# Shahin Karami

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## Education

**California Polytechnic State University** — *San Luis Obispo, CA*

MS in Quantitative Economics | GPA: 3.92 — *June 2023*

- **Relevant coursework:** Financial Time-Series, Advanced Econometrics, Microeconometrics, Machine Learning Econometrics, Microeconomic Analysis, Dynamic Stochastic Modeling, Probability Theory

**University of California, Santa Cruz** — *Santa Cruz, CA*

BA in Mathematics & Economics | GPA: 3.45 — *June 2021*

- **Relevant coursework:** Partial Differential Equations, Real Analysis, Computational Methods & Applications, Mathematical Logic, Discrete Mathematics, Corporate Finance, Poverty and Public Policy

## Work Experience

**Graduate Research Assistant** — *San Luis Obispo, CA*

The World Bank | Global Education Policy Dashboard — *January 2023 - June 2023*

- Collaborated with The World Bank in analyzing survey data from public and primary school officials to explore the role public officials have on educational outcomes.
- Implemented Double Machine Learning (DML) method to deliver a precise range of estimates (0.5% - 10%) of the effect of bureaucratic perceptions on educational outcomes.
- Produced a technical report highlighting the effectiveness of DML compared to traditional regression methods.

**Teaching Assistant** — *San Luis Obispo, CA*

Orfalea College of Business — *September 2022 – June 2023*

- Held weekly office hours and one on ones with students to better assist them with course material.
- Graded exams, projects, and weekly assignments.
- Proctored exams as needed by course instructors.

**Research Assistant** — *Santa Cruz, CA*

UCSC Economics Department — *April 2020 – December 2021*

- Conducted literature review on vaccine hesitation and adoption methods under Dr. Kristian Lopez Vargas.
- Assisted with the development of an online Intermediate Microeconomics Theory Course.
- Drafted original course notes for Producer Theory, Competitive Markets, and Game Theory.

## Personal Projects

**Hourly Time Series Forecasting using XGBoost and Prophet**

Personal Project | *Available on my website*

- Employed XGBoost and Facebook's Prophet models to forecast hourly energy consumption, leveraging PJM East data spanning 2002 to 2018
- Conducted a comparison of Error Metrics between the two models, conclusively favoring XGBoost due to its superior MAPE performance (5.74% vs. 12.06%).
- Developed and trained an XGBoost model for predicting energy consumption, enabling accurate next-day forecasts.

**UEFA Champions League Tableau Dashboard**

Personal Project | *Available on my website*

- Developed a Tableau Dashboard for visualizing historical competition statistics spanning from the 1992/93 group stage to the 2021/22 group stage.
- The dashboard showcases crucial metrics, including appearances for coaches, players, and teams, as well as goals scored by both players and teams.

**Exploratory Data Analysis of UK Vehicle Accident by SQL**

Personal Project | *Available on my website*

- Thoroughly cleaned, transformed, and meticulously prepared UK Road Safety data sets using Python, ensuring data clarity and reliability.
- Utilized Microsoft SQL Server Management Studio to conduct exploratory data analysis on UK Road Safety data sets.

## Skills

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| **Programming** | Python, SQL, R, Stata |
| **Data Analysis** | Time Series Analysis, Cross-Sectional Data Analysis, Machine Learning Econometric |
| **Programming** | MS Excel (Macros & VBA), Power BI, Jupyter Notebook, Git/GitHub, Tableau |