

# Minqi Jiang

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 ☆1.6k+ Stars **G** Google Scholar 🛄 203 Citations

School of Information Management and Engineering 100 Wudong Road Yangpu, Shanghai China, 200433 Shanghai University of Finance and Economics

**Quantitative Investment** 

**D** Time-series Forecasting

□ Ensemble Learning

Research	$\Box$ Anomaly Detection
Keywords	□ Automated Machine Learning

□ Natural Language Processing

#### Ph.D. in Management Science and Engineering EDUCATION Shanghai University of Finance and Economics

- School of Information Management and Engineering, SUFE AI Lab • Achievements: Research papers were published in AI/Data Mining top conferences NeurIPS and KDD, and several papers are currently under review by the committees. Served as a reviewer
- Core Courses: Advanced Statistics, Advanced Econometrics, Advanced Operations Research and Optimization Theory, Machine Learning, Deep Learning, Time Series Analysis and Applications, Unstructured Data Processing, Cutting-edge Research in Artificial Intelligence.
- Mentors and Collaborators: SUFE: Prof. Songgiao Han and Prof. Hailiang Huang. I collaborate with Yue Zhao and Xiyang Hu from Carnegie Mellon University (CMU) and Qingsong Wen from DAMO.

# Master of Financial Engineering China Jiliang University

for NeurIPS 2022 and NeurIPS 2023.

Sep. 2017 - Mar. 2020 Hangzhou, Zhejiang, China

Sep. 2013 - June. 2017

Jiaxing, Zhejiang, China

Sep. 2020 - Jun. 2024

Shanghai, China

College of Economy and Management

- GPA: 3.85/4.0
- Achievements: Ranked first in the entrance examination for master's admission, and published multiple SSCI/SCI finance research papers during the master period. Honored with the "National Scholarship for Graduate Students", "First Prize of 15th National Post-Graduate Mathematical Contest in Modeling (Top 1%)", "Special Award of Academic Scholarship" and "JiangNan Scholarship". Invited to present at the 16th Finance Annual Conference.
- Core Courses: Financial Mathematics (Stochastic Process), Financial Risk Management, Financial Derivatives, Financial Data Mining, Financial Economics, Econometrics, Multivariate Statistical Analysis, Game Theory and Information Economics, Financial Engineering and Economic Systems Analysis, Python Language and Information Processing.
- Mentor: Prof. Jiapeng Liu

# **Bachelor of Information and Computing Science**

Jiaxing University

College of Data Science

- GPA: 3.39/4.0
- Achievements: Honored with the "Province-level Outstanding Graduates Award". Ranked first in the National Graduate Entrance Examination.
- Core Courses: Mathematical Analysis (I, II, III), Advanced Algebra (I, II), Probability Theory and Mathematical Statistics (I, II), Ordinary Differential Equations, Discrete Mathematics, Complex Variables, C Programming, Data Structures, Numerical Analysis, Mathematical Modeling.

**G** Scholar

# PUBLICATIONS AI Conference & Finance Journal

9. Mingi Jiang, Songgiao Han, Hailiang Huang

Anomaly Detection with Score Distribution Discrimination

ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2023), CCF-A

- Songqiao Han\*, Xiyang Hu\*, Hailiang Huang\*, <u>Minqi Jiang\*</u>, Yue Zhao\* ADBench: Anomaly Detection Benchmark Advances in Neural Information Processing Systems (NeurIPS 2022), CCF-A (\*equal contribution)
- 7. Minqi Jiang, Jiapeng Liu, Lu Zhang An Extended Regularized Kalman Filter Based on Genetic Algorithm: application to dynamic asset pricing models The Quarterly Review of Economics and Finance, SSCI
- 6. <u>Minqi Jiang</u>, Jiapeng Liu, Lu Zhang, Chunyu Liu An Improved Stacking Framework for Stock Index Prediction by Leveraging Tree-based Ensemble Models and Deep Learning Algorithms *Physica A: Statistical Mechanics and its Applications*, SCI
- 5. Minqi Jiang, Jiapeng Liu, Lu Zhang An Improved Stacking Framework for Predicting Stock Price Index Direction Economic Computation & Economic Cybernetics Studies & Research, SSCI

# Preprints & Under Submission

- 4. Chaoli Zhang\*, Qingsong Wen\*, Yingying Zhang\*, Lanshu Peng, Yiyuan Yang, Chongjiong Fan, <u>Minqi Jiang</u>, Lunting Fan, Liang Sun Benchmarking Multivariate Time Series Anomaly Detection with Large-Scale Real-World Datasets Under submission (\*equal contribution)
- Minqi Jiang\*, Chaochuan Hou\*, Ao Zheng\*, Xiyang Hu\*, Songqiao Han, Hailiang Huang, Xiangnan He, Philip S. Yu, Yue Zhao Weakly Supervised Anomaly Detection: A Survey Under submission (\*equal contribution)
- Minqi Jiang<sup>\*</sup>, Chaochuan Hou<sup>\*</sup>, Ao Zheng<sup>\*</sup>, Songqiao Han, Hailiang Huang, Qingsong Wen, Xiyang Hu, Yue Zhao ADGym: Design Choices for Deep Anomaly Detection Under submission (\*equal contribution)
- Biyang Guo\*, Xin Zhang\*, Ziyuan Wang\*, <u>Minqi Jiang\*</u>, Jinran Nie\*, Yuxuan Ding, Jianwei Yue, Yupeng Wu How Close is ChatGPT to Human Experts? Comparison Corpus, Evaluation, and Detection Under submission (\*equal contribution)

Open-source I am a major contributor to several open-source projects, including:

HIGHLIGHTS

**O** MINQ1824

- ADBench (Anomaly Detection Benchmark, ☆579 Stars). The largest anomaly detection benchmark to date, providing open-source testing code for 30 anomaly detection algorithms on 57 datasets. ADBench is also an off-the-shelf experimental platform for new algorithms, including i) varying degrees of data label supervision, ii) different types of anomalies, and iii) performance in the presence of data contamination or noise.
  - HC3 (Human ChatGPT Comparison Corpus, ☆914 Stars). The first open-source human-ChatGPT comparison corpus, including a vast amount of statistically and linguistically analyzed results, as well as ML/DL-based ChatGPT detectors. The project on Hugging Face has received over 20,000 global visits, with average monthly downloads of the open-source models exceeding 3,000 and dataset downloads exceeding 1,000.
  - WSAD (A Collection of Resources for Weakly-supervised Anomaly Detection, ☆86 Stars). The first repository for weakly-supervised anomaly detection, collecting and summarizing current academic research papers on weakly-supervised anomaly detection into three dimensions: incomplete

	labels, inexact labels, and inaccurate labels, where WSAD provides corresponding definitions, or algorithms, and future directions for each scenario.	core
<b>Q</b> Awards, Grants, and Funding	National Scholarship for Graduate StudentsOct. 2Personal Honorary TitleOct. 2First Prize of 15th National Post-Graduate Mathematical Contest in ModelingDec. 2Special Award of Academic ScholarshipDec. 2JiangNan ScholarshipNov. 2Province-level Outstanding Graduates AwardMay. 2	2019 2019 2018 2017 2017 2017
Work Experience	<ul> <li><b>INNO Asset Management, Quantitative Research Intern</b> Spring 2</li> <li>Multi-factor quantitative models. Development of deep learning time-series models based on all factors for constructing stock portfolios.</li> </ul>	:023 pha
	Keywords: Python, Pytorch, Time-series Forecasting, LSTM/Transformer	
Professional Experience	<ul> <li>Bank of Suzhou, Project Leader Fall 2</li> <li>Abnormal Credit Card Transaction Detection. Exploring time-series anomaly detection model make full use of limited manually labeled data while considering the development of more robalgorithms in the presence of labeling noise.</li> <li>Telecom Anti-fraud. Consider developing unsupervised anomaly detection algorithms in order</li> </ul>	2022 s to oust r to
	identify potential future occurrences of previously unseen telecommunications fraud cases.	
	Keywords: Python, Pytorch, Tensorflow, Time-series Anomaly Detection, LSTM/Transformer	
	<ul> <li>China Merchants Bank, Project Leader Summer 2</li> <li>The major challenge of this project lies in how to effectively train/finetune the LLM models of large amount of noise-labeled data based on business rules, where LLMs should be further deplot on the downstream massive data to effectively extract useful knowledge (entity) such as comp names and addresses. Real-time clustering and knowledge induction process are then conduct based on the extracted entities. The project consists of the following two sub-tasks:</li> <li>Short Text Recognition of Company Names</li> <li>Short Text Recognition of Company Addresses</li> </ul>	2021 on a oyed any cted
	Keywords: Python, Pytorch, NLP, NER, BERT/RoBERTa/Sentence-BERT, Self-training	
	<ul> <li>Guotai Junan Securities, Algorithm Researcher</li> <li>Fall 2</li> <li>Abnormal Stock Transaction Detection. This project integrates semi-supervised anomaly de tion algorithms with time-series Generative Adversarial Networks (GANs) to improve the mod learning ability for limited labeled data. The target is to provide timely alerts for similar anon lous transaction cases and even novel types of anomalies that may occur in the future.</li> </ul>	2020 tec- lel's ma-
	Keywords: Python, Pytorch, Semi-supervised Anomaly Detection, GAN	
	<ul> <li>Flaginfo, Algorithm Researcher</li> <li>Policy Analysis and Forecasting (NER part) with Ping An Technology. Utilizing LLM models effectively extract core policy elements (entities). The major challenge lies in how to effective train/finetune and further extract target entities from structurally diverse and noisy texts.</li> </ul>	2020 s to vely
	Keywords: Python, Pytorch, NLP, NER, BERT-CRF	
Fund Experience	Science and Technology Commission of Shanghai Municipality Research on Intelligent Decision Model of Securities Investment and Operation Managem based on User Portrait, Fund Leader: Prof. Songqiao Han	ıent
	The National Social Science Fund of China Research on Targeted Poverty Alleviation and Poverty Prevention Mechanism based on Ma source Information Fusion Technology, Fund Leader: Prof. Jiapeng Liu	ulti-

### **Zhejiang Provincial Natural Science Foundation of China**

Dynamic Evolution Model of Capital Market based on Policy Expectation and Its Application, Fund Leader: Prof. Jiapeng Liu

### **Zhejiang Provincial Natural Science Foundation of China**

Research on the Mechanism and Countermeasures of Economic Policy Uncertainty Affecting Regional Financial Stability in Zhejiang Province, Fund Leader: Prof. Jiapeng Liu

#### **Zhejiang Provincial Natural Science Foundation of China**

Research on Risk Measurement and Investment Method of Flexible Investment, Fund Leader: Prof. Jiapeng Liu

Teaching	Shanghai University of Finance and Economics	Shanghai, China
Experience	Teaching Assistant	
	Big Data and Its Application to the Economy (Prof. Hailiang Huang)	Fall 2022
	Experimental Design (Prof. Songqiao Han)	Spring 2022
Big Data Processing Technology (Prof. Songqiao Han)		Spring 2022
Relevant	<b>Technical</b> : Python (expert), PyTorch (expert)	

SKILLS Languages: English (fluent, IELTS 7.0), Mandarin (native)