

JUNHAO LU

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EDUCATION

Guangzhou University

Bachelor of Statistics — GPA: 3.64/4.00, Average Score: 90.05/100, Rank: 5/76

Sep. 2022 – Present

Relevant Coursework: Data Mining, Finance, Stochastic Processes, Multivariate Statistical Analysis

RESEARCH MANUSCRIPTS

Hu, J.¹, **Lu, J.**^{1,2}, Tang, J. *MixForecaster: A fusion framework for multi-task forecasting of wind power and ramp events from mixed time series. Information Fusion*, 2025 (under review).

Lu, J., Xu, Q., Hu, J. *A novel graph learning framework for interpretable and imbalanced financial fraud detection. Engineering Applications of Artificial Intelligence*, 2025 (under review).

Hu, J., **Lu, J.**, Zhang, C., Wang, Y. *Spatio-temporal hierarchical forecasting using group-feature graph convolutional network for probabilistic wind power prediction. Applied Soft Computing*, 2025 (under review).

RESEARCH EXPERIENCE

Spatio-temporal Hierarchical Wind Power Probabilistic Prediction

Oct. 2023 - Jan. 2025

Hainan University

Supervisor: Prof. Ying Wang & Prof. Jianming Hu

- Proposed a Graph Neural Network Transformer with group-feature convolution, frequency debiasing, and hierarchical optimization.
- Built a multi-level forecasting system for turbines, farms, and clusters, ensuring spatial and temporal consistency.
- Achieved strong predictive performance on real-world wind datasets.
- Code available: <https://github.com/lujunhao123/Hierformer>.

Graph Neural Networks for Financial Fraud Detection

Oct. 2024 - Jun. 2025

Intelligent Statistics & Decision-Making Lab

Supervisor: Prof. Jianming Hu

- Developed a spectral graph learning framework to address sparse fraud labels and deceptive behaviors.
- Enhanced detection accuracy by integrating spectral response analysis and frequency filtering.
- Improved interpretability through node importance scoring and structural attribution.
- Code available: <https://github.com/lujunhao123/IFDetector>.

Multi-task Modeling for Mixed Time Series

Jan. 2025 – Aug. 2025

Intelligent Statistics & Decision-Making Lab

Supervisor: Prof. Jianming Hu

- Proposed MixForecaster, a framework that jointly forecasts wind power and ramp event risks from mixed continuous–discrete time series.
- Designed a fusion and auxiliary module to couple continuous variations with ramp dynamics, boosting rare event prediction.
- Developed a bi-level optimization strategy to handle distributional heterogeneity and severe class imbalance across wind farms.

WORK EXPERIENCE

Industrial Machine Learning in Computer-Aided Engineering

Mar. 2025 – Jun. 2025

Machine Learning Intern

ZOSFT, Guangzhou

¹These authors contributed equally (co-first authors).

²Corresponding author.

- Applied ML methods to optimize CAE mesh pipelines, improving quality, efficiency, and numerical accuracy for complex geometries.
- Developed point cloud-driven B-rep reconstruction and CNN-based deformation models for adaptive mesh fitting in simulations.
- Advanced self-supervised CAD modeling by integrating Transformer-encoded point clouds and diffusion models for segmentation and mesh generation.

EXTRA-CURRICULAR ACTIVITIES

National Market Research and Analysis Competition

Dec. 2023 – Apr. 2024

Project Topic: Satisfaction Survey on Local Health Service Centers

- Conducted field visits and interviews at grassroots healthcare centers in Dongguan.
- Identified key issues including long patient wait times and insufficient follow-up care.

National Statistical Modeling Competition

Mar. 2025 – May. 2025

Project Topic: Detecting Fraud in Transaction Graphs

- Designed a financial fraud detection system based on subgraph sampling to mitigate class imbalance.
- Outperformed other statistical methods on three real-world transaction datasets.

Youth Volunteer Association Committee Member

Dec. 2022 – Sep. 2023

- Completed over 240 hours of volunteer service, organizing community activities and outreach.
- Recognized as Outstanding Volunteer at Guangzhou South Railway Station for exemplary dedication.

AWARDS AND HONORS

- Provincial First Prize in National Market Research and Analysis Competition (2024)
- Provincial First Prize in National Statistical Modeling Competition (2025)
- First-Class Scholarship at Guangzhou University (Top 5%) (2024)
- Outstanding student of Guangzhou University (Top 5%) (2024)
- Provincial Third Prize in National Statistical Modeling Competition (2024)
- School-level Bronze Prize in China Interational Collere Suudents’Innovation Competition (2024)