

# SIQI LI

Ph.D. Candidate in Economics | Econometrics & IO & Statistics

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Experienced professional with a strong background in econometrics and industrial organization research, specializing in statistical modeling, and causal inference. Adept at synthesizing complex large-scale data to derive actionable insights. Skilled at experimentation and machine learning. Expert on auctions and large market models.

## SKILLS

<b>Software</b>	SQL, Python (pandas, numpy, scikit-learn, PyTorch), R, MATLAB, Stata, LATEX
<b>Data Visualization</b>	ggplot (R), Matplotlib (Python), Excel, ArcGIS
<b>Statistical Analytics</b>	Bayesian Statistical Modeling, Simulation, Inference, Descriptive analysis, Time Series, Web scraping
<b>Machine Learning</b>	Supervised Learning (classification), Unsupervised Learning (clustering), Deep Learning (RNN)
<b>Specialized Expertise:</b>	Econometrics (Regressions & Forecast, Causal Inference, Structural Modeling), Industrial Organization

## RESEARCH PROJECTS

### Measuring the Market Impact of Machine Learning Valuations in Auctions. 2022 – Present

- Analyzed 2.18M randomized experiment auction sale records from GoDaddy.com and assessed the market impact of machine learning valuations through comprehensive reduced form analysis and structural modeling.
- Measured the shifts in market behavior by reduced form analysis including OLS, Logistics model, Tobit model, Quantile regression, increasing the prediction accuracy with 3% improvement over baseline.
- Built 2-step structural model with endogenous entry to estimate unobserved optimal bids and the expected revenue.

### BLP Model in the Case with Large Number of Goods and Markets under Overlapping Simulation Draws. 2020 – 2022

- Derived the asymptotic distribution of the BLP estimator to estimate demand curves and provide an analytical standard error formula. My new method could reduce the computational cost in a significant magnitude because the number of simulation draws required could be much smaller than previous literature.
- Web scraped large video game sales data to demonstrate the applicability of our theoretical results.

### Migration Experience Has Limited Negative Effect on Satisfaction: Evidence from China 2018 – 2020

- Integrated 2000 children and family member survey panel data across 15 years and analyzed the relationship between the life satisfaction of rural young people and their migration experiences.
- Enhanced prediction accuracy by 20% over baseline through variable selection and model optimization with fixed effect models.

### The Impact of Environment Policy on Rural and Urban Economic Inequality 2018 – 2019

- Gathered and processed county-level air pollution data in China through ArcGIS by utilizing satellite imagery.

## WORKING EXPERIENCE

### Associate Sale & Market Researcher 2017

Greater China, Crown Worldwide Group, Shanghai, China

- Designed and developed VBA-based system to automate the extraction and aggregation of pricing and quotation data from hundreds of forms and tables, reducing manual data calculation and entry time by 80%.
- Collected market data and consumer insights through various research methods. Advised managerial stakeholders on data-driven strategies by presenting well-founded analytical findings for future spatial investment and online advertisement Investment.

## EDUCATION

### Doctor of Philosophy (Ph. D.) in Economics with Degree Emphasis in Statistics | GPA: 3.8/4.0 2019 – Present

University of California, Santa Cruz

**Core Modules:** Probability Theory | Bayesian Inference | Stochastic Processes | Advanced Econometrics | Advanced International Finance | Advanced Microeconomics | Advanced Macroeconomics | Bayesian Statistical Modeling

### Intercampus Exchange Program in Economics | GPA: 4.0/4.0 2020 – 2022

University of California, Berkeley and University of California, Los Angeles

**Core Modules:** Semiparametric & Machine Learning | Seminar in Advanced Econometrics | Advanced Econometrics 3

### Bachelor of Science in Mathematics and Economics | First Honor 2015 – 2019

Hong Kong University of Science & Technology

**Core Modules:** Differential Equation | Optimization | Probability theory | Game Theory | Excel VBA | Linear algebra | Abstract Algebra | Calculus | Real Analysis | Multivariable Calculus | C++ Programming | Machine Learning