Yujian WANG

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EDUCATION

Tsinghua University

BS in Economics and Finance | GPA 3.66/4.0 2022.9-2026.6

Minor in Data Science

Selected Courses:

- **Computer Science and Technology**: Fundamentals of Programming (c++ and python), Discrete Mathematics (1) and (2), Data Structures, Software Engineering, Introduction to Artificial Intelligence, Reinforcement Learning, etc.
- **Data Science**: Calculus (1) and (2), Linear Algebra, Probability Theory, Statistical Inference, Ordinary Differential Equations, Applied Stochastic Processes, Linear Regression Analysis, Elementary Probability Theory, etc.
- **Economics and Finance**: Econometrics, Financial Engineering, Digital Operations and Sand-Table, Simulation Decision-Making, etc.

PUBLICATIONS

Li J., Zhang X., Liu M., **Wang Y. (4th/ n)** et al. (2025). Development and Validation of Growth Prediction Models for Multiple Pulmonary Ground-glass Nodules Based on CT Features, Radiomics, and Deep Learning. *Translational Lung Cancer Research*, 2025 14:1929-1944. SCI Q1, IF=3.5.

Wang Y. (2025). A Comprehensive Survey of Heterogeneous Graph Learning. Manuscript submitted for publication. Accepted by the 2025 3rd I*nternational Conference on Data Science, Advanced Algorithms, and Intelligent Computing (DAI 2025)*.

Wang Y. (2025). Automated detection of scoliosis from spinal images. Manuscript in preparation.

RESEARCH EXPERIENCE

[1] Automated detection of scoliosis from spinal images 2025.6-present

Supervisor: Yizhou Wang, Professor of Peking University

- Research focus: computer vision, video understanding, multimodal graph learning, causal discovery in time series.
- Utilized ViTPose as a baseline model to annotate spinal keypoints in a dataset of 50,000 human motion images.
- Integrated deep learning techniques to improve the precision of spinal landmark localization in non-clinical postures.

[2] A Comprehensive Survey of Heterogeneous Graph Learning 2025.4-2025.6

Supervisor: Qingpeng Zhang, Associate Professor, The University of Hong Kong

- Summarized and reproduced algorithms that have improved the accuracy by at least 2% or reduced training time by more than 20% based on the current state-of-the-art research (including HAN, HeTHGNN, RpHGNN, etc.), and conducted a review.
- Conducted an in-depth study on algorithms that divide heterogeneous graphs into subgraphs and capture multi-hop relationships.

[3] Tsinghua University | School of Information Science and Technology 2025.3-2025.6

Supervisor: Dan LI, Professor of Tsinghua University

- Designed and implemented REST + WebSocket services, MySQL schema, JWT authentication, and Redis

message queue; exposed clean APIs consumed by a JavaScript front-end teammate (>5000 lines of code in total).

- Completed friend-request workflow, real-time direct messaging, and group-chat modules.
- Documented endpoints with Swagger and shipped a Docker-Compose deployment script for easy testing.

[4] Tsinghua University | School of Artificial Intelligence 2025.3-2025.5

- Research focus: Generate Novel Continuations
- Designed and coded an AI-agent pipeline (Python + Hugging Face Transformers + LangChain) independently.
- Coordinates retrieval, planning, and RLHF modules to auto-generate plot-consistent continuations.

[5] Tsinghua University | School of Economics and Management 2024.9-2025.1

Supervisor: Feng GAO, Professor of Tsinghua University

- Research focus: Construction of the Risk Model
- Designed a machine-learning equity strategy in Python/PyTorch: Engineered 50 industry and style factors, and trained a multitask neural network to forecast portfolio risk exposures.
- Results: live sandbox and historical back-tests showed the ML-driven portfolio outperforms the broad China market by 10%+ annualized alpha while maintaining lower volatility.

INTERNSHIPS

Quant Research Intern | Zhongtai Securities, Innovative Investments Dept. 2025.6-2025.9

- Studied and reproduced the Neural ODE-based stock selection model proposed in a sell-side quantitative research report.
- Enhanced sample robustness via latent time-series reconstruction using VAE + Neural Jump SDE.
- Designed and implemented a Transformer-based model to learn optimal weights over a set of 90 alpha factors, aiming to maximize the Sharpe ratio of long-short equity portfolios.

Remote Research Intern | Factor Investing Group, CUHK 2024.7-2025.1

- Identified more than 50 factors with an IC value greater than 0.02, and did weekly reports along with GitLab.

Summer Analyst | Industrial Securities - Investment Banking Division 2023.7-2023.9

- Participated in multiple Xiaomi Fund investment decision meetings and compiled meeting minutes, organized the financial statements, and analyzed research reports of several companies for the years 2020-2022.

SELECTED EXTRACURRICULAR ACTIVITIES

Poker | Tsinghua University 2022.11-2023.6

Debate Team Member | Tsinghua University 2022.10-2023.1

Main Speaker | Tsinghua Tongfang Study Tour team 2024.8

HONORS

- 4th place in the 800m race of the Tsinghua University Freshmen Sports Meet 2022
- 2nd place in the Tsinghua University freshmen debate competition 2022

PROFESSIONAL SKILLS

Language Skills: Chinese (native), English (proficient, TOEFL 99)

Computer Skills: C++, C, Python, Java, Stata, Linux, Excel VBA, Office, etc.