

Weilin RUAN

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● RWLinno ● Google Scholar

Education

Hong Kong University of Science and Technology (Guangzhou)

Master of Philosophy, Data Science and Analysis of the Information Hub

Sep 2024-Jun 2026

Guangzhou

Jinan University (Project 211)

Bachelor, Network Engineering of Computer Science and Technology

outstanding graduate of the Information Science Technology / Cyberspace Security Department

GPA: 3.7(5.0) or 87(100)

Sep 2020-Jun 2024

Guangzhou

Publications

I am a first-year MPhil student majoring in Data Science Analytics at HKUST(GZ), supervised by Prof. **Yuxuan Liang**. My research focuses on Multi-modal Learning/Spatio-temporal Data Mining/Time Series Forecasting, and currently includes **4 CCF-A**, **2 CCF-B** publications, and **6** other submissions under review. Here are some selected works.

1. **Efficient Multi-modal Spatio-Temporal Forecasting via Vision Transformation and Cross-modal Fusion** 1st author
[ST, MM] A multi-modal framework that transforms spatio-temporal data into visual space for forecasting.
2. **Vision-Enhanced Time Series Forecasting via Latent Diffusion Models** 1st author
[TS, Diffusion] Integrates vision capabilities with diffusion models for enhanced time series forecasting.
3. **Time-VLM: Exploring Multimodal Vision-Language Models for Augmented Time Series Forecasting** 2nd author
[ICML25] [TS, MM, LLM] Leverages Vision-Language Models to improve time series forecasting with multimodal information.
4. **Fine-grained Urban Heat Island Effect Forecasting** 2nd author
[KDD25] [ST, GL] Context-aware framework for high-resolution urban heat island prediction.
5. **Low-rank Adaptation for Spatio-Temporal Forecasting** 1st author
[ECML25] [ST, TF] Efficient low-rank adaptation techniques for spatio-temporal forecasting models.
6. **Cross Space and Time: A Spatio-Temporal Unitized Model for Traffic Flow** 1st author
[T-ITS] [ST, TF] Unified approach capturing spatial-temporal interactions for traffic prediction.
7. **Towards Multi-Scenario Forecasting of Building Electricity Loads with Multimodal Data** 4st author
[MM25] [Diffusion] Cross-modal framework leveraging scenario-conditional diffusion for building electricity load prediction.
8. **Kinematics-based Object Articulation with Gaussian Splatting** 2nd author
[3D, CV] Combines kinematics with Gaussian Splatting for improved articulated object modeling.
9. **A Game-Theoretic Spatio-Temporal RL Framework for Public Resource Allocation** 6th author
[ST, RL] Game-theory and RL integration for optimal public resource allocation across space and time.
10. **[ICCV 2025 Workshop]** VQualA 2025 Challenge on Face Image Quality Assessment: Methods and Results.

Competition Experience

2020-2022: **3 Bronze Medals**: The ICPC International Collegiate Programming Contest (**ACM-ICPC**) 45-47th

Spring 2022: **1 Silver Medal & 2 Bronze Medals**: China Collegiate Programming Contest (**ACM-CCPC**)

Spring 2023: **Honorable Mentions**: The Mathematical/Interdisciplinary Contest in Modeling (**MCM/ICM Top 25%**)

2021-2023: **2 National Second Prize & 2 Provincial First Prize**: Professional Software Engineering LanQiao Cup Final Contest

2021-2023: **1 Solo Champion & 2 Second Prize**: Jinan University ACM Programming Contest

2022: **1 Gold Medal & 1 Silver Medal**: National University Student Algorithm Design and Programming Challenge(**Top 5%**)

2024: **Third Prize**: Huawei Software Elite Challenge (**Top 64**)

2023: **Third Prize**: International English Vocabulary Challenge for College Students (IEVCCS)

Academic Awards

Fall 2024: Outstanding Graduate(**TOP 1%**)

Fall 2023: Golden Arowana Scholarship(**TOP 1%**)

Fall 2023: Excellent Student Cadre Title of Jinan University.(**TOP 5%**)

Fall 2022: Excellent Student Cadre Title of Jinan University.(**TOP 5%**)

Fall 2022: Outstanding students of Jinan University **First-class** scholarship.(**Top 10%**)

Fall 2021: Outstanding students of Jinan University **Second-class** scholarship.(**Top 20%**)

Internship Experience

Bytedance Co. , Ltd., Shenzhen Algorithm Engineer <i>in the Data-AML</i>	Spring 2025 - Now
Maintaining Forge, a training platform for large SRA models; Leading the design and optimization of OnCallAgent, a multi-modal Agent Assistant with MCP; Providing technical support for KA including Xiaomi, Huawei, Honor, Vivo, and OPPO.	
Hong Kong University of Science and Technology(GZ) Research intern <i>in the CityMind group led by Prof. Yuxuan Liang</i>	Fall 2023 - Fall 2024
Conducted research on spatio-temporal data mining and time series forecasting; Implemented and enhanced graph-based models for urban traffic prediction; Developed novel accessory modules that consistently improved model performance on benchmark datasets; Contributed to conference paper submissions.	
Sun Yat-Sen University Research intern <i>in GEAR (Graph IEARmning) group led by Prof. Liang Chen</i>	Spring 2023
Explored graph learning and deep learning approaches for addressing long-tail and out-of-distribution problems; Reproduced the related GNN model and tried to improve the model structure and graph sampling method; Designed subgraph encoding pre-training and tree-graph transformation architecture to improve graph sampling methods.	
Sesame Coding Education Technology Co., Ltd., Guangzhou Algorithm Engineer	Fall 2021
Created programming contest problems; Generated test data using Cyaron library; Produced Educational resources for algorithm competition training; Contributed to the development and maintenance of an Online Judge platform.	

Earlier Research Experience

For the latest updates, see Github and Google Scholar. ^_^	
ARIMA-LSTM-XGBoost Combined Forecasting Model of Wheat Price <i>Jinan University</i>	Winter 2020-Spring 2023
<ul style="list-style-type: none">o Province-level project finished: College Students' Innovative Entrepreneurial Training Plan Programo Build a multivariate forecast combination model based on the core's three models of ARIMA, LSTM, and XGBoost.	
ViT Model-based Medical Image Assisted Diagnostic System <i>Jinan University</i>	Spring 2023-Spring 2024
<ul style="list-style-type: none">o University-level third prize: "Challenge Cup" National College Student Business Plan Competitiono Contribution: Project manager (first author)o Apply the Vision-Transformer(ViT) model to the medical field to process different types of medical images.	
Intelligent complementary diagnosis of degenerative OA following TCM thinking <i>Jinan University</i>	Spring 2023-Fall 2024
<ul style="list-style-type: none">o School-level project: Leadero The pulse diagnosis and tongue color of Chinese medicine can better reflect the characteristics of some bone and joint diseases, which has great analytical value and potential for exploration.	
Interpretable Multimodal Sentiment Analysis Models for SMARTHOME <i>Hong Kong University of Science and Technology(GZ)</i>	Fall 2023
<ul style="list-style-type: none">o Participated in the RBCC offline held in HKUST(GZ) and achieved outstanding camper.o Feature extraction, feature fusion to train a multimodal sentiment analysis model for processing and predicting sensing data provided by smart home devices and providing proactive care.	

Campus Experience

Class President <i>The 20th Network Engineering Class Committee of Jinan University</i>	2020-2024
Minister of Propaganda Department <i>Jinan University student dormitory building association</i>	2020-2022
Club Membership <i>Jinan University Computer Geek Association</i>	2020-2024
<ul style="list-style-type: none">o Learning the technology of using Unity to create games, currently updating 2 projects; and has released 4 RPG indie games, accumulating certain project management and experience in using game development engine; in the world's largest comprehensive digital distribution platform Steam on behalf of the work "Orphan of the Petal", and has achieved most of the positive results.	
Club Membership <i>The ACM Programming Team of Jinan University</i>	2020-2023
<ul style="list-style-type: none">o Passing the varsity team selection to winning the ACM Programming Contest, awarded 1762 points (max. 1961) in Codeforces, the world's largest algorithmic communication platform. And I was also the first freshman to win a bronze medal in the history of the varsity team and an AK in the varsity competition.	