

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

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| 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

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| Privacy-Constrained Signals , with Wei Zhao . [arXiv] | 2025 |
| <i>The characterization of feasible signal structures subject to general privacy constraints.</i> | |
| Privacy Structure and Blackwell Frontier , with Wei Zhao . [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 Wei Zhao . [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 Wei Zhao . [arXiv] | 2024 |
| <i>AI can collude through market allocation, while different allocation schemes emerge with different market segmentations.</i> | |

WORK IN PROCESS

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

PRESENTATION

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| 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

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| 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

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| Language: Chinese (native), English (fluent) | Programming: Python, C++, Stata, Matlab |
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