# 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	a 2024 (expected)
• Advisor: Michael Choi	
• Thesis Committee: Jiawei Chen and Ying-Ying Lee	
M.A. in Economics, University of Wisconsin–Madison, Madison, WI, B.A. in Mathematics, University of Minnesota Twin Cities, Minneap B.S. in Economics, University of Minnesota Twin Cities, Minneapoli	USA2018olis, MN, USA2016s, MN, USA2016
RESEARCH INTERESTS	
Industrial Organizations, Information Economics, Econometrics	
WORKING PAPERS	
1. "Strategic Data Acquisition and Price Competition" (Job Mark	et 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 Variables"	Model with Lagged Independent
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

## 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

Michael Choi (Chair) Associate Professor Department of Economics University of California Irvine Phone: +1 (949) 824-0641 E-mail: michael.yfchoi@uci.edu

Ying-Ying Lee Associate Professor Department of Economics University of California Irvine Phone: +1 (949) 824-5606 E-mail: yingying.lee@uci.edu Jiawei Chen Associate Professor Department of Economics University of California Irvine Phone: +1 (949) 824-3189 E-mail: jiaweic@uci.edu 2017

### 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 role of an intermediary that could control information disclosure but has no pricing ability. Specifically, we investigate the optimal information design for an intermediary earning commission fees through retained sales. The impact of disclosed information is twofold: while more informative policies may attract consumers, some level of concealment can lead to higher revenues. In light of these trade-offs, we characterize the optimal disclosure policy. Our analysis shows that the optimal policy adopts upper censorship: fully disclosing information below a certain threshold while pooling all valuations exceeding this threshold. Leveraging this optimal signal characterization, we propose a family of three-point mass prior distributions. Within this family, I demonstrate that consumers would be worse-off under an exogenously full information disclosure policy compared to an endogenously determined upper cencorship policy implemented by a strategic intermediary.

• 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.