Junyu Zhang

Ph.D. in Economics

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TECHNICAL SKILLS

Programming & Tools: Python (Pandas, Numpy, SymPy, Matplotlib, Plotly), SQL, R, MATLAB, Stata, Excel, Fortran, AWS, LaTeX.
Econometrics Expertise: Causal inference (DID, IV, PSM, DML, event study, synthetic control), time series forecasting, survival analysis, Bayesian updating, structural modeling (pricing, discrete choice model, gradient-based optimization, Monte Carlo simulation), machine learning.
Data Management: Large-scale data processing, data cleaning, and visualization.
Languages: English (Fluent), Mandarin (Native), French (Beginner).

WORK EXPERIENCE

Amazon | *Economist Internship (inclined)*   *June 2025 – September 2025*
- Queried and merged large-scale datasets from Andes tables using SQL, and developed an L2-regularized logistic model with fixed effects to predict vendor acceptance probability for promotional pricing, leveraging millions of records on AWS SageMaker.
- 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 shows the model increases the deal OPS by 13.8%.
- Partnered with vendor managers to design experiments for deal events, using the structural model's outputs to inform deal price recommendations and validate profit impact.

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 a dynamic structural model in Python (utilizing maximum simulated likelihood estimation and parallel computing) to analyze the impact of student loan forgiveness policies on college major choices and human capital investment.
- 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 Dec 2025*
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