Mingzhou Liu

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Research Interests

- Causal discovery: time-series causal discovery, active causal discovery, conditional independence testing
- Causal learning: robustness, minimax learning, invariance via intervention
- Applications: healthcare (Alzheimer's disease), artificial intelligence

Education

Peking University Sept. 2020 – Now
Ph.D. in Computer Science
Advisor: Prof. Yizhou Wang

Shanghai Jiao Tong University (SJTU) Sept. 2016 – June 2020
B.Eng. with Honor in Electronic Engineering (Top 5%)

Publications

- **Mingzhou Liu**, Xinwei Sun, Yu Qiao, Yizhou Wang. Causal Discovery via Conditional Independence Testing with Proxy Variables. *International Conference on Machine Learning (ICML), 2024.* [pdf]
- **Mingzhou Liu**, Xinwei Sun, Lingjing Hu, Yizhou Wang. Causal Discovery from Subsampled Time Series with Proxy Variables. *Conference on Neural Information Processing Systems (NeurIPS), 2023.* [pdf]
- **Mingzhou Liu**, Xiangyu Zheng, Xinwei Sun, Fang Fang, Yizhou Wang. Which Invariance Should We Transfer? A Causal Minimax Learning Approach. *International Conference on Machine Learning (ICML), 2023.* [pdf]
- **Mingzhou Liu**, Fandong Zhang, Xinwei Sun, Yizhou Yu, Yizhou Wang. Leveraging Contextual Features for Lung Cancer Prediction. *Image Computing and Computer Assisted Intervention (MICCAI), 2021.* [pdf]

Preprints

- **Mingzhou Liu**, Xinwei Sun, Yizhou Wang. Time-series Causal Discovery with False Discovery Control. 2024.
- **Mingzhou Liu**, Ching-Wen Lee, Xinwei Sun, Yizhou Wang. Learning Causal Alignment for Reliable Disease Diagnosis. *Arxiv preprint, 2024.*
- Yuxuan Wang, **Mingzhou Liu**, Xinwei Sun, Wei Wang, Yizhou Wang. Bayesian Intervention Optimization for Causal Discovery. *Arxiv preprint, 2024.*
- Yong Wu, **Mingzhou Liu**, Yanwei Fu, Shouyan Wang, Yizhou Wang, Xinwei Sun. The Blessings of Multiple Treatments and Outcomes in Treatment Effect Estimation. *Arxiv preprint, 2023.*

Skills

Mathematics: Probability, Stochastic Calculus, Graph
Programming: Python, R, Matlab, C++/CSharp
Languages: Chinese, English

Selected Awards

Academic Innovation Award, Peking University
Outstanding Student, CFCS, Peking University
Huawei Scholarship, Zhiyuan Honor Scholarship, SJTU

Academic Services & Teaching

Reviewer for NeurIPS 23/24, ICML 24, ICLR 24/25.
Teaching Assistant, Computer Vision Theory and Methods (Fall 2021)