PEIJIA QIN

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EDUCATION

Southern University of Science and Technology (SUSTech) Shenzhen, China
Bachelor of Engineering in Computer Science and Technology: ***GPA: 3.95/4.00 (Rank: 1/194)*** *Aug. 2021 – Jun. 2025 (Expected)*

University of California, San Diego (UCSD) California, US
Visiting Student: ***GPA: 4.00/4.00*** *Apr. 2024 – Jun. 2024*

Relevant coursework: Machine Learning, Artificial Intelligence, Information Theory, Real Analysis, Differential Equations

PUBLICATIONS

- **Peijia Qin**, Shuxian Li, Xiaoqun Liu, Zubin Zheng, and Siang Yew Chong. Threshold Moving for Online Class Imbalance Learning with Dynamic Evolutionary Cost Vector. Transactions on Machine Learning Research, 2024.
- **Peijia Qin** and Liyan Song. Online Learning in Varying Feature Spaces with Informative Variation. In 13th International Conference on Intelligent Information Processing, 2023.

PREPRINTS

- **Peijia Qin** and Jianguo Zhang. MQ-VAE: Training Vector-Quantized Networks via Meta-Learning. Under review at ICLR 2025.
- **Peijia Qin**, Ruiyi Zhang, and Pengtao Xie. BiDoRA: Bi-Level Optimization-Based Weight-Decomposed Low-Rank Adaptation. Under review at ICLR 2025.
- Luke Bhan*, **Peijia Qin***, Miroslav Krstic, and Yuanyuan Shi. Neural operators for predictor feedback control of nonlinear delay systems. Under review at L4DC 2025. (* denotes equal contribution.)

RESEARCH EXPERIENCE

Online Learning with Varying Feature Spaces SUSTech
Supervised by Prof. Xin Yao and Dr. Liyan Song *Jun. 2023 – Oct. 2023*
- Independently conducted an extensive literature review on online learning with varying feature spaces and identified the lack of consideration for informative feature variation patterns. Developed a novel two-stream ensemble learning formulation and solution.
- Accepted for oral presentation as a conference paper.

Evolutionary Algorithms for Online Learning SUSTech
Supervised by Prof. Xin Yao and Dr. Siang Yew Chong *Sep. 2023 – Jan. 2024*
- Led the project to address the non-optimal class balancing in online class imbalance classification literature. Proposed dynamic evolutionary algorithms for automated hyperparameter search on the fly.
- Accepted for publication in the *Transactions on Machine Learning Research* journal.

Foundation Model Fine-Tuning UCSD
Supervised by Prof. Pengtao Xie *Mar. 2024 – Sep. 2024*
- Enhanced the DoRA parameter-efficient fine-tuning method by introducing a bi-level optimization technique, improving learning capacity and mitigating overfitting.
- Paper under review at ICLR 2025.

Learning-based Control UCSD
Supervised by Prof. Yuanyuan Shi *Apr. 2024 – Dec. 2024*
- Worked on numerical experiment parts to accelerate temporal integration in input delay control problems using a learning model as an approximation. Replaced the solution mapping with neural operators while maintaining system stability.
- Paper under review at L4DC 2025.

Autoregressive Image Generation SUSTech
Supervised by Prof. Jianguo Zhang *Aug. 2024 – Oct. 2024*
- Independently identified three key challenges in the VQ-VAE method and applied meta-learning techniques to address them within a cohesive framework. Proposed updating the codebook in the quantization layer via hyper-gradient descent.
- Paper under review at ICLR 2025.

ACADEMIC SERVICES

- Reviewer: ICLR 2025

COMPETITIONS

- International Genetically Engineered Machine (iGEM) competition 2023, Silver Medal