

ZHANG XU

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I am interested in economics of algorithm, information design, mechanism design.

Currently, my research focuses on two aspects: (1) characterizing the privacy-preserving mechanism under broad privacy constraints; (2) exploring the underlying mechanism of algorithmic collusion.

EDUCATION

PhD Student @ School of Economics, Renmin University of China	Sep. 2022 – Present
- Visiting PhD Student @ Department of Economics, National University of Singapore	Sep. 2025 – Present
- Visiting PhD Student @ School of Economics and Finance, Queen Mary University of London	Oct. 2024 – Jun. 2025
B.S. in Math & B.A. in Econ @ School of Information, Renmin University of China	Sep. 2018 – Jun. 2022

PUBLICATIONS

WORKING PAPERS

Privacy-Constrained Signals , with <u>Wei Zhao</u> . [arXiv]	2025
<i>The characterization of feasible signal structures subject to general privacy constraints.</i>	
Privacy Structure and Blackwell Frontier , with <u>Wei Zhao</u> . [arXiv]	2025
<i>The Blackwell frontier for graph-based privacy structure (including differential privacy) can be linked to semi-chain.</i>	
On Mechanism underlying Algorithmic Collusion , with <u>Wei Zhao</u> . [arXiv]	2024
<i>Using the concept of stochastically stable state, we show that “memoryless” algorithmic collusion is due to forced convergence, while discount factor slows down its convergence.</i>	
Artificial Intelligence, Data and Competition , with Mingsheng Zhang and <u>Wei Zhao</u> . [arXiv]	2024
<i>AIs can collude through market allocation, while different allocation schemes emerge with different market segmentations.</i>	

WORK IN PROCESS

Monitoring Allocation , with Jingmin Huang, Guopeng Li and <u>Wei Zhao</u> .	2023
<i>Based on Winter (2004), we investigate the optimal fully implemented incentive mechanisms in the context of bipartite graph network structures.</i>	

PRESENTATION

2025	36th Stony Brook International Conference on Game Theory, NUS Theory Lunch
2024	7th World Congress of the Game Theory Society (Beijing), PKU-NUS Annual International Conference on Quantitative Finance and Economics (Suzhou)

HONORS AND AWARDS

Academic Excellence Scholarship, Renmin University of China	2022-2024
Honored Graduate, Remin University of China	2022
National First Prize in the China Undergraduate Mathematical Contest in Modeling, China Society for Industrial and Applied Mathematics	2020
Study Excellence Scholarship, Renmin University of China	2019-2021

SKILLS

Language: Chinese (native), English (fluent)

Programming: Python, C++, Stata, Matlab