NICOLE GOLDEN

Personal Information

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Research Interests

Econometrics
A/B Testing
Causal Inference
Machine Learning & Big Data

Education

UC, Irvine 2022 March - Present
PhD Candidate, Economics
Cumulative GPA: 3.84/4.0

UC, Irvine 2019 September - 2021 May
MA, Economics
Cumulative GPA: 3.84/4.0

University of Iowa 2017 August – 2019 August
BA, Economics, Mathematics
Cumulative GPA: 3.98/4.00
Phi Beta Kappa

Research Experience

EcoMetricx 2022 February – Present
Data Analyst

- Translate data analysis code from Python or Stata to R.
- Support chief economist on projects related to state energy usage in the US. Tasks include but are not limited to:
  (i) Build causal models to analyze monthly energy usage. The data includes monthly electricity and gas usage in the US. The analysis intends to study the average treatment effects by comparing the control group (which is not exposed to any energy-saving programs) and the treated groups (which are exposed to multiple energy-saving programs).
  (ii) Run models and generate monthly reports.
  (iii) Help with other data analysis related work, such as analyzing customer satisfaction surveys.

Deep Data Lab - UC, Irvine 2021 Spring - Present
Research Assistant

- Clean and merge terabyte-size tensor dataset from Nielsen that contains 16 years of records.

- Conduct price index related analysis. For example, compare price indexes among counties, states, or metropolitan areas.
- Visualize price indexes for different metropolitan groups and states.
- Help with other research-related work, such as formatting research papers.

UC, Irvine 2021 – 2022
Second-Year Research
- Independently conducted data analysis using Nielsen dataset.
- Studied milk consumption patterns among migrants in the US using difference-in-differences model.
- Visualized migration maps across US and other analysis related plots.

UC, Irvine 2022 – Present
Third-Year Research
- Independently conduct data analysis on personal loans using Experian proprietary dataset.
- Study how income volatility affects individual's financial health (e.g., loan delinquency, default, debt in collections, charge-off, total borrowings, etc.).

Other Experience

UC, Irvine 2019 - Present
Teaching Assistant
- Teach undergraduate level courses. Courses include but are not limited to social science statistics, econometrics, and microeconomics.
- Prepare tailored course materials for the right course and students' levels.
- Teach students coding in R or Stata if required by the course.

Italki 2013 - 2019
Online Mandarin Teacher
- Taught 812 lessons to 123 students from 31 countries (located in five continents); earned an overall full-point review from all students.
- Wrote various creative teaching materials designed for different levels of students.
- Experienced language and cultural exchange with students from different countries.

Hays Specialist Recruitment (Shanghai) Co., ltd 2015 - 2016
Sales Administrator
- Performed administrative work for HR personnel from four countries, including formatting at least 40 resumes daily, updating Suzhou branch financial reports daily,

weekly, and monthly, updating recruiting database daily, and doing other support work.

- Communicated with candidates over the phone and face-to-face in professional manner.
- Acted as an administrative liaison for all offices in China as needed.
- Assisted in organizing office events and annual HR conferences.

Skills

Programming:

Software:
Advanced in R (IDEs such as RStudio, Jupyter Notebook).
Proficient in Stata, Python, Git, GitHub, Excel, Latex.
Basic HTML5, CSS.

Data Analysis:
Data cleaning, popular machine learning models,
general econometrics models, and data visualization.

Efficient Programming:
Parallel computation, data analysis in chunks, and pipelines.

Causal Inference:

Controlled Experiments:
A/B Testing.

Natural Experiments (Regressions):
Ordinary Least Squares (OLS), Instrumental Variables (IV),
Difference in Differences (DID), Regression Control (RC),
Regression Discontinuity Design (RDD), Matching,
Synthetic Control (SC), Synthetic Difference in Differences (SDID),

Natural Experiments (ML):
Double Machine Learning, Doubly Robust, Causal Trees,
Causal Forests, Regularized Regression (Ridge, Lasso, Elastic Net).

Languages:
Native Level: Mandarin; Huai Dialect
Fluent Level: English
Intermediate Level: Spanish
Conversational Level: French