Zexin Ye

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Citizenship and Visa Status
China (F-1 visa)

Education
Ph.D. Economics, The Ohio State University, 2026 (expected)
M.A. Economics, Southwestern University of Finance and Economics, 2020
B.A. Economics, Southwestern University of Finance and Economics, 2016

Teaching and Research Fields
Primary fields: Industrial Organization
Secondary fields: Algorithmic Pricing, Applied Game Theory, Experimental Economics

Publications
"Teams versus individuals in pre-play cheap talk communication." With Huanxing Yang and Lan Zhang. *Journal of Behavioral and Experimental Economics*, 2025.

Research Papers
"Algorithmic Collusion under Observed Demand Shocks" **(Job Market Paper #1)**
This paper investigates how the observability of demand shocks influences pricing patterns and market outcomes when firms delegate pricing decisions to Q-learning algorithms. Simulations show that demand observability induces Q-learning agents to adapt prices to demand fluctuations, giving rise to distinctive demand-contingent pricing patterns across the discount factor δ, consistent with Rotemberg and Saloner (1986). When δ is high, they learn procyclical pricing, charging higher prices in higher demand states. In contrast, at low δ, they lower prices during booms and raise them during downturns, exhibiting countercyclical pricing. Moreover, Q-learning agents autonomously learn to sustain supracompetitive profits. I further examine how the information available to algorithms shapes their learned pricing patterns and find that price memory is indispensable for generating countercyclical pricing. These findings suggest that Q-learning algorithms, through pure trial and error and without prior knowledge of the environment, capture the stronger deviation incentives during booms and the discount factor's role in balancing short-term gains against long-term continuation values, thereby reproducing the cyclicality of pricing patterns predicted by collusion theory.

"Strategic Information Disclosure in Algorithmic Pricing" with Chengcheng Wang **(Job Market Paper #2)**
As firms increasingly adopt AI-powered pricing algorithms, a key policy concern is whether information sharing among such algorithms weakens market competition and harms consumers. This paper examines how information disclosure by a third-party intermediary shapes learning outcomes when firms delegate pricing to Q-learning algorithms under stochastic demand. We analyze three disclosure rules: no disclosure, full disclosure, and upper censorship. Upper censorship, which reveals only low-demand states while pooling high-demand ones, delivers higher profits than full disclosure, consistent with theoretical predictions. Yet, contrary to theory, when the discount factor is high, no disclosure generates the greatest profits. These findings suggest that restricting information sharing

does not necessarily curb algorithmic collusion, especially when firms are patient, which provides novel insights into the regulation of AI-mediated markets.

"Can Exclusion Be Free? An Experimental Study of Sequential Contracting in Naked Exclusion" with Huanxing Yang and Lan Zhang, Revise & Resubmit at *International Journal of Industrial Organization*

"Optional Enforcement Backfires: Experimental Evidence on Regulating Externalities" with Jian Huang , Erte Xiao , Sha Yu

Conference and Seminar Presentations

July, 2025	The 36th Stony Brook International Conference on Game Theory
October, 2024	Economic Science Association 2024 North American Meeting
July, 2024	2024 Chinese Economists Society China Annual Conference
October, 2023	Economic Science Association 2023 North American Meeting

Research Experience and Other Employment

Summers 2023, 2024, 2025	The Ohio State University, Research Assistant for Prof. Huanxing Yang

Honors, Scholarships, and Fellowships

2023	The Decision Sciences Collaborative (DSC) Research Funding
2020-2021	University Fellowship, The Ohio State University

Teaching Experience

Spring 2025	Recitation Leader for 8713 Microeconomic Theory IIA
Spring 2024	Recitation Leader for 8713 Microeconomic Theory IIA
2022, 2023	Recitation Leader for Principles of Microeconomics

Skills

Programming: Python, Stata, MATLAB
Computational Tools: Slurm, Parallel Computing
Language: English (Fluent), Mandarin (Native)

References

Huanxing Yang (Chair)
Professor and Chairperson

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