Hanyang Jiang

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Atlanta, GA, 30309

Education

Georgia Institute of Technology — Atlanta, USA
PhD in Machine Learning (Advisor: Yao Xie) — *2022 - 2026 (Expected)*

University of Chicago — Chicago, USA
Master in Computational and Applied Mathematics — *2021*

Peking University — Beijing, China
Bachelor in Statistics — *2019*

Publications

- Chen Xu*, Hanyang Jiang* (co-first author), Yao Xie, Conformal prediction for multi-dimensional time-series. ***International Conference on Machine Learning (ICML spotlight, top 3.5%)***, Feb 2024.
- Hanyang Jiang, Yuehaw Khoo and Haizhao Yang, Reinforced Inverse Scattering. ***SIAM Journal on Scientific Computing (SISC)***, Aug 2024.
- Hanyang Jiang, Yao Xie, Feng Qiu, Spatio-temporal conformal prediction for power outage data. ***IEEE International Symposium on Information Theory (ISIT)***, June 2025.
- Hanyang Jiang, Yao Xie, A Graph-Prediction-Based Approach for Debiasing Underreported Data. ***IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)***, Dec 2023.
- Hanyang Jiang, Henry Yuchi, Elizabeth Belding, Ellen Zegura, Yao Xie, Mobile Internet Quality Estimation using Self-Tuning Kernel Regression. ***Data-Centric Machine Learning Research workshop (DMLR) at ICML 2023***, June 2023.

Skills

- **Knowledge**: Trustworthy AI, Reinforcement Learning, Deep Learning, Spatio-temporal Modeling, Large Language Model
- **Programming**: Python, Pytorch, SQL, R, Matlab

Work Experience

Amazon — Bellevue, USA
Applied Scientist Intern — *May 2025 - Aug 2025*

- Designed and implemented a temporal Graph Neural Network (GNN) architecture with online adaptive group conformal prediction for forecasting placement metrics with calibrated uncertainty estimates.
- Optimized model efficiency and restructured data pipeline, achieving a 4x speedup in training and preprocessing.
- Did comprehensive benchmarking and validated model performance in real-world deployment by predicting treatment effects against laboratory results.

Argonne National Laboratory — Chicago, USA
Research Aide Technical — *May 2024 - Aug 2024*

- Developed a robust uncertainty quantification method for predicting statewide power outage numbers during extreme weather events, achieving target coverage with a 20% to 30% improvement over other methods.

Research Experience

Multidimensional Conformal Prediction
- Develop a rapid uncertainty quantification method for multidimensional data, and construct significantly tighter prediction regions in higher dimensions while enjoying coverage guarantees.

Reinforcement Learning in Inverse Scattering
- Developed a reinforcement learning-based adaptive data collection process, significantly enhancing the reconstruction quality in inverse scattering and outperforming traditional practice that relies on expertise.

Mobile Internet Quality Estimation
- Develop a self-adaptive kernel regression model to forecast mobile internet quality across the state, also establish a 90% confidence prediction region for any location.

Graph-Based Debiasing Underreported Data
- Design an optimization algorithm leveraging graph structures to correct underreported data. Apply the algorithm to 911 police data, enabling a more accurate estimation of true crime numbers.