# Mingzi Niu (she/her/hers)

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**RESEARCH FIELDS**   Mechanism Design, Information Theory, Behavioral Economics

**EMPLOYMENT**

Assistance Professor, Department of Decisions, Operations and Technology, Business School
Chinese University of Hong Kong                                   *(Expected)* August 2025
Postdoc, The Federmann Center for the Study of Rationality & Bussiness School
Hebrew University of Jerusalem                                                     2024 – 2025

**EDUCATION**

Ph.D. Economics, Rice University                                                        May 2024
   Dissertation Title: Essays on Information Economics and Behavioral Economics
   Committee: Mallesh Pai, Hülya Eraslan, Nina Bobkova, Rakesh Vohra, Kerry Back
M.A. Economics, Duke University                                                      May 2018
B.A. Finance and Banking, Peking University                                       July 2016
B.S. Mathematics and Statistics, Peking University                               July 2016

**HONORS AND SCHOLARSHIPS**

The Azrieli Fellowship [*Awarded to Three Postdoc in Social Science in Israel*]    2024 – 2025
Fellowship, Hebrew University of Jerusalem                                         2024 – 2025
The Jennifer and Purvez Captain Award, Rice University [*Best Economics Dissertation*]    2024
The George R Zodrow Award, Rice University [*Best Performance in a Workshop*]    2021 – 2023
The Timothy and Katharine Gunning Award, Rice University [*Best Third-Year Paper*]    2022
The Rica and Tony Ligeralde Fellowship Award [*Ranked First in Qualifying Exams*]    2020
The Maria Esther and Carlos Linares Award, Rice University [*Best Performance in Courses*]    2019
Fellowship, Rice University                                                        2018 – 2024
The M.A. Merit Scholar Award, Duke University                                         2017
The Award for Community or Public Service, Peking University                          2015
The Learning Award of Excellence, Peking University                                   2013
The May 4th Scholarship, Peking University                                            2013

**PUBLICATIONS**

Best vs. All: Equity and Accuracy of Standardized Test Score Reporting (with Aaron Roth, Rakesh Vohra, and Sampath Kannan), *FAccT'22: 2022 ACM Conference on Fairness, Accountability, and Transparency*, 574–586

ABSTRACT: We study a game theoretic model of standardized testing for college admissions. Students take standardized exams to signal their ability type. The students come from two groups, which differ in their access to resources: the highly-resourced group can at their option take the exam multiple times, whereas the other group can only take the exam once. We study two score reporting policies: the first policy (known as "super-scoring") allows students to report the *max* of their scores; the other policy requires that all scores be reported. We find that requiring that all scores generates superior outcomes in accuracy and equity across groups. This is the case even though the highly-resourced students can either report a more accurate signal of their type or pool with the other group under this policy. This represents an unusual situation where the goals of accuracy and equity are in alignment, and do not need to be traded off against one another.

**WORKING PAPERS**   Procrastination and Commitment

ABSTRACT: I propose a tractable model of procrastination. A present-biased agent has a task to complete by a fixed deadline. I characterize the agent's effort over time and study the interplay between present bias and task features. The analysis reveals that present bias and adverse task features reinforce each other in affecting the agent's welfare. A natural remedy to procrastination on a long-term task is committing to a series of short-term goals. I show that short-term goals weakly impair a present-biased agent's welfare. This provides a cautionary counterpoint to the literature on time inconsistency, where commitment can strictly enhance welfare for present-biased agents.

### Motivated Misspecification

ABSTRACT: I propose a model of manipulation in a principal-agent framework. Departing from the literature on misspecified learning which generally takes model misspecification as exogenously given, I investigate how the form of misspecification is shaped to favor a principal. In the model, a principal benefits from a project whose expected output depends on its quality, the agent's ability and effort. The agent learns the project quality from the principal and updates belief about her own ability upon output observations. Overselling the project stimulates immediate effort but it distorts the agent's learning of her own ability, which potentially frustrates effort in the long run. I provide sufficient conditions on the output function under which (1) manipulation has no long-run effect, (2) overselling stimulates long-run effort, or (3) underselling stimulates long-run effort. I identify a central mechanism of manipulation: the principal downplays contributing forces beyond the agent's control, thereby making the agent perceive a higher agency over the project.

### Signaling Design (with Matteo Camboni, Mallesh Pai, and Rakesh Vohra)

ABSTRACT: We revisit the classic job-market signaling model of Spence (1973). In our model, schools are profit seeking and simultaneously commit to a signaling policy, comprising of a fee to attend the school, and a signal structure that determines what signal is released to the job-market as a function of the candidate's effort. We find that a monopoly school always captures the entire social surplus. In contrast, competition among schools leads to (1) a shift in the social surplus from schools to job candidates; and (2) efficiency loss induced by a higher effort to separate abilities. Our findings temper the prevailing argument that competition should be promoted to enhance social efficiency. To further understand the nature of inefficiency, we consider two distinct purposes of signaling: *sorting* — firms want to hire all ability types but at different wages; and *screening* — firms only want to hire high-type candidates. We show that if the social value of screening is not captured in wages, then competition may be more efficient than monopoly.

### Multilateral War of Attrition with Majority Rule (with Hülya Eraslan, and Kirill S. Evdokimov)

ABSTRACT: We analyze a multilateral war of attrition game with majority rule in continuous time. A chair and two competing players decide how to split one unit of surplus. Players have exogenously given demands that are incompatible. At each instance, the players simultaneously choose whether to concede or continue. The chair can concede to either of the two competing players, but the competing players can concede only to the chair. An agreement is reached when at least one player concedes. We characterize the equilibria of this game and establish the necessary and sufficient conditions under which equilibria with delay exist. In contrast to the bilateral case, delay equilibria are less likely and must involve an asymmetry: they exist only when the demands of the competing players are identical and sufficiently large, and only the chair can concede with a strictly positive probability at the start of the game. This has the surprising implication that the chair may be worse off when bargaining with two players under majority rule than with one who has veto power.

WORKING IN PROGRESS

Mortgage Refinancing under Time Inconsistency (with Yunbo Liu)
Screening with Delegated Learning
Gaming in Zero-Knowledge Proof System

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| TEACHING EXPERIENCE | Teaching Assistant: Microeconomics I & II [*G*], Rice University | 2019 - 2024 |
| | Teaching Assistant: Microeconomics [*G*], Duke University | 2017 |
| | Academic Tutor: Intermediate Microeconomics [*UG*], Duke Athletics | 2017 |

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| RESEARCH EXPERIENCE | Research Assistant for Prof. M. Pai and Prof. R. Vohra | 2020 – 2023 |
| | *Foundations of Fair Data Analysis*   [NSF Grant CCF-1763349] | |
| | Research Assistant for Prof. W. Darity | Fall 2017 |
| | *National Rural Employment Guarantee Scheme*   [Samuel Dubois Cook Center on Social Equity] | |
| | Undergraduate Dissertation | Spring 2016 |
| | *An Investigation into Peasants' Life in Modern China* | |
| | Research Assistant for Prof. X. Zhang | Fall 2014 |
| | *E-commerce Practices of the Luggage Industry in Baigou*   [National School of Development] | |

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| PROFESSIONAL EXPERIENCE | Intern: Economic Research Group in Blockchain, CasperLabs LLC, San Diego | 2021 – 2022 |
| | Intern: National Bureau of Statistics of the People's Republic of China, Beijing | Fall 2015 |
| | Intern: Publicity Department, Bank of China International, Beijing | Winter 2015 |

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| SEMINARS AND PRESENTATIONS | 2024 | North America Summer Meeting [Vanderbilt], Midwest Theory Conference [Rochester], Southern Economic Annual Meeting [Washington, DC], European Winter Meeting [Palma de Majorca, Spain] |
| | | Tsinghua University; Chinese University of Hong Kong – Shenzhen; Kyoto University – The Institute of Economic Research; Southern Methodist University; University of Bristol; University of Warwick; University of Bonn; Chinese University of Hong Kong; Tel Aviv University |
| | 2023 | North America Summer Meeting [UCLA]; Stony Brook International Conference on Game Theory; Asia Meeting of the Econometric Society [Tsinghua University]; Texas Economic Theory Camp [Texas A&M]; Midwest International Economics Conference [Georgia Tech]; European Winter Meeting [Manchester] |
| | 2022 | Midwest International Economics Conference [Purdue]; North America Summer Meeting [Miami]; ACM FAccT Conference [Seoul]; Stony Brook International Conference on Game Theory; Asian School in Economic Theory by the Econometric Society [Singapore]; Asia Meeting of the Econometric Society [Tokyo]; Economics Graduate Student Conference [WUSTL]; Texas Economic Theory Camp [Rice] |
| | 2021 | Doctoral Student Workshop on Economics of Artificial Intelligence [NBER]; Annual Young Researchers Workshop [Cornell]; Southern Economic Annual Meeting [Houston] |

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| REFEREE SERVICES | *Games and Economic Behavior, Journal of Mathematical Economics, International Economic Review, International Journal of Game Theory, Journal of Industrial Economics, Review of Economic Design, Social Choice and Welfare* |