

# Yuzhe Yang

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🌐 [tobyayang7.github.io](https://tobyayang7.github.io)  
🔗 [google scholar](#)

## EDUCATION

**The Chinese University of Hong Kong, Shenzhen**  
*B.Eng. in Computer Science and Engineering*

Shenzhen, China  
Sep. 2021 – May 2025

## SELECTED COURSES

Natural Language Processing (*PhD Level*), Large Language Model (*PhD Level*), Parallel Programming, Design and Analysis of Algorithms, Operation Systems, Computer Architecture, Optimization, Data Structures

## PUBLICATIONS

### [1] UCFE: A User-Centric Financial Expertise Benchmark for Large Language Models

Yang, Y., Zhang, Y., Hu, Y., Guo, Y., Gan, R., He, Y., Lei, M., Zhang, X., Wang, H., Xie, Q., Huang, J., Yu, H., Wang, B., *arXiv preprint 2410.14059*. 2024, NAACL Findings 2025. [\[link\]](#)

### [2] FAST-CA: Fusion-based Adaptive Spatial-Temporal Learning with Coupled Attention for airport network delay propagation prediction

Li, C., Qi, X., Yang, Y., Zeng, Z., Zhang, L., Mao, J., *Information Fusion*. 2024. P. 102326

## Preprints

### [3] TwinMarket: A Scalable Behavioral and SocialSimulation for Financial Markets

Yang, Y., Zhang, Y., Wu, M., Zhang, K., Zhang, Y., Yu, H., Hu, Y., Wang, B., *arXiv preprint 2502.01506*. 2025. [\[link\]](#)

### [4] Open-FinLLMs: Open Multimodal Large Language Models for Financial Applications

Xie, Q., Li, D., Xiao, M., Jiang, Z., Xiang, R., Zhang, X., Chen, Z., He, Y., Han, W., Yang, Y., Chen, S., Zhang, Y., Shen, L., Kim, D., Liu, Z., Luo, Z., Yu, Y., Cao, Y., Deng, Z., Yao, Z., Li, H., Feng, D., Dai, Y., Somasundaram, V., Lu, P., Zhao, Y., Long, Y., Xiong, G., Smith, K., Yu, H., Lai, Y., Peng, M., Nie, J., Suchow, J. W., Liu, X.-Y., Wang, B., Lopez-Lira, A., Huang, J., Ananiadou, S., *arXiv preprint 2408.11878*. 2024. [\[link\]](#)

### [5] FedDTPT: Federated Discrete and Transferable Prompt Tuning for Black-Box Large Language Models

Wu, J., Chen, S., Yang, Y., Li, Y., Hou, S., Jing, R., Wang, Z., Chen, W., Tian, Z., *arXiv preprint 2411.00985*. 2024. [\[link\]](#)

## RESEARCH EXPERIENCE

### Large-scale AI Stock Agent

Oct. 2024 – Present

Research Assistant Internship, advised by Prof. [Benyou Wang](#) and [Honghai Yu](#)

CUHK-Shenzhen

- Developed an AI-driven framework where LLM agents simulate large-scale human investor behaviors to validate economic principles and market theories
- Built scalable simulations to evaluate how collective trading behavior impacts broader market outcomes

### Financial Multimodal LLM

May. 2024 – Oct. 2024

Research Assistant Internship, advised by Prof. [Benyou Wang](#) and [Jimin Huang](#)

CUHK-Shenzhen

- Led a task team to the multimodal extension of LLM; this work had submitted to *KDD 2025* [\[4\]](#)
- Developed a multimodal financial benchmark dataset for LLM training and evaluation
- Multimodal instruction finetuning for LLM, include text, image (chart & tabular) and numerics data
- Align multimodal LLM with financial data and real-world scenarios to improve model performance
- Released [FinLLaVA-8B](#): Achieved MMMU (Overall) score of 36.3 and MMMU (Business) score of 30.7

- Constructed a purely text-based multi-turn dialogue benchmark to evaluate the performance of LLMs in real-world financial applications using a user simulator; this work had submitted to *NAACL 2025* [1]; #1 Paper of the day on Hugging face

## Flight Delay Propagation Modeling

Aug. 2023 – Nov. 2023

Undergraduate Research Assistant, advised by Prof. [Jianfeng Mao](#)

CUHK-Shenzhen

- This work had published in *Information Fusion* [2]
- Developed a GNN framework integrating dynamic and adaptive graph learning with coupled attention mechanisms to address complex spatial-temporal dependencies in airport delay propagation
- Implemented periodic feature extraction and multifaceted information fusion modules to enhance performance
- Achieved SOTA performance in airport network delay propagation prediction, with 0.043% reduction in long-term prediction RMSE compared to the previous SOTA model

## Neural ODE Network for Flight Delay Prediction

Feb. 2024 – Present

Undergraduate Research Assistant, advised by Prof. [Jianfeng Mao](#)

CUHK-Shenzhen

- Developed a continuous graph using Neural ODE to enhance the interpretability of the model by incorporating mathematical formulations
- Achieved faster training time and reduced model complexity compared to traditional models
- Built baseline models to validate the performance of Neural ODE in aviation-related tasks
- Addressed challenges such as irregular time sampling and missing data in the dataset

## Epidemic Transmission Prediction in Airport Networks

Aug. 2024 – Nov. 2024

Undergraduate Research Assistant, advised by Prof. [Jianfeng Mao](#)

CUHK-Shenzhen

- This work is currently ongoing [6], to be submitted to *Transportation Research Part B: Methodological*
- Improved the SIS epidemiological model to simulate airport epidemic transmission
- Enhanced the SIS model by converting network transmission parameters into time-varying functions using adaptive graph learning (AdapGL)
- Incorporated heterogeneity, dynamic, and negative recovery states into the SIS model and used adaptive graph learning to predict infection and recovery states
- Compared the improved SIS model with classical ODE methods, LSTM, and ASTGCN models, demonstrating the superior performance of adaptive graph learning (GAT+AdapGL) in predicting extended states at airports
- Conducted simulation experiments, including setting infection rates and transmission processes consistent with real-world scenarios, validating the theoretical guidance's accuracy

## PROJECTS

### Quant-GPT: Money is All You Need [\[link\]](#) | *PyTorch, Transformers, ChromaDB*

Mar. 2024 – Apr. 2024

- Final project for the PhD course [CSC6052](#), a multi-agent system for A-share market investment decisions
- Fine-tuned an LLM, integrating it with sentiment analysis and real-world market data.
- Utilized RAG and multi-agent systems to dynamically access and synthesize relevant financial news, enhancing the model's ability to forecast market trends and returns
- Results achieved: Sharpe Ratio: 0.40, Annualized Return: 7.26%, Max Drawdown: 13.61%

### Travel Insurance Recommendation AI System [\[link\]](#) | *PyTorch, LangChain*

Jan. 2024 – Apr. 2024

- Developed an AI system to predict flight delays and recommend personalized travel insurance, enhancing customer satisfaction
- Fine-tuned the LLM using an insurance corpus to improve domain-specific question-answering capabilities, achieving an 83% accuracy in identifying user intent
- Utilized deep learning and LLM agents for accurate delay predictions and customer sentiment assessment

### Flight Information System [\[link\]](#) | *Python, LangChain, SQL, Flask*

Mar. 2024 – Apr. 2024

- Developed database system to optimize airline management, including passenger bookings and flight logistics
- Delivered a functional database with a user-friendly web interface
- Integrated LLM to enhance database architecture and query generation

## WORK EXPERIENCE

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### China Telecom Beijing Research Institute

Jan. 2024 – Mar. 2024

*Remote Internship*

*Beijing, China*

- Intern at the AI Large Model Research Team
- Analyze a technology's trends, applications, and industry impact

### Shenzhen Branch of China Telecom

Jan. 2024 – Apr. 2024

*Part-time Internship*

*Shenzhen, China*

- Time Series Analysis, Data Visualization
- GIS Data Analysis, Data Mining

## TECHNICAL SKILLS

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**Languages:** Python, C/C++

**Developer Tools:** Git, Docker, VS Code, Linux

**Libraries:** PyTorch, Transformers

## SERVICE

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**Reviewer:** IJCAI 2025, ICLR 2025 FM-Wild Workshop