Yifan Yang

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Education

State University of New York at Buffalo Jan 2023 - Present
Ph.D. in Computer Science and Engineering *Buffalo, New Yrok*

University of Illinois at Urbana-Champaign Aug 2021 - Dec 2022
Master in Statistics *Champaign, Illinois*

Central South University Sep 2016 - Jun 2020
Bachelor in Mathematics *Changsha, China*

Research Interests

I have been working on optimization, machine learning and networked systems, mostly on the theory side. My major research focuses include: bilevel optimization, federated/decentralized learning, adaptive optimization, large-scale stochastic optimization and foundational machine learning algorithms.

Publications

First-author Publications

- Yifan Yang, Hao Ban, Minhui Huang, Shiqian Ma, Kaiyi Ji, *"Tuning-Free Bilevel Optimization: New Algorithms and Convergence Analysis"*. **[Current Under Review]**
- Yifan Yang, Peiyao Xiao, Shiqian Ma, Kaiyi Ji, *" First-Order Federated Bilevel Learning"*. **[Current Under Review]**
- Yifan Yang*, Zhaofeng Si*, Siwei Lyu, Kaiyi Ji, *"First-Order Minimax Bilevel Optimization"*. **[NeurIPS 2024]**
- Yifan Yang, Peiyao Xiao, Kaiyi Ji, *"SimFBO: Towards Simple, Flexible and Communication-efficient Federated Bilevel Learning"*. **[NeurIPS 2023 Spotlight, (3% acceptance rate)]**
- Yifan Yang, Peiyao Xiao, Kaiyi Ji, *"Achieving $\mathcal{O}(\epsilon^{-1.5})$ Complexity in Hessian-free Stochastic Bilevel Optimization"*. **[NeurIPS 2023]**

Collaboration Publications

- Chen Wang, Kaiyi Ji, Junyi Geng, ..., Yifan Yang, Xiao Lin, Zhipeng Zhao, *" Imperative Learning: A Self-supervised Neural-Symbolic Learning Framework for Robot Autonomy"*. **[Current Under Review]**

Professional Services

Invited Talk:

- 2024 INFORMS Optimization Society Conference Houston, TX

Reviewer:

- ICLR 2024, 2025
- NeurIPS 2024
- ATSTATS 2025
- ACML 2024
- SIAM Journal of Optimization
- Journal of Machine Learning Research (JMLR)
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)

Teaching Assistant:

- CSE676: Deep Learning (Spring 2024)
- CSE431/531: Algorithm Analysis and Design (2023 Fall)
- CSE460/560: Data Models and Query Languages (2023 Spring)

Awards

- Travel Grant, Conference on Neural Information Processing Systems (NeurIPS), 2023
- Outstanding Student Award, 2019
- Outstanding Student Leader Award, 2019
- The Third Prize of Academic Year Scholarship, 2019
- The Third Prize of Academic Year Scholarship, 2018
- The First Prize of Academic Year Scholarship, 2017