

# YI CHEN

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## EDUCATION

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**Duke University**  
M.A. in Economics  
GPA: 3.96/4.0

09/2023 - 05/2025 (expected)

**Hong Kong University of Science and Technology**  
B.Sc. in Economics and Finance (First-Class Honors)  
GPA: 3.83/4.3 (Rank: 3/50)

09/2019 - 07/2023

## RESEARCH INTEREST

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**Substantive:** Misinformation, Recommendation Systems, Influencer Marketing

**Methodology:** Causal Inference, Probabilistic Machine Learning, Applied Econometrics

## WORK IN PROGRESS

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### **Supplier Responses to Personalized Recommendations in B2B E-commerce**

*Coauthored with Prof. Yixing Chen (Notre Dame), Prof. Ziwei Cong (Georgetown), and Prof. Liwen Hou (Shanghai Jiaotong University)*

This research explores how suppliers respond to personalized recommendations on a B2B e-commerce platform, focusing on the spillover effect and heterogeneity behind it. Initial findings reveal positive spillover effects, where recommendations motivate suppliers to explore other opportunities on the platform, which also leads to increased success. Niche suppliers demonstrated stronger exploratory behavior than mainstream suppliers.

- Applied matching techniques, including Coarsened Exact Matching (CEM) combined with Propensity Score Matching (PSM) to address endogeneity, and estimate the effect using methods such as Difference-in-Differences and Double Machine Learning.
- Presented the work at the Theory + Practice in Marketing Conference 2024 and drafted sections of the paper, including the context, data, empirical strategy, results, and mechanism.

## RESEARCH ASSISTANTSHIP

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**UNC Kenan-Flagler Business School**  
*Supervisor: Prof. Longxiu Tian*

09/2023-present

- Replicated and extended Pickney's (2023) Bayesian Synthetic Control Method (SCM) in Numpyro to handle multiple outcomes, building on Xu's (2017) generalized SCM with an interactive factor model.
- Replicated the hierarchical dynamic factor model from Ryan and Fan (2024) using Gaussian Processes (GPs) to capture correlated dynamics in consumer sensitivities across product categories.
- Mathematical proved the identification of within-test heterogeneity in customer preferences from between-test variations using Pólya-Gamma data augmentation and conducted extensive simulation studies on hierarchical Bayesian models.
- Developed Bayesian Neural Network (BNN) and logistic models, along with Sparse Pólya-Gamma GPs with Neural Networks, and conducted comprehensive simulation studies to assess how reintroducing missing data improves the accuracy of credit score predictions.

**Duke's Fuqua School of Business**  
*Supervisor: Prof. Tong Guo*

04/2024-present

- Applied LLMs (e.g., GPT models via API) for automated topic classification, political leaning labeling, and controversy scoring for articles and videos.

- Explored and analyzed Synthetic Difference-in-Differences (SDID) computation times for various sample sizes and timeframes using simulations.
- Conducted comprehensive literature reviews on influencer marketing, subcultures, and healthcare in marketing and management research.
- Utilized web scraping tools to collect data from platforms like TikTok and fact-checking websites; processed video data using speech-to-text technology for further analysis.

## HKUST Business School

09/2022-07/2023

*Supervisor: Prof. Jia Liu (HKUST) and Prof. Ziwei Cong (Georgetown)*

- Developed a large-scale web crawler to extract five years of data from over 60 million URLs on a knowledge-sharing platform.
- Applied Natural Language Processing (NLP) techniques, including lexicon-based methods, machine learning models, and LLMs, to assess tone, sentiment, and content structure.
- Conducted data visualization and regression analysis to analyze the impact of algorithm changes on user content creation.

## TEACHING ASSISTANTSHIP

### Duke's Fuqua School of Business

MKT553Q Customer Relationship Management, Prof. Longxiu Tian

Fall 2024

## CONFERENCES

Theory + Practice in Marketing Conference

05/2024

*"Supplier Response to Matchmaking in Business-to-Business E-commerce: Spillover and Heterogeneity"*

AMA Winter Academic Conference<sup>1</sup>

02/2024

## AWARDS AND SCHOLARSHIPS

M.A. Merit Scholar Award

2023, 2024

Duke Economics Master's Scholar Award

2023-2025

Dean's List

2019-2023

Y-Lot Foundation Scholarships (\$10,000 HKD)

2022-2023

University Scholarship Scheme for Continuing Undergraduate Students (\$10,000 HKD)

2021-2022

## CORE COURSEWORK

### Economics:

Econometrics I (PhD), Industrial Organization (PhD), Game Theory with Application to Economics, Intermediate Microeconomics, Intermediate Macroeconomics, Economics of Uncertainty and Information

### Mathematics:

Real Analysis, Partial Differential Equations, Probability, Mathematical Analysis, Linear Algebra, Calculus I & II

### Statistics:

Bayesian Statistical Modelling, Causal Inference

### Computer Science:

Probabilistic Machine Learning, Natural Language Processing

### Business:

Quantitative Marketing Seminar (PhD)

## SKILLS

**Programming** Python, R, Stata, Stan, Java (Basic)

**Languages** Mandarin (Native), English (Proficient)

<sup>1</sup>Attendee without presentation