Tianxu Jiang

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Education

University of Michigan, Master of Science in Data Science — Aug 2023 – Apr 2025

- GPA: 3.79/4.0
- Coursework: Machine Learning, Large Language Models, Information Retrieval

Fudan University, Bachelor of Science in Statistics — Sep 2023 – Jun 2025

- GPA: 3.5/4.0
- Coursework: Regression Analysis, Statistical Software, Categorical Data Analysis

Skills

Languages: Python, C, SQL, R

Frameworks: AWS, Google Cloud, PyTorch, Transformers, Deepspeed, XGBoost, LightGBM

Work Experience

Machine Learning Engineer Intern, Pleasure House – Stanford, CA (Remote) — May 2024 – Oct 2024

- Developed automatic pipelines to optimize personality prompts for AI companions
- Designed keyword extraction and topic analysis modules to to enhance AI companions response quality

Quantative Researcher Intern, QINGAN Investment – Shanghai, China — Feb 2023 – May 2023

- Optimized future data pipelines to enhance data reliability and preprocessing efficiency
- Developed GRU-based models with attention to generate features from existing factors
- Obtained factors from deep learning networks and achieved annual alpha of 18.3% and Sharpe ratio of 3.07

Algorithm Engineer Intern, China Pacific Insurance Company – Shanghai, China — Jun 2021 – Aug 2021

- Developed deep learning facial analysis system for comprehensive attribute detection and estimation
- Engineered HRNet-based pipeline for facial landmark, expression, and pose detection via shared features
- Achieved impressive results on open benchmarks (COFW, WFLW, etc.) and internal datasets

Projects

Multimodal Explanation-Guided Learning — May 2024 - Nov 2024

- Developed Multimodal Explanation-Guided Learning framework to integrate visual and textual explanations, enhancing classification accuracy and model interpretability
- Introduced the Visual Explanation Distribution Consistency loss to address incomplete annotations, leveraging multimodal large language models (MLLMs) for robust explanation generation

Self-Learning and Teacher-Guided Paradigms in Language Model Alignment — Feb 2024 - May 2024

- Developed novel teacher-reward and teacher-guiding frameworks as alternatives to self-reward paradigm for language model alignment
- Implemented the paradigms with small language models and achieved 19% performance improvement on evaluation (AlpacaEval and head-to-head win rate)

LLaVA-Recipe: Visual Instruction Tuning Enhanced Food Recipe VQA — Feb 2024 - May 2024

- Developed LLaVA-based multimodal model for detailed recipe generation and culinary assistance

Publications

[Preprint] Yifei Zhang*, **Tianxu Jiang*** (Equal Contribution), Bo Pan, Jingyu Wang, Guangji Bai, Liang Zhao. *MEGL: Multimodal Explanation-Guided Learning*. Submitted to the Conference on Computer Vision and Pattern Recognition (CVPR) 2025

[Preprint] Guankun Wang, Long Bai, Junyi Wang, Kun Yuan, Zhen Li, **Tianxu Jiang**, Xiting He, Jinlin Wu, Zhen Chen, Zhen Lei, Hongbin Liu, Jiazheng Wang, Fan Zhang, Nicolas Padoy, Nassir Navab, Hongliang Ren. *EndoChat: Grounded Multimodal Large Language Model for Endoscopic Surgery*. Submitted to Nature Communications