

# Minjae Seo

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## Education

### University of California, Berkeley

Bachelor of Arts in Statistics

Dec 2024

GPA: 3.85/4.0

**Relevant Coursework:** Optimization Models in Engineering, Modern Statistical Prediction & Machine Learning, Principles & Techniques of Data Science, Data, Inference, & Decisions, Econometrics, Causal Inference

### University of Chicago (Incoming, Start: Sep, 2025)

Master of Science in Computer Science & Public Policy

May 2027

GPA: N/A

**Expected Relevant Coursework:** Machine Learning for Public Policy, Databases for Public Policy, Algorithms, Natural Language Processing, Financial Statistics: Time Series, Machine Learning in Finance, Applied Algorithmic Trading, Corporation Finance, Bayes, AI, and Deep Learning, Introduction to Computer Vision

## Skills

**Languages / Tools:** Python, R, C SQL, Stata, SAS, Tableau, PowerBI, Pytorch, Tensorflow, AWS, Git, Qualtrics, MS Excel

**Databases / Web Technologies:** MySQL, PostgreSQL, MongoDB, PHP, JavaScript, HTML, CSS, Mathlab

## Highlighted Experience and Projects

### AI Intern, YCX, Remote

May 2025

- Engineered an AI-powered [Know Your Business \(KYB\)](#) system that dynamically integrates multi-agent orchestration, enabling automated report generation and dataset enrichment using LLM's Groq Api and web scraping (Beautiful Soup in Python).
- Enhanced data completeness by designing a modular agent pipeline that increased data coverage across 300+ firms by 40%, integrating inputs from open web sources, company filings, and JSON-formatted LLM outputs.

### Quantitative Research Intern, Global Key Advisors, Hybrid

March 2025

- Analyzed insider trading profitability by merging and cleaning SEC Form 4, CRSP, and Refinitiv datasets, leveraging Python to develop alpha prediction models across Fama-French 48 sectors.
- Developed automated pipelines for data extraction, classification, and ROI tracking, facilitating downstream portfolio strategy testing by the research team.

### Research Assistant: [Causal effects estimation: Evidence from Natural Experiments](#)

Feb 2025

- Cleaned and harmonized the Chinese Thermal Comfort Dataset, constructing a city-level panel of 32 northern (treatment) and southern (control) cities using Python.
- Performed sharp regression discontinuity analysis at the 33°N threshold to identify the causal relationship between the running/treatment variable and indoor air temperatures using matplotlib(Python) and rdrobust(R) packages.
- Identified a statistically significant 4.3°C increase in operative temperature in northern cities(treatment) via weighted least squares, controlling for city fixed effects and polynomial trends.

### Research Apprenticeship: *Investigation of Sustainability in Durable Good Markets*, Course: UGBA 199

Jan 2025

- Analyzed household-level expenditure([Consumer expenditure from BLS](#)) through event study plot and regression analysis under a [Difference-in-Differences/Synthetic Control framework](#) to evaluate the causal effect of Massachusetts' Right to Repair Law on vehicle service and parts expenses.
- Identified a post-policy decline in repair costs attributed to increased third-party competition, supporting legislative impacts on market efficiency and consumer behavior.

### Research Apprenticeship: *Adaptive Cross-validation in Double Machine Learning*, Course: ECON 199

Dec 2024

- Developed and implemented an adaptive simulation framework for Double Machine Learning (DML) with continuous treatments, enabling dynamic model selection via cross-validation and information criteria.
- Collaborated with an Economics PhD candidate to reduce researcher-induced bias using Monte Carlo simulation
- pipeline particularly ensemble CV tuning indices through python scripts, achieving 90.8% accuracy.

## Leadership and Extracurricular Activities

### Undergraduate Economics Association, Head of Research, UC Berkeley Economics Department

Jan 2024 - Mar 2025

- Directed biweekly research workshops to train new members in core econometric methods and statistical programming (R/Stata), enhancing analytical capacity across project teams.

### Undergraduate Student Instructor, Machine Learning, UC Berkeley Statistics Department

Aug - Dec 2024

- Assisted professors to grade and revise 60+ students homeworks and exams in a tight course schedule.

### Attendee, [Econometrics Game](#), University of Chicago

March 30th, 2024 - April 1st, 2024

- Delivered a [high quality analysis](#) report to the judges, including a Nobel prize winner in economics with a team of 4 (two London School of Economics and one UC Berkeley student).