

# Mo Liu

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## Education

**Sun Yat-Sen University, Lingnan College, Bachelor of Economics** Sept. 2018 - Jun. 2022

- Overall GPA: 3.8/4.0

**Duke University, Department of Economics, M.A. in Economics** Aug. 2024 - now

- Current GPA: 3.78/4.0
- Coursework: Adv. Microeconomic Analysis, Economics of Education, Real Analysis, Topology

## Research Experience

**College-Major Choice in the Gaokao Mechanism** Dec. 2024

**Adv. Microeconomic Analysis Course Project, Instructor: Prof. Charles Becker,** cbecker@econ.duke.edu

- Formulated a three-sided matching model to capture the simultaneous decision process of students over both colleges and majors in the Chinese Gaokao system;
- Demonstrated that a two-phase deferred acceptance algorithm could yield stable outcomes under separable preferences, and characterized conditions under which stability fails due to intra-group adjustments;
- Constructed theoretical examples showing how restricted proposals and intra-group reassignment introduce instability and reduce strategy-proofness, offering potential directions for mechanism design improvements.

**Measuring Teacher Effect Using CEPS Data** Mar. 2025

**Economics of Education Course Project, Instructor: Prof. Atila Abdulkadiroglu,** atila.abdulkadiroglu@duke.edu

- Utilized the China Education Panel Survey (CEPS) to estimate teacher value-added effects on students' academic performance;
- Applied fixed-effects panel models to address endogeneity from non-random teacher assignment, and found that teacher quality differences account for 0.12–0.13 standard deviations in student test scores, consistent with findings on teacher value-added;
- Explored heterogeneity across tracking vs. non-tracking schools, suggesting that teacher assignment policies significantly mediate observed teacher effects.

**An Analysis of Shenzhen Car Plates Allocation Mechanism and Price Forecasting** Dec. 2021 – Apr. 2022

**Undergraduate thesis, Supervisor: Prof. Haifeng Nie** niehf@mail.sysu.edu.cn

- Established a Game Theory model for allocation mechanisms based on private value, derived a Bayesian Nash Equilibrium of the strategies for lottery participants and bidders, and conducted comparative static analysis to investigate how changes in external variables affect equilibrium;
- Evaluated equality and efficiency in allocation mechanisms, employing the Gini Coefficient to measure the probability in obtaining a car plate and social surplus to measure efficiency;
- Employed econometric (MLR, VAR, ARIMA) and machine learning (Random Forest) methods to model and forecast the minimum auction price, proving mutual Granger Causality between price and number of bidders.

## Internship Experience

**CITIC Securities, Analyst Intern, Investment Banking Division** May. 2022 – Jul. 2022

- Accessed the corporate accounts for verification of significant financial transactions, identified unclear transactions, and strengthened compliance checks for both legal entities and individuals;
- Identified the company's core competitiveness and explored decisive factors influencing a company's IPO, considering ownership structures (state-owned, private, foreign);
- Applied Wind Terminal to collect data, supported regional research report formulation, and verified economic data for comprehensive analysis.

**Guangdong Statistics Bureau, Analyst Intern, Trade and Foreign Economics Branch** Jul. 2021 - Aug. 2021

- Conducted research on customs raw data and established a thorough understanding of the articulation between different statistical reports;
- Built a semi-automated tabulation system for customs data processing and standard form generation;
- Completed the July 2021 statistical newsletter, describing import-export, foreign trade, and economic conditions, highlighting trends and providing analytical insights.

## **Computer skills**

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**Languages:** Python, Stata, LaTeX, R, MATLAB