Chi (Wells) Zhou

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CONTACT INFORMATION

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EDUCATION

Ph.D. in Economics, University of California Irvine, Irvine, CA, USA — 2024 (expected)

- Advisor: Michael Choi
- Thesis Committee: Jiawei Chen and Ying-Ying Lee

M.A. in Economics, University of Wisconsin–Madison, Madison, WI, USA — 2018
B.A. in Mathematics, University of Minnesota Twin Cities, Minneapolis, MN, USA — 2016
B.S. in Economics, University of Minnesota Twin Cities, Minneapolis, MN, USA — 2016

RESEARCH INTERESTS

Industrial Organizations, Information Economics, Econometrics

WORKING PAPERS

1. "Strategic Data Acquisition and Price Competition" (Job Market Paper)
2. "Selling via Informational Intermediary"
3. "Demand Estimation with Image Data"

WORK IN PROGRESS

- "Market Segmentation under Differential Privacy"
- "New Estimation Method for the Binary Choice Panel Data Model with Lagged Independent Variables"

PRESENTATIONS

- Industrial Organization Reading Group, UC Irvine — May 2023
- Industrial Organization Seminar, UC Irvine — October 2023

HONORS AND AWARDS

- Dissertation Completion Fellowship, UC Irvine — 2023
- Summer Research Fellowships, UC Irvine — 2022-2023
- Graduate Dean's Recruitment Fellowship, UC-Irvine — 2018

RESEARCH EXPERIENCE

- Graduate Researcher for Prof. Xioxia Shi, University of Wisconsin-Madison 2017

TEACHING EXPERIENCE

- **Teaching Assistant** 2019-2023
  - Intermediate Economics I Winter 2023
  - Intermediate Economics II Spring 2022
  - Intermediate Economics III Spring 2020, Spring 2023
  - Intermediate Quantitative Economics I Fall 2020
  - Intermediate Quantitative Economics II Winter 2020
  - Intermediate Quantitative Economics III Spring 2021
  - Applied Econometrics I Winter 2021, Winter 2022
  - Behavioral Economics Fall 2021
  - Probability and Statistics in Economics I Fall 2022
  - Probability and Statistics in Social Sciences I Fall 2019

SKILLS

Programming
Python, Matlab, Julia, R, Java

Languages
Mandarin (native), English (fluent)

REFERENCES

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ABSTRACTS OF SELECTED PAPERS

- **Strategic Data Acquisition and Price Competition** (Job Market Paper)
  Leveraging the power of modern data analytics and the increasing access to consumer data, businesses can now infer consumer preferences, enabling them to personal- ize advertising and implement differential pricing strategies. However, the consequences of determining which consumer information to acquire become unclear when firms en- gage in competition. To explore the strategic implications of data acquisition choices on market competition, I present a two-stage duopoly model. In the first stage, firms decide which consumer characteristics they aim to learn, and in the second stage, both firms engage in costly advertising with the gathered information. In contrast to the monopoly benchmark, where the monopolistic firm never acquires partial information, I demonstrate that under competition, equilibria exist where both firms strategically acquire distinct consumer characteristics.

- **Selling via Informational Intermediary**
  This paper studies the optimal information design for an informational intermediary that earns commission fees by retaining sales. The effects of the announced disclosure policy are two-fold. While a more informative policy will be more likely to attract consumers to visit, some amount of concealment generates high revenues. In the presence of such trade-offs, we characterize the optimal disclosure policy. In particular, the optimal policies take the form of binary signals.

- **Demand Estimation with Image Data** Visualization of products might be crucial for consumers making purchasing decisions. One challenge to including visual information about products in demand analysis is due to the high dimensionality of the image data. I propose a two-stage semi-nonparametric estimation strategy to estimate demand in differentiated markets based on aggregated data and image data. In particular, the proposed estimation strategy builds on the standard framework developed by Berry (1994) and Berry, Levinsohn, and Pakes (1995) by adding image data into the model. The first stage of estimation is to transform a demand system to a partial linear form, a technique proposed recently by Lu, Shi, and Tao (2019). In the second stage, a convolutional neural network (CNN) model from machine learning is applied to estimate the "visual utility" function. The estimation is considered under a semi-nonparametric framework and the results from sieve estimation are used to establish the consistency. A simulation study is included to demonstrate the proposed estimation strategy.