

## NICOLE GOLDEN

### Personal Information

**Nationality:** US  
Ph.D. Candidate  
University of California, Irvine  
Department of Economics

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**Sample Code:** [GitHub](#), [My Sample Code](#)

### Education

**UC, Irvine** 09/23/19 – Present  
Ph.D. in Economics, 2024 March - June (Expected)  
Fields: Applied Econometrics, Machine Learning  
M.A. in Economics, 2021

**University of Iowa** 08/21/17 – 08/05/19  
B.A. in Economics and Mathematics  
Phi Beta Kappa

### Research Experience

**Deep Data Lab - UC, Irvine** 03/01/21 – 06/30/22 (40 Hours/Week)  
Research Assistant for Dr. Matthew Harding

- Conducted comprehensive literature review and proposed research ideas during both individual and team meetings.
- Generated data manuals and workbooks for the team; Performed efficient data cleaning (with parallel computation) independently utilizing 17 years of Nielsen store data (> 500GB) and household-level survey data.
- Conducted data analysis and visualizations independently for cost-benefit analysis; Evaluating the food voucher programs (focusing on fresh fruit and vegetable) in the US.
- Constructed bilateral and multilateral price indexes, as well as Herfindahl-Hirschman Indexes (HHI) at county, state, and metropolitan levels to analyze the impact of price heterogeneity on food voucher programs in each state.
- Collaborated in writing and editing of publishable research papers; Generated weekly reports to communicate research progress effectively within the team.
- An overview of the project:

Topic: The Effect of Price Heterogeneity in the US on Food Voucher Programs

Data: Nielsen fresh fruit and vegetables store data

Keywords: Price index, price heterogeneity, retail, food, fresh fruit and vegetables, big data, household-level data, store-level data, state / county / metropolitan-level data, policy evaluation, food voucher programs.

**UC, Irvine**

09/23/19 – Present (20 Hours/week)

Independent Researcher

**Fourth-Year Paper**

- An overview of the project:

Topic: Heterogeneous Treatment Effect of Payday Loan Extended Payment Plans on Financial Health: A Double/Debiased Machine Learning Approach

Data: Clarity payday loan data

Keywords: Payday loans, small-dollar loans, household finance, alternative financial services, financial health, income volatility, extended payment plans, big data, individual-level loan data, zip code / state-level data, double machine learning, heterogeneous treatment effect.

**Third-Year Paper**

- An overview of the project:

Topic: The Effect of Payday Loan Extended Payment Plans on Financial Health: A Synthetic Difference-in-Differences Approach

Data: Clarity payday loan data

Keywords: Payday loans, small-dollar loans, household finance, alternative financial services, financial health, synthetic difference-in-differences, average treatment effect, big data, individual-level loan data, zip code / state-level data.

**Second-Year Paper**

- An overview of the project:

Topic: Got Milk? An Empirical Study of Milk Consumption Patterns Based on Movers

Data: Nielsen milk consumer panel data

Keywords: Consumer consumption patterns, retail, migration, food, dairy milk, plant-based milk, nutrition, difference-in-differences, big data, household-level consumption data, state / county / metropolitan-level data.

**Work  
Experience****United Nations**

06/05/23– 09/22/23 (40 Hours/Week)

Economic Affairs, intern

- Performed statistical analysis related work for the Least Developed Countries (LDCs) team using country-level data, including data collection, data visualization, data analysis, text analysis, and generating economic reports.
- Co-organized and assisted high-level political meetings such as the UN General Assembly (UNGA 78), the LDCs National Focal Points (NFPs) Meeting 2023, and the SDG summit side events. The task may include preparing for meeting related materials, communicating with international delegates and live interpreters throughout the

meeting, and generating publishable meeting summary report and meeting questionnaire report.

**EcoMetricx**

02/04/22–01/19/23 (14 Hours/Week)

Data Analyst

- Translated Python data analysis code to R or Stata and developed for the initial project phases.
- Supported chief economist in projects focusing energy usage in the US. Tasks may include but are not limited to:
  - (i) Independently coded causal data analysis for multiple months and states of energy usage for multiple waves of experiments using parallel computation. The data includes monthly electricity and gas usage from hundreds and thousands of individual consumers in the US in three experimental states. The analysis intended to study the average treatment effects (ATEs) by comparing the control group and the treated groups (which were exposed to multiple energy-saving programs).
  - (ii) Ran ATE models and produced monthly reports.
  - (iii) Assisted with additional data analysis tasks, including sentiment analysis using customer satisfaction surveys.

Teaching  
Experience

**UC, Irvine**

09/23/19 – Present (20 Hours/Week)

Teaching Assistant

- Teach undergraduate level courses including Global Economics, Introduction to Microeconomics, Introduction to Macroeconomics, Probability and Statistics, and Econometrics I.

**Italki**

10/01/13 – 06/28/2019 (10 Hours/Week)

Online Mandarin Teacher

- Taught 812 lessons to 123 students from 31 countries (located in five continents); earned an overall five-star review from all students.
- Wrote various creative teaching materials tailored for different levels of students.
- Experienced language and cultural exchange with students from different countries.

Professional  
Skills

**Economics Analysis Skills:**

Software:

R: advanced.

GitHub, Git, Latex, Excel, Word, PowerPoint: proficient.

Python, Stata, SQL, Html5: basic.

Data Analysis:

Machine learning, deep learning, econometrics, statistics, NLP, network analysis, Big data, geospatial data, alternative data (web scrapping, text data, image data), Data collection, data cleaning, data visualization, data analysis, reports, parallel (efficient) computation, and pipelines.

Research / analysis experience:

Retail (fresh fruit and vegetables and milk), consumer consumption patterns, household finance (small-dollar loans, housing, hand-to-mouth), firm loans (comparing loan ratings by loan managers and machines using credit union data), higher education, price index, health (mortality), machine learning predictions (GDP), text analysis (Google Trends, text data), network analysis (trade), policy evaluation (payday loans, student loans, energy consumption).

**Language Skills:**

Mandarin: native

English: fluent

French, Spanish: conversational