

# 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.

- 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.
- Vision-Enhanced Time Series Forecasting via Latent Diffusion Models** 1st author  
[TS, Diffusion] Integrates vision capabilities with diffusion models for enhanced time series forecasting.
- 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.
- Fine-grained Urban Heat Island Effect Forecasting** 2nd author  
[KDD25] [ST, GL] Context-aware framework for high-resolution urban heat island prediction.
- Low-rank Adaptation for Spatio-Temporal Forecasting** 1st author  
[ECML25] [ST, TF] Efficient low-rank adaptation techniques for spatio-temporal forecasting models.
- 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.
- 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.
- Kinematics-based Object Articulation with Gaussian Splatting** 2nd author  
[3D, CV] Combines kinematics with Gaussian Splatting for improved articulated object modeling.
- 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.
- [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**

**Spring 2025 - Now**

Algorithm Engineer *in the* Data-AML

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)**

**Fall 2023 - Fall 2024**

Research intern *in the* CityMind group led by Prof. Yuxuan Liang

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**

**Spring 2023**

Research intern *in* GEAR (Graph IEARmning) group led by Prof. Liang Chen

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**

**Fall 2021**

Algorithm Engineer

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**

**Winter 2020-Spring 2023**

*Jinan University*

- o **Province-level project finished:** College Students' Innovative Entrepreneurial Training Plan Program
- o 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**

**Spring 2023-Spring 2024**

*Jinan University*

- o **University-level third prize:** "Challenge Cup" National College Student Business Plan Competition
- o 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**

**Spring 2023-Fall 2024**

*Jinan University*

- o School-level project: Leader
- o 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**

**Fall 2023**

*Hong Kong University of Science and Technology(GZ)*

- 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**

**2020-2024**

*The 20th Network Engineering Class Committee of Jinan University*

**Minister of Propaganda Department**

**2020-2022**

*Jinan University student dormitory building association*

**Club Membership**

**2020-2024**

*Jinan University Computer Geek Association*

- 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**

**2020-2023**

*The ACM Programming Team of Jinan University*

- 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.