

Junyu Zhang

Ph.D. in Economics

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TECHNICAL SKILLS

Programming & Tools: Python (Pandas, NumPy, Scikit-learn), SQL, R, MATLAB, Stata, Excel, Fortran, AWS(S3, SageMaker), Git, LaTeX.
Econometrics Expertise: Causal inference (DID, IV, PSM, DML, event study, synthetic control), time series forecasting, prediction, experimentation, Bayesian updating, structural modeling (pricing, discrete choice model, optimization, Monte Carlo simulation), machine learning.
Data Management: Large-scale data processing, data cleaning, and visualization, parallel computing, cluster environments.
Languages: English (Fluent), Mandarin (Native), French (Beginner).

WORK EXPERIENCE

Amazon | *Economist Intern* June 2025 – September 2025

- Queried and merged large-scale datasets from Andes tables using SQL, and developed scalable L2-regularized logistic models with high-dimensional fixed effects on AWS SageMaker to predict vendor acceptance probability using millions of observations.
- Built a structural pricing model integrating estimated acceptance rates and cross-product substitution effects (from own-price elasticity inversion) to optimize category-level profitability. Counterfactual simulations show the model increases deal OPS by 13.8%.
- Designed and analyzed pricing experiments in collaboration with vendor managers, translating structural model insights into business-facing strategy recommendations and technical documentation for senior, cross-functional stakeholders.

Economics Department at Stony Brook University | *Instructor and Teaching Assistant* September 2019 – Present

- Instructed over 70 students per semester in Econometrics, Labor Economics, and Corporate Finance, simplifying complex theories such as OLS, panel data models, causal inference, NPV, IRR, CAPM, and DCF through effective presentations and collaborative learning.
- Assisted in Ph.D.-level courses, including Mathematical Statistics and Econometrics, supporting advanced methods such as maximum likelihood estimation, IV, and discrete choice models, demand estimation and assisting with coding in Python, R, and Stata.

Academy of Development of Wuhan University | *Research Assistant* October 2016 – June 2019

- Designed innovative data solutions using SAS and MATLAB, creating actionable insights from extensive datasets to guide regional innovation strategies. Drafted grant proposals, government reports, and contributed to academic publications in peer-reviewed journals.
- Collaborated on projects for the National Development and Reform Commission (NDRC), employing advanced analytical models (e.g., PCA, SE-DEA) to evaluate development efficiency.

RESEARCH PROJECTS

Financial Burden and College Human Capital Investment September 2022 – Present

- Built and estimated a dynamic model of college financing and major choice decisions to evaluate how tuition and loan forgiveness policies affect educational investment and long-term earnings outcomes, using simulation-based estimation and large-scale longitudinal data.
- Integrated NLSY97 and IPEDS data to simulate tuition costs and assess post-graduation employment outcomes, highlighting wage heterogeneity across majors.
- Presented at the Chinese Economists Society (CES) North America Annual Conference.

School Violence, Mental Health, and Academic Outcomes February 2024 – January 2025

- Estimated the causal effect of bullying on academic performance via its impact on mental health, using a structural ensemble model combining Probit and ordered Probit in Stata with NSCH data, uncovering distinct effects between immigrant and native-born children.
- Presented at the 2025 ASSA Annual Meeting and the PEA Conference 2024.

Spousal Influence on Smoking Behavior April 2023 – May 2024

- Estimated a simultaneous equation model with censored and instrumental variables in Python using PSID data, identifying strong spousal effects on smoking behavior and gender-specific patterns linked to physical and mental health factors.
- Presented at the Western Economic Association International (WEAI) 2024 and the ASHEcon 2024 Annual Conference.

Marriage, Gender, Race, Intergenerational Mobility May 2020 – April 2021

- Developed improved household income adjustment methods and applied log-log and rank-rank models to evaluate marriage's moderating effect on income mobility across gender and racial groups.

Regional Innovation Ecosystem Health Assessment September 2018 – August 2021

- Used principal components analytic method to construct a new evaluation index system evaluating the innovation ecosystem.
- Produced a government report and an academic paper, published in *Innovation and Development Policy*.

EDUCATION

Stony Brook University Stony Brook, New York

Ph.D. in Economics (Advisors: Steven Stern, Mark Montgomery, Yiyi Zhou)

Expected May 2026

M.A. in Economics

May 2022

Wuhan University

Wuhan, Hubei

B.A. in Economics

April 2019

AWARDS & CERTIFICATES

Graduate Fellowship Award; Funding for Conference Presentations | *Stony Brook University*

CFA (Level I); Online Teaching Certificate