

PEIRAN XIAO

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EDUCATION

Ph.D., Economics, Boston University, Boston, MA, May 2025 (expected)
Dissertation Title: *Essays on Information Economics*
Dissertation Committee: Barton Lipman, Juan Ortner, and Krishna Dasaratha

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

B.A., Economics & B.S., Mathematics, Wuhan University, Wuhan, China, 2017

FIELDS OF INTEREST

Microeconomic Theory, Mechanism Design, Information Economics

WORKING PAPERS

“[Incentivizing Agents through Ratings](#),” September 2024. Job Market Paper.
“[Allocating Positional Goods: A Mechanism Design Approach](#),” August 2024.
“[Tournaments with Managerial Discretion](#),” (with Hashim Zaman), April 2024, submitted.

WORK IN PROGRESS

“Endogenous Segregation across Social Media Platforms.”
“Group Design with Endogenous Networks.”

SHORT NOTES

“[A Pontryagin Approach to Delegation Problems](#),” November 2023.

PRESENTATIONS

Stony Brook International Conference on Game Theory, Stony Brook, NY, 2024
ACM Conference on Economics and Computation (Poster Sessions), New Haven, CT, 2024
BC-BU-Brown Theory Workshop, Providence, RI, 2024
Boston University Micro Theory Workshop, Boston, MA, 2022–2024

FELLOWSHIPS AND AWARDS

Dean’s Fellowship, Boston University, 2019–2024
Summer Research Grant, Boston University Center for Innovation in Social Science, 2024
M.A. Merit Scholar, Duke University, Spring 2018, Fall 2018

WORK EXPERIENCE

Research Assistant for Krishna Dasaratha, Boston University, Summer 2024
Research Assistant for Chiara Margaria, Boston University, Spring 2022
Research Assistant for Matthew Masten, Duke University, October 2018–May 2019
Research Assistant for Ofer Eldar, Duke University, January 2018–May 2019

TEACHING EXPERIENCE

Teaching Assistant, Algorithmic Mechanism Design (Ph.D.), Faculty of Computing & Data Sciences, Boston University, Fall 2022, Fall 2023

Teaching Assistant, Department of Economics, Boston University

Game Theory (M.A.), Spring 2021, Fall 2021

Economics of Information, Spring 2021

Market Structure and Economic Performance, Fall 2020

Teaching Assistant, Competitive Strategy and Industrial Organization (M.A.), Department of Economics, Duke University, Spring 2019

DEPARTMENTAL SERVICES

Co-organizer of BC-BU-Brown Theory Workshop, Fall 2023–Fall 2024.

Co-organizer of Micro Theory Reading Group, Boston University, Fall 2021–Spring 2023.

LANGUAGES

English (fluent), Mandarin Chinese (native)

COMPUTER SKILLS: Mathematica, MATLAB, STATA, R, Python, LaTeX

CITIZENSHIP/VISA STATUS: China/F1

REFERENCES

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Professor Krishna Dasaratha

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Incentivizing Agents through Ratings (Job Market Paper)

I study the optimal design of ratings to motivate agent investment in quality. The principal designs a rating scheme that maps the agent's quality to a possibly stochastic score. The agent has private information about his ability, which determines his cost of investment, and chooses the quality level. The market observes the score and offers a wage equal to the agent's expected quality. I reduce the principal's problem to the design of an incentive-compatible direct mechanism subject to a feasibility constraint that the interim wage function is a mean-preserving spread of the quality function in the quantile space. When restricted to deterministic ratings, I provide necessary and sufficient conditions for the optimality of simple pass/fail tests and lower censorship. In particular, when the principal aims to maximize expected quality, pass/fail tests (lower censorship) are optimal if the ability distribution has an increasing (unimodal) density. The results generalize existing results in optimal delegation with voluntary participation, as pass/fail tests (lower censorship) correspond to take-it-or-leave-it offers (threshold delegation). Additionally, I provide sufficient conditions for pass/fail tests and lower censorship to remain optimal without restriction to deterministic ratings. Pass/fail tests remain optimal in quality maximization if the ability density is increasing.

Allocating Positional Goods: A Mechanism Design Approach

Consumers of positional goods care about their relative positions in the consumption of the goods, so allocating an item to one buyer has externalities on others. Using a mechanism design approach, I characterize the externalities by a feasibility condition. I find the revenue-maximizing mechanism excludes some low types and fully separates the rest if and only if the buyer's type distribution is regular. The seller can guarantee at least half the maximal revenue by offering one level of positional goods, and the approximation can be arbitrarily close if the buyer's type distribution is sufficiently concave. Moreover, if the distribution has an increasing (decreasing) failure rate, total pooling (full separation) without exclusion maximizes the consumer surplus, and the consumer surplus is decreasing (increasing) in the number of positional good levels. Applications include educational arms races, priority services, and luxury goods.

Tournaments with Managerial Discretion (*with Hashim Zaman*)

We study the optimal design of a two-player tournament in which one player (the manager) has discretion over hiring the other. The manager determines the new hire's ability and competes with him in a Lazer-Rosen-style tournament, in which the one with higher output wins a fraction of the total output. The principal determines the payout ratio and the head start (or handicap) to the manager—an advantage (or disadvantage) when comparing output. We find the head start has three effects on the output: (i) encouragement effect on the manager, (ii) discouragement effect on the new hire, and (iii) hiring effect through the increased ability of the new hire. The hiring effect dominates the discouragement effect until the best candidate is hired; once the best is hired, any further head start leads the discouragement effect to dominate the encouragement effect. Therefore, the optimal contract offers just enough head start to induce the manager to hire the best candidate. However, in a two-period model where the first-period winner is retained for the future, the principal with succession concerns may allow hiring sabotage to prevail in equilibrium but will ensure the new hire has a higher ability than the manager.