Pinqiao Wang

CONTACT INFORMATION

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Personal Website

RESEARCH INTERESTS

Develop ML/AI methods to understand agent behaviors for designing efficient algorithmic-based systems of LLM and to create reliable agent-based applications.

Specific field: Multi-Agent Systems, Agentic AI, Multi-Modal LLM, AI Application.

EDUCATION

University of Virginia, Charlottesville, VA
Ph.D student in Data Science — May 2030

Columbia University, New York City, NY
M.A. in Statistics with Honor — December 2024

University of North Carolina at Chapel Hill, Chapel Hill, NC
B.S. in Statistics and Analytics, and in Economics with Highest Distinction — May 2023

PREPRINTS

Pinqiao Wang, Sheng Li. *Multi-Agent Debate: A Unified Agentic Framework for Tabular Anomaly Detection*. Under review

Tianlong Wang, **Pinqiao Wang**, Weili Shi, Sheng Li. *ItinBench: Benchmarking Planning Across Multiple Cognitive Dimensions with Large Language Models*. Under review

PEER-REVIEWED ACCEPTED WORK

Pinqiao Wang, Tianyu Zhou*, Yilin Wu*, Hongyang Yang. *FinRobot: AI Agent for Equity Research and Valuation with Large Language Models*. In Proceedings of ACM International Conference on AI in Finance 2024. ACM, New York, NY, USA. [Paper],[Google Scholar]

RESEARCH EXPERIENCE

RISE Lab, School of Data Science, University of Virginia, Charlottesville, VA

PhD Research Assistant — August 2025 – Present
Research Advisor: Quantitative Foundation Associate Prof. Sheng Li

- Research currently focused on Multi-Agentic Framework, Large Language Model Reasoning, and Vision Agentic AI.

AI4F Lab, AI4Finance Foundation, Columbia University, New York City, NY

AI/ML research assistant — October 2023 - December 2025
Department Research Mentor, Adjunct Professor Bruce Yang with the FinRobot, and FinGPT:

- Latest release of FinRobot Pro has been ranked Top50 in GitHub trending.
- Published a first-author paper, accepted as the oral presentation (less than 5%) by ACM ICAIF 2024.
- Developed a multi-layer debate reinforcement learning algorithm in a chain-of-thought prompting setting that can reliably and stably produce full equity research reports after training with industry knowledge.
- Applied RAG to engineer scalable pipelines to reduce hallucinations and conduct inference. Model training for stock forecasting in the Bitcoin market, applied SWT and LoRA in Python to fine-tune FinGPT with an A100 GPU with Llama2 and Baichuan2, reached 70 percent accuracy.

Statistics Department, Columbia University, New York City, NY

research assistant February 2024 - August 2024

Associate Professor Arain Maleki:

- Developed custom neural network models tailored for high-dimensional imaging data, utilizing PyTorch and TensorFlow to enhance computational efficiency and achieve a 7 percent increase in accuracy on benchmark datasets.
- Created and fine-tuned 2 LSTM models for image segmentation and classification, successfully solved the PDE verge cases in image recovering with noise, essential for medical and remote sensing applications.

Center on Global Energy Policy, Columbia University, New York City, NY

student lead research assistant February 2024 - May 2024

Associate Principal Investigator John Cornwell:

- Assisted in designing machine learning algorithms to optimize carbon capture processes, utilizing PyTorch and TensorFlow to model complex chemical interactions and predict optimal operating conditions, achieving a 30 percent increase in efficiency.
- Built and fine-tuned LLM to automate literature reviews and generate research hypotheses in the field of carbon technology, significantly reducing the time required for data analysis and hypothesis generation.

Conference Presentation

Pinqiao, W. 2024. FinRobot: AI Agent for Equity Research and Valuation with Large Language Models. Oral presentation at the *ACM, 5th International Conference of the AI in Finance*, Brooklyn, NY [Slides]

Projects

AI Agents for Teaching and Administrative Systems at SDS
Working with Prof. Prince Afriyie, and Prof. Gianluca Guadagni on developing Agentic systems for the teaching and administrative work at the School of Data Science

Bayesian Probabilistic Modeling with AI [Web], [Github Repo]
Completed at CDSS Data Science Hackathon (sponsored by HRT, Google Cloud), Champion Project

Reinforcement Learning with Domain knowlegde [Code]
The foundation code of the RL system in FinGPT and FinRobot

Honors and Awards

	Honor Graduate Student Award, Department of Statistics, Columbia University	2025
	Best Presentation Award, ACM, International Conference of AI in Finance	2024
	Graduate School of Arts and Sciences Travel Grant, Columbia University	2024
	Best Research Intern Award, Agam Capital Management, LLC.	2024
	MCM/ICM 2024 Honorable Mention award	2024
	Student Representative Award, Columbia University	2023
🏆	All-track Champion (1^{st}/117 in last round), CDSS Data Science Hackathon, NY	2023
	Dean's List and Honor Graduate with Distinction, UNC-Chapel Hill	2021, 2023
	Honor Carolina Member, UNC-Chapel Hill	2019

Working Experience

AI4Finance Foundation, Remote

Research Lead (part-time) January 2024 – Present

Working on Finance LLM development and evaluation as an extension of my current research.

Agam Capital Management, LLC, Teaneck, NJ

AI Research Intern June 2024 – August 2024

Worked with IBM Watson AI Lab, I focus on customizing and fine-tuning large language models. Design the RAG + MoE machine inference pipeline to achieve 85 percent accuracy in automated code translating and Q/A generation. Prototype the latest AI/ML research and localize the method tailored to one's own business needs.

Baidu, Inc, Shenzhen, China

Research Intern May 2023 – August 2023

Collaborated with the NLP lab to enhance Baidu's ERNIE model for legal document summarization. Fine-tuned the model using domain-specific datasets and optimized hyperparameters, achieving a 15% improvement in summarization accuracy and surpassing internal benchmarks.

Academic Service

Conference Reviewer:

International Conference on Machine Learning 2026 (**ICML**)

Association for Computational Linguistics 2025 (**ACL**)

Teaching Experience

School of Data Science, UVA, Charlottesville, VA

Teaching Assistant with Jeffrey Woo August 2025 - December 2025

Grader, Office Hour Holder for 60 students enrolled in *DS5030 Understanding Uncertainty*

STOR Department, UNC-Chapel Hill, Chapel Hill, NC

Teaching Assistant with Yufeng Liu January 2023 - May 2023

Grader, Office Hour Holder for 40 students enrolled in *STOR565 Machine Learning*

Computer Skills

- Python, R, SQL, C-sharp, SAS, Power BI, MATLAB, Microsoft Office, Google Cloud, AWS, GitHub, and WordPress