

# Peijia Qin

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## EDUCATION

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### Southern University of Science and Technology

Shenzhen, China

*Bachelor of Computer Science and Technology; GPA: 3.95/4.00, Rank: 1/194 Sep 2021 – June 2025 (Expected)*

### University of California, San Diego

California, US

*Visiting Student; GPA: 4.00/4.00*

*Mar 2024 – Jun 2024*

**Relevant coursework:** Machine Learning, Artificial Intelligence, Time Series Analysis, Information Theory, Real Analysis, Abstract Algebra, Differential Equations

## SKILLS

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**Programming:** Python, R, MATLAB, Java

**Libraries:** PyTorch, NumPy

**Languages:** Chinese (Native), English (TOEFL 101)

## RESEARCH INTERESTS

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My research experiences lie in the field of machine learning and its applications in various domains, such as computer vision, natural language processing, data mining, and dynamic systems.

I am also interested in many concrete topics, including data curation (data selection, reweighting, and cleansing), AutoML (meta-learning, NAS), knowledge transfer (transfer learning, domain adaptation, multi-task learning), and deep probabilistic models.

## PUBLICATIONS

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- **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

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- **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.

## RESEARCH EXPERIENCE

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### Online Learning with Varying Feature Spaces

Southern University of Science and Technology

*Supervised by Prof. Xin Yao and Dr. Liyan Song*

*Jun 2023 – Oct 2023*

- Conducted an extensive literature review and identified the ignorance of informative feature variation patterns in the domain of online learning with varying feature spaces, leading to novel formulation and solution.
- This work has been accepted for presentation as a conference paper.

### Evolutionary Algorithms for Online Learning

Southern University of Science and Technology

*Supervised by Prof. Xin Yao and Dr. Siang Yew Chong*

*Sep 2023 – Jan 2024*

- Addressed the non-optimality issue in current online class imbalance classification research and proposed dynamic evolutionary algorithms as a solution.

- This work has been accepted for publication in the *Transactions on Machine Learning Research* journal.

## Large Language Model Fine-Tuning

University of California, San Diego

*Supervised by Prof. Pengtao Xie*

*Mar 2024 – Sep 2024*

- Enhanced a recently proposed parameter-efficient fine-tuning method by introducing a bi-level optimization technique, which improved learning capacity and effectively mitigated overfitting.
- The paper is currently under review at ICLR 2025.

## Learning-based Control

University of California, San Diego

*Supervised by Prof. Yuanyuan Shi*

*Mar 2024 – Present*

- Accelerated the temporal integration in input delay control problems using machine learning methods.
- Developed a novel temporal neural operator architecture to learn the solution mapping while applying conformal prediction techniques to ensure prediction reliability.

## Image Discrete Representation Learning

Southern University of Science and Technology

*Supervised by Prof. Jianguo Zhang*

*Aug 2024 – Oct 2024*

- Identified three key challenges in the well-known VQ-VAE method and applied meta-learning techniques to solve them in a cohesive framework.
- The paper is currently under review at ICLR 2025.

## ACADEMIC SERVICES

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- Reviewer: ICLR

## COMPETITIONS

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- International Genetically Engineered Machine (IGEM) 2023, Silver Medal