

Renzhe Xu

Education

- 2019.08 – 2024.06 **Ph.D.**, *Tsinghua University*, Department of Computer Science
(expected) Advisors: Prof. Peng Cui and Prof. Bo Li
- 2015.08 – 2019.07 **B.Eng.**, *Tsinghua University*, Department of Computer Science
GPA: 3.79/4.0. Ranking: Top 15%

Experience

- 2024.01 – 2024.05 **Visiting Researcher**, *Duke University*
(expected) Advisor: Prof. Kamesh Munagala
Study the price discrimination problem.
- 2021.11 – 2023.02 **Research Intern**, *Meituan*
Mentor: Yafeng Zhang
Study the product ranking problem when consumers purchase multiple products. Have a paper published at [NeurIPS 2022](#).
- 2021.06 – 2021.08 **Research Intern**, *Wechat Group, Tencent*
Mentor: Ruobing Xie, Qi Liu
Study the bias problems in recommender systems.

Publications

* indicates equal contributions

Conference Publications

- [CVPR 2024](#) **Rethinking the Evaluation Protocol of Domain Generalization**
Han Yu, Xingxuan Zhang, [Renzhe Xu](#), Jiashuo Liu, Yue He, Peng Cui
- [ICCV 2023](#) **Flatness-Aware Minimization for Domain Generalization**
Xingxuan Zhang, [Renzhe Xu](#), Han Yu, Yancheng Dong, Pengfei Tian, Peng Cui
- [ICML 2023](#) **Competing for Shareable Arms in Multi-Player Multi-Armed Bandits**
[Renzhe Xu](#)*, Haotian Wang*, Xingxuan Zhang, Bo Li, Peng Cui
- [CVPR 2023](#) **Gradient Norm Aware Minimization Seeks First-Order Flatness and Improves Generalization**
Highlights (2.6%)
Xingxuan Zhang*, [Renzhe Xu](#)*, Han Yu, Hao Zou, Peng Cui
- [CVPR 2023](#) **NICO++: Towards Better Benchmarking for Domain Generalization**
Xingxuan Zhang*, Yue He*, [Renzhe Xu](#), Han Yu, Zheyang Shen, Peng Cui
- [ICLR 2023](#) **Measure the Predictive Heterogeneity**
Jiashuo Liu, Jiayun Wu, Renjie Pi, [Renzhe Xu](#), Xingxuan Zhang, Bo Li, Peng Cui
- [CLear 2023](#) **Factual Observation Based Heterogeneity Learning for Counterfactual Prediction**
Hao Zou, Haotian Wang, [Renzhe Xu](#), Bo Li, Jian Pei, Junjian Ye, Peng Cui
- [AAAI 2023](#) **Covariate-Shift Generalization via Random Sample Weighting**
Yue He, Xinwei Shen, [Renzhe Xu](#), Tong Zhang, Yong Jiang, Wenchao Zou, Peng Cui
- [AAAI 2023](#) **Stable Learning via Sparse Variable Independence**
Oral Han Yu, Peng Cui, Yue He, Zheyang Shen, Yong Lin, [Renzhe Xu](#), Xingxuan Zhang

- [NeurIPS 2022](#) **Product Ranking for Revenue Maximization with Multiple Purchases**
Renzhe Xu, Xingxuan Zhang, Bo Li, Yafeng Zhang, Xiaolong Chen, Peng Cui
- [ECCV 2022 Workshop](#) **NICO Challenge: Out-of-Distribution Generalization for Image Recognition Challenges**
Xingxuan Zhang, Yue He, Tan Wang, Jiaxin Qi, Han Yu, Zimu Wang, Jie Peng, [Renzhe Xu](#), Zheyang Shen, Yulei Niu, Hanwang Zhang, Peng Cui
- [ICML 2022](#) **A Theoretical Analysis on Independence-driven Importance Weighting for Covariate-shift Generalization**
[Renzhe Xu](#), Xingxuan Zhang, Zheyang Shen, Tong Zhang, Peng Cui
- [ICML 2022](#) **Model Agnostic Sample Reweighting for Out-of-Distribution Learning**
Xiao Zhou*, Yong Lin*, Renjie Pi*, Weizhong Zhang, [Renzhe Xu](#), Peng Cui, Tong Zhang
- [CVPR 2022](#) **Towards Unsupervised Domain Generalization**
Xingxuan Zhang, Linjun Zhou, [Renzhe Xu](#), Peng Cui, Zheyang Shen, Haoxin Liu
- [WWW 2022](#) **Regulatory Instruments for Fair Personalized Pricing**
[Renzhe Xu](#), Xingxuan Zhang, Peng Cui, Bo Li, Zheyang Shen, Jiazheng Xu
Media: [Scientific American](#), [Montreal AI Ethics Institute](#)
- [KDD 2021](#) **Daring: Differentiable Causal Discovery with Residual Independence**
Yue He, Peng Cui, Zheyang Shen, [Renzhe Xu](#), Furui Liu, Yong Jiang
- [CVPR 2021](#) **Deep Stable Learning for Out-of-distribution Generalization**
Xingxuan Zhang, Peng Cui, [Renzhe Xu](#), Linjun Zhou, Yue He, Zheyang Shen
- [KDD 2020](#) **Algorithmic Decision Making with Conditional Fairness**
[Renzhe Xu](#), Peng Cui, Kun Kuang, Bo Li, Linjun Zhou, Zheyang Shen, Wei Cui
- [KDD 2019](#) **Uncovering the Co-driven Mechanism of Social and Content Links in User Churn Phenomena**
Yunfei Lu, Linyun Yu, Peng Cui, Chengxi Zang, [Renzhe Xu](#), Yihao Liu, Lei Li, Wenwu Zhu

Preprints

- [Preprint 2024](#) **On the Out-Of-Distribution Generalization of Multimodal Large Language Models**
Xingxuan Zhang*, Jiansheng Li*, Wenjing Chu, Junjia Hai, [Renzhe Xu](#), Yuqing Yang, Shikai Guan, Jiazheng Xu, Peng Cui
- [Preprint 2022](#) **Towards Domain Generalization in Object Detection**
Xingxuan Zhang, Zekai Xu, [Renzhe Xu](#), Jiashuo Liu, Peng Cui, Weitao Wan, Chong Sun, Chen Li
- [Preprint 2021](#) **Towards out-of-distribution generalization: A survey**
Jiashuo Liu*, Zheyang Shen*, Yue He, Xingxuan Zhang, [Renzhe Xu](#), Han Yu, Peng Cui

Awards

- 2022, 2023 **Excellent Comprehensive Scholarship for Graduates**
- 2019 **Outstanding Undergraduate of the Department of Computer Science**
- 2018 **Honorable Mention**, The Mathematical Contest in Modeling (MCM)
- 2014 **Golden Prize**, The Asia Pacific Informatics Olympiad (APIO) in China
- 2013 **Bronze Prize**, The National Olympiad in Informatics (NOI) in China

Services

- Top Reviewer** NeurIPS 2022 (10%)
- Conf. Reviewer** ICML (2022-2024), ICLR (2023-2024), NeurIPS (2022-2023), UAI (2022-2024), CVPR (2022-2024), ICCV (2023), ECCV (2022, 2024), KDD (2022-2024), WWW (2024), FAccT (2024), CLeaR (2024), AAI (2022)
- Contributor** IEEE Standards Association 3198 Development Group - Standard for Evaluation Method of Machine Learning Fairness

Teaching

Fall 2021 **Teaching Assistant**, *Big Data Analytics*
Instructed by Prof. Wenwu Zhu and Prof. Peng Cui

Spring 2020, 2021 **Teaching Assistant**, *Big Data Analytics*
Instructed by Prof. Peng Cui