

# JIASHUO LIU

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## EDUCATION

### Tsinghua University

Bachelor of Computer Science and Technology(Top 6%)

Excellent graduate of Tsinghua University, 2020

Excellent graduate of Department of Computer Science and Technology, Tsinghua University, 2020

### Tsinghua University

Phd. Student Advised by Prof. Peng Cui

All major courses scored 4.0/4.0

Sep. 2016 – June 2020

Beijing, China

Sep. 2020 – Present

Beijing, China

## RESEARCH INTERESTS

### Out-of-Distribution (OOD) Generalization Problem

I am working to develop algorithms with stable performances under agnostic distributional shifts, including Distributionally Robust Optimization methods and Invariant Learning methods. And I am now the maintainer of the OOD generalization paper list on page <http://out-of-distribution-generalization.com> (1.5k+ Pageviews).

### Machine Learning and Causal Inference for Biology

with BGI Big Data Center

I am working to incorporate causal inference into machine learning to develop explainable and trustworthy algorithms for analysis of Single-Cell RNA Sequence data on COVID-19 and Alzheimer's Disease.

## PUBLICATIONS

### Conference Papers | Accepted Conference Papers

1. **Jiashuo Liu**, Zheyang Shen, Peng Cui, Linjun Zhou, Kun Kuang, Bo Li, and Yishi Lin. Stable adversarial learning under distributional shifts. In *Thirty-Fifth AAAI Conference on Artificial Intelligence, AAAI 2021*, pages 8662–8670. AAAI Press, 2021
2. **Jiashuo Liu**, Zheyuan Hu, Peng Cui, Bo Li, and Zheyang Shen. Heterogeneous risk minimization. In Marina Meila and Tong Zhang, editors, *Proceedings of the 38th International Conference on Machine Learning, ICML 2021, 18-24 July 2021, Virtual Event*, volume 139 of *Proceedings of Machine Learning Research*, pages 6804–6814. PMLR, 2021
3. Zheyang Shen, Peng Cui, **Jiashuo Liu**, Tong Zhang, Bo Li, and Zhitang Chen. Stable learning via differentiated variable decorrelation. In *KDD '20: The 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Virtual Event, CA, USA, August 23-27, 2020*, pages 2185–2193. ACM, 2020
4. Haoxin Liu, Ziwei Zhang, Peng Cui, Yafeng Zhang, Qiang Cui, **Jiashuo Liu**, and Wenwu Zhu. Signed graph neural network with latent groups. In *KDD '21: The 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Virtual Event, Singapore, August 14-18, 2021*, pages 1066–1075. ACM, 2021
5. **Jiashuo Liu**, \*. \*. \*. \*. \*. \*. \*. (Currently under review in *NeurIPS 2021*, not published yet.)

### Journal Papers | Currently Under Review

1. **Jiashuo Liu**, Zheyang Shen, Peng Cui, Linjun Zhou, Kun Kuang, and Bo Li. Distributionally robust learning with stable adversarial training. *CoRR*, abs/2106.15791, 2021.(Submitted to *IEEE TKDE*)
2. Zheyang Shen\*, **Jiashuo Liu\***, Yue He, Xingxuan Zhang, Renzhe Xu, Han Yu, and Peng Cui. Towards out-of-distribution generalization: A survey. *CoRR*, abs/2108.13624, 2021(\*:Equal Contributions, Submitted to *IEEE TPAMI*)
3. Chongxuan Li, Kun Xu, **Jiashuo Liu**, Jun Zhu, and Bo Zhang. Triple generative adversarial networks. *CoRR*, abs/1912.09784, 2019.(Submitted to *IEEE TPAMI*)

## TEACHING & ACADEMIC SERVICE

- 2019 Fall TA Software Engineering, Instructed by Prof. Xiaoying Bai
- 2020 Fall TA Software Engineering, Instructed by Prof. Dan Pei
- 2021 Fall TA Software Engineering, Instructed by Prof. Jianyong Wang
- Conference Reviewer: AAAI 2021

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, JavaScript, Matlab

**Frameworks:** PyTorch, TensorFlow