Tianchen Song

Economics Ph.D. Candidate seeking for Economist/Data Scientist Positions

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Education

- Ph.D. in Economics (**STEM**), University of Rochester, 2022 (expected)

- B.A. in Mathematical Economics (Honors), Wuhan University, 2016

Computer Skills

- Programming Languages: Stata, Python, R, MATLAB, and LaTeX.

- Scientific Computing: Data Management, Dynamic Programming, Nonlinear Optimization, Monte Carlo.

- Data Science: Huge Datasets (TBs), Causal Inference, Time Series, and Statistical Learning.

Employment

- Research Assistant, University of Rochester, 2018-2020

  - Solved and simulated dynamic trade models using Python/MATLAB/Dynare.
  - Estimated firm-level impulse responses to international policy changes using Time Series Econometrics.
  - Worked on various datasets including Compustat, Orbis, NBER-CES Manufacturing Census, and other surveys .

- Research Assistant, The Chinese University of Hong kong, 2020-Present

  - Data management of Chinese Manufacturing survey and Special Economic Zone government reports.
  - Cooperated on projects employing semi-parametric causal inference model and complicated dynamic programming.

- Teaching Assistant, University of Rochester, 2018-2020

  - Teaching Assistant for undergraduate on statistics, econometrics and macro economics, giving coding recitations on optimizing and troubleshooting their code, and tutoring for course essays.

Working Papers

- "Multinational Expansion, Shareholding Choice, and Local Know-How" (JMP), 2021.

  - Empirical evidence for gradual internationalization and multinational matching using large datasets.
  - Identify mobile and non-mobile knowledge and knowledge accumulation using dynamic structural model.
  - Compare dynamic and static models' responses to ownership restriction and removal of knowledge transfer barriers.

  Tech Key Words: Dynamic Heterogeneous Firm Model, Semi-parametric Causal Inference

- "Dynamics of Firms Geographic Concentration and Productivities", with Dan Lu, 2021.

  - Empirical evidence for city size premium on number of entrants, sales and sales growth rate, and an increasing industrial concentration for China.
  - Dynamic spatial model with agglomeration where identification of agglomeration hinges on the different dynamic growth paths for entrants and incumbent firms.

  Tech Key Words: Dynamic Spatial Equilibrium Model with Agglomeration

- "What Do Alibaba Data Tell Us about Quality Growth in China?", with Mark Bils, Min Fang, Zibin Huang, 2021.

  - Accounting framework for decomposition of observed price changes into inflation, quality growth, and fashion.
  - Apply a new method to deal with frequent product replacements for large online sales datasets from Alibaba Group.

  Tech Key Words: Machine Learning, Separating Inflation, Quality Improvement, and Fashion Cycle

Selected Fellowships & Awards

- Norman M. Kaplan Memorial Prize, University of Rochester, 2018

- Ronald Jones Scholarship, University of Rochester, 2018

- Lionel and Blanche McKenzie Family Scholar, University of Rochester, 2017

- Alibaba *Huoshui* Scholar (Data Access), Alibaba Group, 2018