



## Zheyuan Huang

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### Education

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**B.S. in Physics / B.S. in Economics, Tsinghua University** 2018.08-2022.07

- GPA: 3.88; Rank: 8/50
- **Courses Taken:** Advanced Algebra, Advanced Calculus, Stochastic Mathematics, Behavioral Economics, Corporate Finance, Econometrics, Labor Economics, Advanced Microeconomics, Game Theory, Mechanism Design, etc.

**Ph.D. Program in Management Science, Tsinghua University** 2022.08-Present

- **Courses Taken:** Market Design, Decision Theory, Functional Analysis, Causal Inference, etc.

### Research Papers

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**Cooperation in Queues (with Liu Yang and Weixin Shang), Working Paper** 2021.09-Present

- **Main Idea:** Experiments and anecdotal evidence suggest that customers often speed up their service when others are waiting in line. This paper develop insights into this cooperative behavior from the perspective of rational decision makers in a decentralized setting, i.e., without any queue managers.
- **Important Results:** We develop a repeated game model and focus on the “Threshold-Rush” equilibrium. We identify conditions for the equilibria to sustain, and show that the Pareto-dominant equilibrium coincides with the centralized optimum. We further design the optimal community size to maximize customer welfare. We find that a cooperative equilibrium can be inferior to non-cooperative ones when customers have poor patience, as a huge community is required to trigger cooperation and the system will become highly congested.
- Invited paper at POMS-HK 2024, POMS-China 2023

**Information Design and Communication in Cournot Competition (with Xiao Wei, Liu Yang and Peng Sun), Management Science, 1st-round major revision** 2022.03-Present

- **Main Idea:** This study examines information communication problem in Cournot competition involving two firms. Each firm has private information about the uncertain market demand. A mediator facilitates information sharing between the firms. Sharing information improves demand prediction but can also correlate actions and hence intensify competition. The mediator must design a sharing mechanism to maximize expected total profits.
- **Important Results:** We use a linear optimization model to formulate incentive-compatible information-sharing mechanisms. We find that sharing no private information between firms is nearly optimal in most cases. However, under certain conditions, firms partially sharing their information and coordinating their production decisions outperforms sharing no information.
- Invited paper at INFORMS 2023

### Awards

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| • 2023 Tsinghua University Graduate Comprehensive Scholarship  | 2023.10 |
| • 2020 China’s Undergraduate Contest in Mathematical Modeling <i>The First Prize of Beijing Area</i> | 2020.09 |
| • The 11 <sup>th</sup> National College Student Mathematical Competition <i>The First Prize</i>      | 2019.11 |

### Personal

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- **English:** GRE: 324; TOEFL: 100
  - **Coding:** familiar with MATLAB, Mathematica, and Python