

Hualong (Hetty) Diao

Ph.D. in Economics

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ABOUT ME

- Ph.D. in Economics with expertise in statistical modeling, advanced econometrics (time series forecasting, survival analysis), and quantitative methods (Monte Carlo simulation, hypothesis testing), specializing in causal inference and machine learning techniques (gradient-based optimization, logistic regression and classification, Bayesian inference, and clustering, etc.).
- Proficient in R, Python, Stata, MATLAB, Excel, PowerPoint, Fortran, SAS and SQL.
- A team player with 8+ years in large-scale data processing and manipulation, data analysis and visualization, and about 2 years of consulting experience (client-facing); strong problem-solving and multi-tasking abilities; strong presentation skills.
- Languages: English (Fluent), Mandarin (Native), Cantonese (Native), French (Beginner).

WORK EXPERIENCE

The World Bank, *Consultant at Chief Economist Office for the Infrastructure Vice-Presidency* Washington, D.C., U.S. 2023

- Managed, cleaned, and harmonized multiple large datasets using R and Stata, ensuring accuracy and readiness for analysis.
- Applied econometric models to estimate causal impacts using Stata, contributing to data-driven policy insights.
- Co-authored economic notes and World Bank blog posts; conducted comprehensive literature reviews, participated in report writing, effectively communicating research findings to a broad audience.
- Successfully collaborated with a diverse group of specialists, economists, and managers.

Stony Brook University, *Instructor and Teaching Assistant* Stony Brook, NY, U.S. 2019 – 2024

- Instructed Intermediate Microeconomics to 50+ students, simplifying complex concepts with effective presentations.
- Used strong communication skills to clarify theories and promote active learning.

The Nielsen Company, *Consultant Intern in Automotive Research* Beijing, China 2017

- Led a group of six in constructing consumer questionnaires and summarized key findings to clients.
- Drafted reports on marketing analysis of automotive industry, electronic vehicles, and auto loan, including data visualizations for clients.
- Initiated proposals for newly launched vehicles for an open tender.

RESEARCH & WRITINGS

Self-Selection in Randomized Controlled Trials and Screening Decisions: Evidence from the Screening Trial for Lung Cancer (*Job Market Paper*)

- Developed a dynamic discrete-choice model using Maximum Simulated Likelihood, integrating Bayesian inference, Gaussian mixture models, gradient-based optimization to analyze screening decisions.
- Designed Monte Carlo simulations for counterfactual analysis, leveraging logistic regression and classification to show that targeted screening reduces mortality at minimal cost, with annual screening as the most cost-effective strategy.
- Paper accepted for presentation at the Committee on the Status of Women in the Economics Profession (CSWEP) and American Society of Health Economist (ASHEcon) Mentoring Workshop, ASHEcon 2025 Annual Conference (scheduled).

Prevalence of Mental Illness and Supply of Medicaid-Funded Services in New York State with *Xin Lu and Prof. Steven Stern*

- Simulated the state-wide mental illness prevalence rate using demographic information.

Spousal Effects: Will You Quit Smoking Because of Me? with *Junyu Zhang*

- Estimated a simultaneous equation model with censored variables, identifying strong positive spousal effects on smoking.
- Paper accepted for presentation at the Western Economic Association International (WEAI) 2024 Annual Conference, the 2024 Annual Conference of the ASHEcon, and the Pennsylvania Economic Association 2024 Annual Conference (PEA 2024).

School Violence Impact on Mental Health & Academic Outcomes for Immigrant & Native-Born Children with *Junyu Zhang*

- Estimated a simultaneous equation model of bullying's causal effects on mental health and academic performance.
- Paper accepted for presentation at the PEA 2024.

From Fiction to Reality: How Latin America Became the World's Most Critical Cyber Battleground. *The World Bank Blog Series*, November 2024. with *Estefania Vergara-Cobos*

- Identified Latin America as having the highest cyber incident growth rate analyzing novel large data on disclosed incidents.

Cybersecurity Economics for Latin America and the Caribbean. Washington, D.C.: World Bank Group. with *Estefania Vergara-Cobos, Luis Alberto Andres, and Stephane Straub.*

- Analyzed LAC's rising cyber threats in a data-driven study, identifying key risks, impacts, and policy recommendations.

Cybersecurity Economics for Emerging Markets. *The World Bank Book.* (Collaborated in the book, Published)

- Provided background research, as well as infographics and visuals created in R.
- Use a Poisson model showing 75% higher cybercrime likelihood in countries with more corruption and less political stability.

EDUCATION

Ph.D. in Economics, Stony Brook University (Expected May 2025); M.A. in Economics, Boston University (May 2019); B.A. in Economics (with distinction), University of International Relations (May 2017).

AWARDS & ACTIVITIES

Graduate Fellowship Award including full tuition waiver and annual stipend payments (Stony Brook University, 2019-present); Travel Funding for Conference Presentations (Economics Department at Stony Brook University, 2024); Graduate Student Employees Union (GSEU) Professional Development Awards.

CERTIFICATES

Digital Health: Planning National Systems (UN/World Bank certified course completion); Online Teaching Certificate (Center for Excellence in Learning and Teaching at Stony Brook University). Wine & Spirit Education Trust Level I Award in Wines.

