



MUHAMMAD OMAR MUHDHAR

+1-817-918-5961 ✉ muhammad_muhdhar@berkeley.edu  <https://www.linkedin.com/in/muhammad-omar-muhdhar/>
 <https://github.com/MuhammadOmarMuhdhar>

EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY

May 2025

Master of Arts in Computational Social Sciences

Relevant Coursework: Statistical Modeling, Machine Learning and Predictive Analytics, Data Visualization and Communication

UNIVERSITY OF TEXAS AT AUSTIN

September 2022

Bachelor of Arts in Government with Honors and a Minor in Philosophy.

PROFESSIONAL EXPERIENCE

Analyst, Ernst & Young Business Consulting

July 2022 - August 2024

- Leveraged SQL to manage and query large datasets for performance reporting, ensuring precise data extraction, transformation, and loading (ETL) processes.
- Collected and analyzed daily client emails using Microsoft Power Automate, identifying patterns to create procedures for recurring requests and creating a ServiceNow page for remaining inquiries, streamlining operational processes to enhance client interactions.
- Leveraged analyzed email data to generate monthly KPIs, providing actionable insights that drove process improvements and enhanced performance tracking.
- Implemented Excel-based automation solutions using VBA to optimize monthly processes, enhancing efficiency and accuracy while enabling more strategic financial analysis.
- Spearheaded the formation of a new team, developed operational processes, and implemented efficient document management practices, fostering a culture of teamwork and collaboration to enhance workflow efficiency.

RESEARCH AND PROJECTS

Survey Topic Modeler

- Developed and implemented a scalable system in Python to extract, organize and analyze open-ended survey data, automating stratification by categories to streamline trend analysis.
- Designed a hybrid model integrating transformer-based and probabilistic topic modeling techniques, enabling large-scale survey analysis by uncovering semantic patterns and actionable insights from open-ended responses.
- Leveraged Large Language Models (LLMs) to translate technical findings from model into clear, context-aware summaries, making insights accessible and actionable for non-technical stakeholders.
- Constructed a modular pipeline to automate extraction, feature engineering, clustering, summarization, and visualization, leveraging Git for version control to maintain scalability and traceability. Prototyped the solution with Streamlit.

Economic Lessons From the FIFA World Cup on Brazil

- Automated data extraction from IBGE and World Bank APIs, analyzing GDP, unemployment, population growth, and carbon emissions to assess the 2014 FIFA World Cup's impacts.
- Evaluated socio-economic and environmental effects using Difference in Difference and Synthetic Control Methods, presenting findings in a policy memo with recommendations for sustainable mega-event planning in North America for the 2026 World Cup

TECHNICAL SKILLS

- **Programming Languages:** Python (Proficient), SQL (Proficient), R (Familiar), Excel (Proficient)
- **Machine Learning:** Supervised learning, Unsupervised Learning, NLP (spaCy, Hugging Face Transformers, scikit-learn,)
- **Statistical Analysis:** Regression modeling, causal inference, Synthetic Control Methods
- **Data Engineering:** API integration, data cleaning, feature engineering, and preprocessing for large-scale datasets (pandas, NumPy)