

RESEARCH INTEREST

My research focuses on developing principled machine learning algorithms using tools such as weak supervision and adversarial training. I am interested in natural language processing and point process.

EDUCATION

2019 - present	Georgia Institute of Technology Ph.D. in Machine Learning
2015 - 2019	The University of Texas at Austin B.S. in Computer Science (with Highest Honors) B.S. in Mathematics (with Highest Honors)

PUBLICATIONS

- **DiP-GNN: Discriminative Pre-Training of Graph Neural Networks**
Simiao Zuo, Haoming Jiang, Qingyu Yin, Xianfeng Tang, Bing Yin and Tuo Zhao
In submission, 2022
- **Context-Aware Query Rewriting for Improving Users' Search Experience on E-commerce Websites**
Simiao Zuo, Qingyu Yin, Haoming Jiang, Shaohui Xi, Bing Yin, Chao Zhang and Tuo Zhao
In submission, 2022
- **Differentially Private Estimation of Hawkes Process**
Simiao Zuo, Tianyi Liu, Tuo Zhao and Hongyuan Zha
In submission, 2022
- **PLATON: Pruning Large Transformer Models with Upper Confidence Bound of Weight Importance**
Qingru Zhang, **Simiao Zuo**, Chen Liang, Alexander Bukharin, Pengcheng He, Weizhu Chen and Tuo Zhao
International Conference on Machine Learning (ICML), 2022
- **MoEBERT: from BERT to Mixture-of-Experts via Importance-Guided Adaptation**
Simiao Zuo, Qingru Zhang, Chen Liang, Pengcheng He, Tuo Zhao and Weizhu Chen
North American Chapter of the Association for Computational Linguistics (NAACL), 2022
- **Self-Training with Differentiable Teacher**
Simiao Zuo*, Yue Yu*, Chen Liang, Haoming Jiang, Siawpeng Er, Chao Zhang, Tuo Zhao and Hongyuan Zha
Findings of North American Chapter of the Association for Computational Linguistics (NAACL), 2022
- **Adversarially Regularized Policy Learning Guided by Trajectory Optimization**
Zhigen Zhao, **Simiao Zuo**, Tuo Zhao and Ye Zhao
Annual Learning for Dynamics & Control Conference (L4DC), 2022
- **No Parameters Left Behind: Sensitivity Guided Adaptive Learning Rate for Training Large Neural Networks**
Chen Liang, Haoming Jiang, **Simiao Zuo**, Pengcheng He, Xiaodong Liu, Jianfeng Gao, Weizhu Chen

and Tuo Zhao

International Conference on Learning Representations (ICLR), 2022

- **Taming Sparsely Activated Transformer with Stochastic Experts**

Simiao Zuo, Xiaodong Liu, Jian Jiao, Young Jin Kim, Hany Hassan, Ruofei Zhang, Tuo Zhao and Jianfeng Gao

International Conference on Learning Representations (ICLR), 2022

- **ARCH: Efficient Adversarial Regularized Training with Caching**

Simiao Zuo, Chen Liang, Haoming Jiang, Pengcheng He, Xiaodong Liu, Jianfeng Gao, Weizhu Chen and Tuo Zhao

Findings of Empirical Methods in Natural Language Processing (EMNLP), 2021

- **Adversarial Regularization as Stackelberg Game: An Unrolled Optimization Approach**

Simiao Zuo, Chen Liang, Haoming Jiang, Xiaodong Liu, Pengcheng He, Jianfeng Gao, Weizhu Chen and Tuo Zhao

Empirical Methods in Natural Language Processing (EMNLP), 2021

- **Super Tickets in Pre-Trained Language Models: From Model Compression to Improving Generalization**

Chen Liang, **Simiao Zuo**, Minshuo Chen, Haoming Jiang, Xiaodong Liu, Pengcheng He, Tuo Zhao and Weizhu Chen

Association for Computational Linguistics (ACL), 2021

- **Fine-Tuning Pre-trained Language Model with Weak Supervision: A Contrastive-Regularized Self-Training Approach**

Yue Yu*, **Simiao Zuo***, Haoming Jiang, Wendi Ren, Tuo Zhao and Chao Zhang

North American Chapter of the Association for Computational Linguistics (NAACL), 2021

- **A Hypergradient Approach to Robust Regression without Correspondence**

Yujia Xie*, Yixiu Mao*, **Simiao Zuo**, Hongteng Xu, Xiaojie Ye, Tuo Zhao and Hongyuan Zha

International Conference on Learning Representations (ICLR), 2021

- **Transformer Hawkes Process**

Simiao Zuo, Haoming Jiang, Zichong Li, Tuo Zhao and Hongyuan Zha

International Conference on Machine Learning (ICML), 2020

- **Tensor maps for synchronizing heterogeneous shape collections**

Qixing Huang, Zhenxiao Liang, Haoyun Wang, **Simiao Zuo** and Chandrajit Bajaj

ACM Transactions on Graphics (TOG), 2019

PROFESSIONAL EXPERIENCES

2022.5 - 2022.7	Data scientist intern, Microsoft Bing Ads
2022.1 - 2022.4	Applied scientist intern, Amazon Search
2021.5 - 2021.7	Data scientist intern, Microsoft Bing Ads
2020.9 - 2020.12	Applied scientist intern, Amazon Search
2020.6 - 2020.8	Research intern, Microsoft Azure AI

I served as a reviewer for AISTATS, ICLR, ICML, KDD and NeurIPS.

TEACHING EXPERIENCES

Teaching Assistant:

- Basic Statistical Methods (ISyE 3030), Fall 2019/Spring 2020

REFERENCES

- Tuo Zhao** Assistant Professor
H. Milton School of Industrial and Systems Engineering
Georgia Institute of Technology
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- Hongyuan Zha** X.Q. Deng Presidential Chair Professor, Executive Dean
School of Data Science
The Chinese University of Hong Kong, Shenzhen
Email: zhahy@cuhk.edu.cn