

## WORK EXPERIENCES

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2023.02 - present	Data scientist, Microsoft AI
2022.10 - 2023.01	Research intern, Microsoft Research
2022.05 - 2022.07	Data scientist intern, Microsoft Bing Ads
2022.01 - 2022.04	Applied scientist intern, Amazon Search
2021.05 - 2021.07	Data scientist intern, Microsoft Bing Ads
2020.09 - 2020.12	Applied scientist intern, Amazon Search
2020.06 - 2020.08	Research intern, Microsoft Azure AI

## EDUCATION

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2019 - 2023	Georgia Institute of Technology <b>Ph.D. in Machine Learning</b>
2015 - 2019	The University of Texas at Austin <b>B.S. in Computer Science (with Highest Honors)</b> <b>B.S. in Mathematics (with Highest Honors)</b>

## PUBLICATIONS

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- **Towards Consistent Natural-Language Explanations via Explanation-Consistency Finetuning**  
Yanda Chen, Chandan Singh, Xiaodong Liu, **Simiao Zuo**, Bin Yu, He He and Jianfeng Gao  
*In submission, 2024*
- **Efficient Long Sequence Modeling via State Space Augmented Transformer**  
**Simiao Zuo\***, Xiaodong Liu\*, Jian Jiao, Denis Charles, Eren Manavoglu, Tuo Zhao and Jianfeng Gao  
*In submission, 2024*
- **DiP-GNN: Discriminative Pre-Training of Graph Neural Networks**  
**Simiao Zuo**, Haoming Jiang, Qingyu Yin, Xianfeng Tang, Bing Yin and Tuo Zhao  
*In submission, 2024*
- **Differentially Private Estimation of Hawkes Process**  
**Simiao Zuo**, Tianyi Liu, Tuo Zhao and Hongyuan Zha  
*In submission, 2024*
- **Evoke: Evoking Critical Thinking Abilities in LLMs via Reviewer-Author Prompt Editing**  
Xinyu Hu, Pengfei Tang, **Simiao Zuo**, Zihan Wang, Bowen Song, Qiang Lou, Jian Jiao and Denis Charles  
*International Conference on Learning Representations (ICLR), 2024*
- **Robust Multi-Agent Reinforcement Learning via Adversarial Regularization: Theoretical Foundation and Stable Algorithms**  
Alexander Bukharin, Yan Li, Yue Yu, Qingru Zhang, Zhehui Chen, **Simiao Zuo**, Chao Zhang, Songan Zhang and Tuo Zhao  
*Conference on Neural Information Processing (NeurIPS), 2023*
- **Evaluating Adversarial Defense in the Era of Large Language Models**  
Joachim Studnia, **Simiao Zuo**, Xiaodong Liu, Qiang Lou, Jian Jiao and Denis Charles

*Conference on Neural Information Processing, Workshop on Robustness of Few-shot and Zero-shot Learning in Foundation Models (NeurIPS), 2023*

- **DeepTagger: Knowledge Enhanced Named Entity Recognition for Web-Based Ads Queries**  
Simiao Zuo, Pengfei Tang, Xinyu Hu, Qiang Lou, Jian Jiao and Denis Charles  
*Conference on Information and Knowledge Management (CIKM), 2023*
- **SMURF-THP: Score Matching-based Uncertainty quantification for Transformer Hawkes Process**  
Zichong Li, Yanbo Xu, **Simiao Zuo**, Haoming Jiang, Tuo Zhao and Hongyuan Zha  
*International Conference on Machine Learning (ICML), 2023*
- **Machine Learning Force Fields with Data Cost Aware Training**  
Alexander Bukharin, Tianyi Liu, Shengjie Wang, **Simiao Zuo**, Weihao Gao, Wen Yan and Tuo Zhao  
*International Conference on Machine Learning (ICML), 2023*
- **Less is More: Task-guided Layer-wise Distillation for Language Model Compression**  
Chan Liang, **Simiao Zuo**, Qingru Zhang, Pengcheng He, Weizhu Chen and Tuo Zhao  
*International Conference on Machine Learning (ICML), 2023*
- **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  
*Association for Computational Linguistics, Industry Track (ACL), 2023*
- **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

## RESEARCH INTEREST

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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.

## TEACHING EXPERIENCES

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Teaching Assistant:

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

## REFERENCES

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