Jiayun WU

Addr.: 9-316 East Main Building, Tsinghua University, Beijing, China, 100084

Cell: (+86)13681894237 Email: wujy22@mails.tsinghua.edu.cn Website: ic-hub.github.io

RESEARCH INTEREST

Out-of-distribution Generalization, Algorithmic Robustness, Fairness

ACADEMIC EXPERIENCE

9. 2023—12. 2023 School of Computer Science, Carnegie Mellon University

- ◆ **Visiting** student advised by Prof. Steven Wu

9. 2022—Present. Department of Computer Science and Technology, Tsinghua University (THU)

- ◆ **Master** student advised by Prof. Peng Cui

9. 2018—6. 2022 Department of Computer Science and Technology, Tsinghua University (THU)

- ◆ **Bachelor of Engineering**
- ◆ **GPA:** 3.92/4.0; **Ranking: 2nd**/224
- ◆ **Honors/Awards:** Outstanding Graduates of Beijing (2022)
    Outstanding Dissertation Award of Tsinghua (2022)
    Academic Merit Scholarship (2019, 2020 and 2021)

RESEARCH INTERESTS

Out-of-Distribution Generalization: I am working on machine learning algorithms with robustness against distributional shifts, including Distributionally Robust Optimization (DRO) and invariant risk minimization. I'm also interested in connection between algorithmic fairness and OOD generalization.

Bioinformatics: I am working on single-cell genomics for a trustworthy and robust algorithm to assist in genetics research. Currently I'm involved in a project with Beijing Genomics institution (BGI).

PUBLICATIONS

- ◆ **Jiayun Wu**, Jiashuo Liu, Peng Cui, Steven Wu.
    Bridging Multicalibration with Out-of-distribution Generalization Beyond Covariate Shift
    Under Review at ICML 2024.

- ◆ Jiashuo Liu, **Jiayun Wu**, Jie Peng, Xiaoyu Wu, Yang Zheng, Bo Li, Peng Cui.
    Enhancing Distributional Stability among Sub-populations
    AISTATS 2024, International Conference on Artificial Intelligence and Statistics.

- ◆ Bing Yuan, Jiang Zhang, Aobo Lyu, **Jiayun Wu**, Zhipeng Wang, Mingzhe Yang, Kaiwei Liu, Muyun Mou, Peng Cui.
    Emergence and Causality in Complex Systems: A Survey of Causal Emergence and Related Quantitative Studies
    Entropy 2024, 26(2), 108.

- ◆ Jiashuo Liu, **Jiayun Wu**, Renjie Pi, Renzhe Xu, Xingxuan Zhang, Bo Li and Peng Cui.
    Measure the Predictive Heterogeneity
    ICLR 2023, The 11th International Conference on Learning Representations.

- ◆ Jiashuo Liu*, **Jiayun Wu***, Bo Li and Peng Cui.
    Distributionally Robust Optimization with Data Geometry
    NeurIPS 2022, In Neural Information Processing Systems. **Spotlight** presentation.

SELECTED COURSEWORKS & CONTESTS

01.2022	**Convex Optimization,** *Score: A+*
12.2021	**Quantitative Trading Strategy Challenge of Tsinghua,** *Prize: Outstanding Winner (1st place)*
05.2021	**Machine Learning,** *Score: A*
11-12.2020	**Artificial Neural Network,** *Score: A+*

HIGHTLIGHT OF SKILLS

Programming skills: Proficient in Python and C++, Familiar with Java, Verilog, etc.
Machine learning: Proficient in Pytorch, Sklearn, Familiar with Tensorflow, etc.

Technical skills: Familiar with Linux, Docker, Kubernetes, FPGA, SRAM, etc.
Language skills: TOEFL 110. GRE 332.