YIBO JACKY ZHANG

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EDUCATION

Stanford University *present*
PhD Student in Computer Science
Advisor: Sanmi Koyejo
Department of Computer Science

University of Illinois at Urbana-Champaign
M.S. in Computer Science *2022*
Department of Computer Science

University of Science and Technology of China
B.E. in Computer Science *2019*
Department of Computer Science and Technology

RESEARCH INTERESTS

I'm interested in solving fundamental AI problems through theoretical research that leads to real-world solutions. The problems I've worked on include:

Intelligent Fields: A framework for objective-driven dynamical stochastic fields, where decentralized entities interact with local neighbors and co-evolve within a dynamic environment to achieve specific objectives.
Machine Learning: Model alignment, federated learning, adversarial robustness, active learning.
Optimization: Bayesian coresets and combinatorial (particularly submodualr) optimization.
Algorithms: Approximation algorithms and practical heuristics.

SELECTED PUBLICATIONS & PREPRINTS

[1] Yibo Jacky Zhang, Sanmi Koyejo. **A Framework for Objective-Driven Dynamical Stochastic Fields**
Preprint, 2025.

ALL PUBLICATIONS & PREPRINTS

* indicates equal contribution.

[1] Yibo Jacky Zhang, Sanmi Koyejo. **A Framework for Objective-Driven Dynamical Stochastic Fields**
Preprint, 2025.

[2] Xiangwen Wang*, Yibo Jacky Zhang*, Zhoujie Ding, Katherine Tsai, Sanmi Koyejo. **Aligning Compound AI Systems via System-level DPO**
MARW and *WMAC* (Oral) at *AAAI*, 2025

[3] Boxin Wang, Yibo Jacky Zhang, Yuan Cao, Bo Li, H. Brendan McMahan, Sewoong Oh, Zheng Xu, Manzil Zaheer. **Can Public Large Language Models Help Private Cross-device Federated Learning?**
NAACL, 2024.

[4] Enyi Jiang*, Yibo Jacky Zhang*, Oluwasanmi Koyejo. **Principled Federated Domain Adaptation: Gradient Projection and Auto-Weighting**.
International Conference on Learning Representations (ICLR), 2024.

[5] Maohao Shen*, Bowen Jiang*, Jacky Y. Zhang*, Oluwasanmi Koyejo. **Batch Active Learning from the Perspective of Sparse Approximation**.
NeurIPS 2022 Workshop on Human in the Loop Learning, 2022.

[6] Xiaojun Xu*, Jacky Y. Zhang*, Evelyn Ma, Danny Son, Oluwasanmi Koyejo, and Bo Li. **Adversarially Robust Models may not Transfer Better: Sufficient Conditions for Domain Transferability from the View of Regularization**.
International Conference on Machine Learning (ICML), 2022.

[7] Kaizhao Liang*, Jacky Y. Zhang*, Boxin Wang, Zhuolin Yang, Oluwasanmi Koyejo, and Bo Li. **Uncovering the Connections Between Adversarial Transferability and Knowledge Transferability**.
International Conference on Machine Learning (ICML), 2021.

[8] Jacky Y. Zhang, Rajiv Khanna, Anastasios Kyrillidis, and Oluwasanmi Koyejo. **Bayesian Coresets: Revisiting the Nonconvex Optimization Perspective**.
International Conference on Artificial Intelligence and Statistics (AISTATS), 2021. (Oral)

[9] Maohao Shen, Jacky Y. Zhang, Leihao Chen, Weiman Yan, Neel Jani, Brad Sutton, and Oluwasanmi Koyejo. **Labeling Cost-Sensitive Batch Active Learning for Brain Tumor Segmentation**.
International Symposium on Biomedical Imaging (ISBI), 2021.

[10] Xiaoyang Wang, Bo Li, Yibo Zhang, Bhavya Kailkhura, and Klara Nahrstedt. **Robusta: Robust AutoML for Feature Selection via Reinforcement Learning**.
AAAI 2021 Workshop Towards Robust, Secure and Efficient Machine Learning.

[11] Jacky Y. Zhang, Rajiv Khanna, Anastasios Kyrillidis, and Oluwasanmi Koyejo. **Learning Sparse Distributions using Iterative Hard Thresholding**.
Conference on Neural Information Processing Systems (NeurIPS), Vancouver, Canada, 2019.

[12] Yibo Zhang, Chao Qian, and Ke Tang. **Maximizing Monotone DR-submodular Continuous Functions by Derivative-free Optimization**.
Preprint: arXiv 1810.06833, 2018.

[13] Chao Qian, Yibo Zhang, Ke Tang, and Xin Yao. **On Multiset Selection with Size Constraints**.
AAAI Conference on Artificial Intelligence (AAAI), New Orleans, LA, 2018.

SCHOLARSHIP AND AWARDS

Guo Moruo Scholarship *2019*
Highest Graduation Distinction at the University of Science and Technology of China.

Outstanding Student Scholarship Golden Award *2017*

Outstanding Student Scholarship Golden Award *2016*