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EDUCATION

Ph.D., Economics, Boston University, Boston MA, May 2025 (expected)
　　Dissertation Title: *Essays on Experimentations, Misinformation, and Shill Bidding*
　　Dissertation Committee: Juan Ortner, Albert Ma and Bart Lipman

M.A., Economics, Duke University, Durham, NC, 2019

B.A., International Finance, CUFE, Beijing, China, 2017

FIELDS OF INTEREST

Mechanism Design, Game Theory, Micro Theory

WORKING PAPERS

"Contextual Bandit Mechanism: Optimal Delegation in the Experimentation Cycle," October 2024. Job Market paper.
"Misinformation and Markets for Truth," (with Marshall Van Alstyne), September 2024.

WORK IN PROGRESS

"Dynamic Advice"
"Endogenous Network and Group Design"
"Shill Bidding"

PRESENTATIONS

Chinese Economists Society 2018 North America Conference, Athens, GA, 2018

WORK EXPERIENCE

Research Assistant to Prof. Juan Ortner, 2023-2024

TEACHING EXPERIENCE

Teaching Fellow, Economics of Public Sector (undergraduate), Department of Economics, Boston University, Spring 2022, Spring 2023
Teaching Fellow, Environmental Economics (undergraduate), Department of Economics, Boston University, Spring 2022, Spring 2023
Teaching Fellow, Intermediate Microeconomic Theory (undergraduate), Department of Economics, Boston University, Fall 2023, Spring 2024, Fall 2024
Teaching Assistant, Elementary Mathematical Economics (Master), Department of Economics, Boston University, Fall 2021, Spring 2022

LANGUAGES: English (fluent), Mandarin Chinese (native)
COMPUTER SKILLS: STATA, Mathematica, LaTeX [don't put Microsoft Office!]

CITIZENSHIP/VISA STATUS: China/F1

REFERENCES

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ZIXIAN LIU

Contextual Bandit Mechanism: Optimal Delegation in the Experimentation Cycle (Job Market Paper) *(with Liang Zhong)*

We study a dynamic relationship in which a long-lived principal delegates experimentation to short-lived agents, each living for one period. Therefore, the principal has more incentives to experiment than agents. We model this as a contextual bandit problem, where the experimentation yields success that follows a type-dependent Poisson process — an agent has two types, which affect the success probability of the experimentation. The principal and agents know the success probability with one type of agent but don't know it with the other, which can be either high or low. Players will learn it through experimentation. We focus specifically on stopping-time policies. We show that experimentation tends to follow a cyclical pattern— experiencing phases of interest, abandonment, and revival. Meanwhile, the conflict of interest leads to both over- and under-experimentation.

Misinformation and Markets for Truth
(with Marshall Van Alstyne)

We analyze a misinformation problem involving multiple speakers and listeners. Speakers benefit if listeners read their claims, and listeners benefit when they receive accurate information. Speakers can lie and attract listeners through advertisements with costs. The first welfare theorem does not apply in our setting. We define a new equilibrium concept, stable competitive equilibrium, based on the matching theory and prove that such an equilibrium always exists in the Coasian market, where speakers are required to warrant their claims. Additionally, we compare the Coasian market with the Lemons market and the Pigouvian market, highlighting its advantages. Finally, we apply our findings to examples in advertising and voting.

Shill Bidding

This paper investigates whether shill bidding can increase the seller's expected revenue in a common value button auction. We assume that dropout prices and bidder identities are unobservable. We characterize the symmetric equilibrium when the seller employs a secret reserve price and when there is a positive probability that the seller hires a shill bidder. We demonstrate that shill bidding impacts revenue by altering the number of participants, which disrupts others' expected value of the item. Whether shill bidding or using a secret reserve price is more effective depends on the number of bidders.

Dynamic Advice

This paper studies a dynamic model of credence goods and experience goods. A seller privately observes her ability type and recommends products to consumers. In each period, she sets the prices for two products, and a consumer asks her for advice on which product to buy. Knowing her ability and privately observing which product fits the consumer, the seller makes a recommendation. The consumer faces the adverse selection problem; thus, no perfect Bayesian equilibrium is efficient. We show that there is no separating equilibrium and characterize the pooling equilibria. Applying the intuitive criterion, we find the optimal equilibrium for the seller.

October 2024