

# Ziyao Tang

University of Rochester  
Simon Business School  
Rochester, NY 14627

Homepage: [www.ziyao-tang.com](http://www.ziyao-tang.com)  
Email: [ziyao.tang@simon.rochester.edu](mailto:ziyao.tang@simon.rochester.edu)

## Education

Ph.D. in Business Administration, University of Rochester, 2020-Present.

M.S. in Business Administration, University of Rochester, 2022.

M.S. in Marketing Analytics, University of Rochester, 2019.

B.A. in Management, Guangdong University of Foreign Studies, 2018.

## Research Interests

Quantitative Marketing, Empirical IO;

Information Design, Digital Platforms;

Deep Learning, Causal Inference, Structural Modeling.

## Working Papers

1. **Data Valuation in Marketing Collaborations**, with Guang Zeng and Paul B. Ellickson (*Job Market Paper, Under Review, Wharton AI & Analytics for Business Data Grant*)

This paper demonstrates that the value of data can depend on incentive structure. We study a co-branded credit card partnership between a retailer and a bank, focusing on approval decisions. By analyzing treatment effect heterogeneity, we find customers profitable to the bank reduce the retailer's profit, and vice versa, revealing incentive misalignment. Using counterfactual analysis, we show that retail data benefits the bank (+0.72 local dollar per applicant), but harms the retailer (-0.88) because it helps the bank identify customers that are aligned with its objectives but not retailer's. When a participation constraint is added to ensure both parties benefit, joint gains are positive but modest (+0.73). In contrast, when examining a partnership using a linear contract structure, the value of data is over 40 times greater (+32.77). These findings demonstrate that data's value is not intrinsic but shaped by how decisions are made and how gains are allocated between partners.

2. **When Linear IV Estimator Fails: Avoiding Pitfalls in Causal Effect Estimation in Targeted Marketing**, with Guang Zeng and Paul B. Ellickson

Linear estimators may fail to recover causal effects in the presence of treatment effect heterogeneity, introducing bias. While prior literature recommends nonparametric approaches to eliminate this bias, these estimators often suffer from high variance. We show that in targeting applications—where the goal aligns more closely with predictive performance—linear estimators can outperform their nonparametric counterparts by accepting a small amount of bias in exchange for substantial variance reduction. This highlights an important bias-variance tradeoff in causal effect estimation for decision-making contexts.

## Work in Progress

1. **Transparency and Hostility: The Unintended Effects of Geographic Disclosure on Online Identity Attacks**, with Guang Zeng and Huaxia Rui

This paper investigates the causal effect of disclosing users' geographic locations on the prevalence of identity attacks in online discussions. We exploit a natural experiment on Zhihu, a major Chinese question-and-answer platform, where a policy implemented in May 2022 mandated the display of user geographic locations. Using causal inference methods, we estimate how this policy affected comment behavior. We find that location disclosure significantly increases the likelihood of identity attacks in user replies. Although the policy aimed to enhance accountability through transparency, our results show that displaying location information can instead amplify hostility based on regional identity. These findings underscore the unintended consequences of user information design and offer important implications for platform policy and the governance of online discourse.

2. **Targeting as Exploration**, with Guang Zeng and Paul B. Ellickson

Many targeting problems rely on supervised policy learning algorithms. However, in marketing applications, interventions often take time to produce observable outcomes, which limits the ability to update targeting strategies promptly. This paper reframes the targeting problem as a contextual bandit problem. By integrating causal inference techniques with bandit algorithms, we propose a targeting approach that balances exploration and exploitation. Our results demonstrate that incorporating exploration improves efficiency relative to traditional supervised learning methods, particularly in environments with delayed feedback.

## Invited Talks and Conference Presentations

2025 Marketing Science Conference

## Scholarship and Awards

2024 AMA-Sheth Foundation Doctoral Consortium Fellow.

Doctorate Fellowship, Simon Business School, 2020-Present.

## Teaching Experience

*Simon Business School, University of Rochester*

MKT 414: Pricing Policies (MSMA/MSBA/MBA; Lab Instructor, 2022-2023).

MKT 440: Pricing Analytics (MSMA/MSBA; Teaching Assistant, 2022-2024).

GBA 436: Predictive and Causal Analytics(MSBA/MSMA/MBA; Teaching Assistant, 2021).

## Skills

*Software and Programming*

LaTeX, Matlab, Python, PyTorch, R, SQL, Stata

*Language*

Cantonese (native), Mandarin (native), English (professional proficiency).

Last updated: June 24, 2025