Yuzhi HAO

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Education

The Hong Kong University of Science and Technology — Hongkong SAR
Ph.D. Economics, Business School — 2020 - 2026 Expected

The Hong Kong University of Science and Technology — Hongkong SAR
M.Phil. Economics, Business School — 2018 - 2020

Peking University — Beijing, China
B.A. Major in Economics, Minor in Mathematics — 2014 - 2018

Research

Research Field

Macroeconomics, Optimal Policy, AI, Large Language Model, Agent-based Model, Development

Publication

A Multi-LLM-Agent-Based Framework for Economic and Public Policy Analysis

with Danyang Xie *China Journal of Econometrics, 2025, 5(3): 615-630*

- **Summary**: A Large Language Model empowered agent-based framework for economic policy analysis by leveraging heterogeneity across different Large Language Models as agents with diverse cognitive traits, demonstrating its application in simulating interest-income taxation impacts across educational groups.

Working paper

Macro-Monopoly Dynamics: How Large Firms Shape Aggregate Outcomes

with Danyang Xie

- **Summary**: A Ramsey-style model to quantify how large firms' internalization of aggregate influence generates significant distortions (6-27% output loss) and creates initial-period dependence—a novel time inconsistency source far larger than classical inconsistency.
- Job Martket Paper
- Presentation: Xiamen University EFG 2025

Rewiring Opportunity: How Improved Internet Infrastructure Reduces Intra-City Income Inequality in China

with Yanlin Wan, Xu Zhang, Aoqing Lyu, Masaru Yarime

- **Summary:** Employs staggered difference-in-differences to show that China's Broadband China Strategic Program significantly reduced intra-city income inequality by creating service sector employment opportunities for low-skilled workers, particularly in logistics, with measurable income gains among low- and middle-income households.(Submitted)

Selected Works in Progress

Evaluating Large Language Models as Households: Evidence from China Family Panel Studies

with Danyang Xie

- Evaluates LLMs' ability to replicate household expenditure decisions using a role-playing framework with CFPS data, comparing model predictions against actual survey responses through distributional analysis and household-level accuracy metrics, with implications for calibrating LLM-based agents in macro models.

Work Experiences

Ministry of Commerce of the People's Republic of China — Beijing, China
Pilot Free Trade Zone and Port Department — 2023 - 2024

- Draft policies for multiple Pilot Free Trade Zones
- Support organizing the "10th Anniversary Exhibition of Pilot Free Trade Zones" at the China International Import Expo.

Conference/Seminar Presentations

Annual Meeting of Economic Fluctuation and Growth, Xiamen University, 2025
Frontier Seminar of Public Administration, Tsinghua University, 2025
Scholars Forum Seires, University of Chinese Academy of Sciences, 2025

Awards

2025: Honorable Mention, Asian Development Bank-International Economic Association Innovative Policy Research Award
2018-2023: Postgraduate Scholarship, The Hong Kong University of Science and Technology
2016: Top Grade Scholarship (Rank 1 in Major), Peking University
2016: Leo KoGuan Scholarship, Merit Student, Peking University

Teaching

Department of Economics, HKUST
- TA for Macroeconomic Theory I (PhD-level) by Prof. Danyang Xie
- TA for International Economics (Master-level) by Prof. Jenny Xu
- TA for Monetary Economics (Master-level) by Prof. Tao Zhu
- TA for Mathematics for Business and Economics (Master-level) by Prof. Lingzhi Zhou

Skills

Programming: Python (Deep learning and LLM agent), Matlab, Stata, LaTex
Language: Chinese(Native), English(Fluent)

References

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Thrust of Innovation, Policy, and Entrepreneurship, Society Hub, HKUST (Guangzhou)
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Department of Economics, Hong Kong University of Science and Technology
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