Bachelor of Engineering in Electronic Information Engineering

Chengdu, China

Sep 2018 - Jul 2022

University of Glasgow (Double Degree) | GPA 3.60/4

Bachelor of Engineering in Electronic Information Engineering

Chengdu, China

Sep 2018 - Jul 2022

PUBLICATIONS: CONFERENCE PAPER

1. **Yifeng Peng**, Xinyi Li, Zheming Zhang, Samuel Yen-Chi Chen, Zhiding Liang and Ying Wang. "Can Classical Initialization Help Variational Quantum Circuits Escape the Barren Plateau?" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE25))
2. **Yifeng Peng**, Xinyi Li, Zheming Zhang, Samuel Yen-Chi Chen, Zhiding Liang and Ying Wang. "Breaking Through Barren Plateaus: Reinforcement Learning Initializations for Deep Variational Quantum Circuits" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE25))
3. Xinyi Li, **Yifeng Peng**, Juntao Chen, Ying Wang. "HCVS-Net: Hybrid Continuous-Variable Squeezing Network" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE25))
4. Xinyi Li, **Yifeng Peng**, Ying Wang. "QWBO: QAOA-Based High-Speed Weighted Black-box Hyperparameter Optimization for Secure UAV Fingerprinting" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE25))
5. Xinyi Li, **Yifeng Peng**, Ying Wang. "FiCo: A Fingerprinting-based Two-step Learning-to-learn Approach Combining Vibration and 5G Communication for UAV Classification" (Accepted by 2025 IEEE International Conference on Communications (ICC))
6. **Yifeng Peng**, Xinyi Li, Ying Wang. "Quantum Squeeze-and-Excitation Networks" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE24))
7. **Yifeng Peng**, Xinyi Li, Ying Wang. "QRNG-DDPM: Enhancing Diffusion Models through Fitting Mixture Noise with Quantum Random Number" (Accepted by IEEE International Conference on Quantum Computing & Engineering (QCE24))
8. **Yifeng Peng**, Xinyi Li, Zhiding Liang, Ying Wang. "Qsco: A Quantum Scoring Module for Open-set Supervised Anomaly Detection" (Accepted by the 39th Annual AAAI Conference on Artificial Intelligence (AAAI 2025))
9. **Yifeng Peng**, Jingda Yang, Sudhanshu Arya, Ying Wang. "SmLe Net: A Supervised Graph Embedding-based Machine Learning Approach for NextG Vulnerability Detection" (Accepted for MILCOM 2023-2023 IEEE Military Communications Conference (MILCOM))
10. **Yifeng Peng**, Xinyi Li, Jingda Yang, Sudhanshu Arya, Ying Wang. "RAFT: A Real-time Framework for Root Cause Analysis in NextG Vulnerability Detection" (Accepted for 2024 IEEE 21st Consumer Communications & Networking Conference (CCNC))
11. Zhiyao Xie, Tao Zhang, **Yifeng Peng**. "Security and Reliability Challenges in Machine Learning for EDA: Latest Advances" 2023 24th International Symposium on Quality Electronic Design (ISQED)

PUBLICATIONS: JOURNAL PAPER

1. **Yifeng Peng**, Xinyi Li, Zhiding Liang, Ying Wang. "Hybrid Quantum Downsampling Networks" (In review for Quantum Machine Intelligence)
2. **Yifeng Peng**, Xinyi Li, Ying Wang. "Quantum Squeeze-and-Excitation Networks: Redefining Attention Networks - What Avoided Is What Needed" (In review for IEEE Transactions on Quantum Engineering)
3. **Yifeng Peng**, Xinyi Li, Zhiding Liang, Ying Wang. "HyQ2: A Hybrid Quantum Neural Network for NextG Vulnerability Detection" (Accepted by IEEE Transactions on Quantum Engineering)
4. **Yifeng Peng**, Xinyi Li, Sudhanshu Arya, Ying Wang. "DEFT: A Novel Deep Framework for Fuzz Testing Performance Evaluation in NextG Vulnerability Detection" (Published in IEEE Access (Volume: 11))
5. **Yifeng Peng**, Xinyi Li, Sudhanshu Arya, Ying Wang. CoCo: A CBOW-Based Framework for Synergistic Vulnerability Detection in Partial and Discontinuous Logs for NextG Communications" (Accepted by IEEE Open Journal of the Communications Society)
6. **Yifeng Peng**, Xinyi Li, Ying Wang. "A Survey on Quantum Machine Learning" (In review for IEEE Transactions on Neural Networks and Learning Systems)
7. **Yifeng Peng**, Danton Li, Xinyi Li, Zhiding Liang, Yongshan Ding, Ying Wang. "Quantum-Inspired Fidelity-based Divergence" (In review for Quantum Machine Intelligence)
8. Bo Yi, **Yifeng Peng**, Qing Zhao, Moufu Kong, Junji Cheng, and Haimeng Huang. "Simulation study of an ultra-low specific on-resistance high-voltage pLDMOS with self-biased accumulation layer" IEICE Electronics Express
9. Xiaoyu Zhou, Yafen Shang, Tian Luo, **Yifeng Peng**, and Hao Fu. "Large rotating magnetocaloric effect of textured polycrystalline HoB2 alloy contributed by anisotropic ferromagnetic susceptibility" Applied Physics Letters

EXPERIENCE

MIT Communication Lab | Human-computer interaction (HCI)

Summer Undergraduate Research Fellow (Advisor: Wei Sun Leong)

Boston, MA

Jun. 2019 - Aug. 2019

University College London | Reinforcement learning (RL)

Chengdu, China

Undergraduate Research Student (Advisor: Yaodong Yang and Jun Wang)

Nov. 2021 - Feb. 2022

ACADEMIC SERVICE

- Journal** IEEE Transactions on Machine Learning in Communications and Networking
Journal IEEE Transactions on Quantum Engineering
Journal IEEE Transactions on Neural Networks and Learning Systems
Journal Quantum Machine Intelligence
Journal ACM Transactions on Quantum Computing
Conference 2025 International Conference on Computer-Aided Design (ICCAD)
Conference IEEE International Conference on Quantum Computing and Engineering (QCE) 2025
Conference The Thirteenth International Conference on Learning Representations (ICLR 2025)
Conference 2025 Design Automation Conference (DAC)
Conference The International Conference on Machine Learning (ICML) 2025
Conference AAAI 2026 Conference Program Committee
Conference 31st Asia and South Pacific Design Automation Conference ASP-DAC 2026

AWARD

- 08/2025** NSF Student Travel Grant IEEE QCE 2025
05/2025 Fabrycky-Blanchard Outstanding Doctoral Research Award
08/2024 NSF Student Travel Grant IEEE QCE 2024
09/2023 Provost's Doctoral Fellowship Stevens Institute of Technology
10/2021 Watt Innovation Talent Scholarship Glasgow College
10/2020 Watt Innovation Talent Scholarship Glasgow College
10/2019 Watt Innovation Talent Scholarship Glasgow College
10/2019 Excellent Member, Science and Innovation Division, Glasgow College, UESTC

SKILLS

- Programming language** Python, Verilog, MATLAB, C/C++
Tools Linux, Pycharm, PennyLane, Qiskit
Research Interests Quantum Machine Learning, AI for Quantum, Quantum Computing, Quantum Error Correction

INTERESTS

- Sports** Tennis, Basketball, Skiing, Outdoor Hiking, Table Tennis, Badminton (I love sports)
Others Piano, Guitar, Photography, Travel