Timothy Majidzadeh

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Data Scientist with Applied Economics Experience

Experienced in application of causal inference for economic models. Supported needs of diverse clients in over 20 antitrust economics cases, with value ranging from $1mn to $1bn. Adapted to varied datasets, stakeholders, teammates, statistical methods and technical tools on each case. Largest datasets analyzed include Google Play Store transactional datasets. Proven ability to deliver robust analysis in environments where opponents' data scientists actively search for errors. Expanded ML and AI knowledge as a Masters graduate of UC Berkeley.

Skills

- Causal Inference: A/B tests, Natural Experiments, Difference-in-Difference, Synthetic Control, Propensity Scores
- Data & Programming: SQL, Python, Pandas, PySpark, R, Stata, Databricks, Microsoft Azure
- Machine Learning: Tensorflow, Keras, Neural Networks, Random Forest, Computer Vision, Generative AI
- Other Skills: Project Management, Research Design, Excel, Tableau, Power BI, Economics

Experience

Charles River Associates

Consulting Associate   September 2023 – January 2025

Data Scientist with applied economics experience, including antitrust economics. Analyzed data and applied causal inference to develop economic models which quantified damages in litigation, ranging from $1mn to $1bn.

- In addition to responsibilities of an Analyst or Associate (below), managed Analysts and Associates on teams of 2–5. Directed day-to-day work of junior staff to complete mergers, antitrust litigation, and IP cases led by expert economists.
- Participated in 5-week management training. Topics included: role of the manager, use of influence, managing up, delegation, giving & receiving feedback.
- Supported needs of diverse clients, teammates, and stakeholders on 20+ cases, with stakes ranging from $1m to $1bn. Developed statistically rigorous analytical frameworks and predictive models supporting project strategy.

Charles River Associates

Analyst; Associate   August 2020 – September 2023

- Analyzed large client datasets in antitrust cases, such as Google Play Store data. Utilized Databricks, Python/PySpark, SQL and Microsoft Azure for data storage, pipelines and analysis. Applied causal inference methods to assess value.
- Analysis tools included: Python (Pandas and PySpark), SQL, R, STATA, Excel, A/B tests, experimentation, synthetic control method, difference-in-difference regression, random forests, propensity score matching, classification, etc.
- Ensured robustness of analysis against cross-examination by data scientists on opposing side of litigation cases.

Vertiv

Analyst; Associate   June 2018 – August 2018

- Cleaned and analyzed company sales data using tools such as R, SQL, KNIME, and Excel to find new insights.
- Communicated these insights to the sales team with PowerBI dashboards and written/oral reports.
- Implemented automated systems to standardize data inputs from international company franchises.
- Delivered data-driven report on drivers of sales office revenue.

Education

UC Berkeley, Master of Information and Data Science   May 2025

Courses: Experiments & Causal Inference/AB Testing, Research Design and Data Applications, Statistics, Generative AI, Applied Machine Learning, Data Visualization, Data Engineering, Ethics of Data.

UC Berkeley, Bachelor of Arts – Economics, Minor in Data Science   May 2020

Projects
Investigation of Alleged 'Algorithmic Collusion' in Rental Housing | UC Berkeley
Website: https://uc-berkeley-i-school.github.io/realpage-rent-impact/.
- Using methods such as propensity score matching, feed-forward neural networks, random forests, ARIMA forecasting and synthetic control regression, tested whether algorithmic pricing inflates rent.
- Leading a team of 5, identified a $200/month average rent increase for 800 sqft apartments, but did not identify collusion as the causal source. Delivered a research report and an interactive website.

In Re Google Play Store Antitrust Litigation | Charles River Associates | Python, SQL, Excel
- Utilized tools such as SQL, PySpark, and Databricks to process cloud-scale Google Play Store data at issue in class-action lawsuits between Google, Play Store users, Play Store developers, and U.S. states.
- Identified Play Store users and developers affected by allegations in litigation. Quantified damages leading to a settlement of $700 million.

Textbook Publishers v. Shopify, Inc. | Charles River Associates | Python, STATA, Excel
- Analyzed data from over 100 Shopify storefronts to identify sales of works alleged by Textbook Publishers to infringe copyrights.
- Created ML classification model to identify the 3,400+ allegedly infringed IPs among Shopify vendors' sales. Randomly sampled to estimate Type I/II error rates and adjust damages.

Teradata Corporation v. SAP SE | Charles River Associates | STATA, R, Excel
- Developed data-driven economic models – including a differences-in-differences analysis, an augmented synthetic control analysis, and others – to quantify damages owed in litigation.
- Reduced client damages from 9 figures to $0 by identifying flaws in opponent's causal inference assumptions and data analysis.

Immigration Survey Research Project | UC Berkeley | Qualtrics, Python, A/B Testing
- Conducted a randomized experiment, in A/B test format, to test whether survey responders' self-reported political opinions change if the survey format is changed to resemble a set of Facebook posts.
- Designed survey in Qualtrics and used Census data to set quotas ensuring a representative stratified random sample of the U.S. population. Found differing treatment effects based on political party.

Prototype RAG Model Deployment | UC Berkeley | Gen AI, HuggingFace, LangChain, Mistral, Cohere
- Developed RAG Gen AI models relying on Mistral and Cohere as LLMs, Qdrant vector stores, and LangChain as a pipeline. Tuned on different LLMs, temperatures, chunk sizes/overlaps, and prompts.
- Final models achieved ~95% context faithfulness in final models, as well as ~60% ROUGE-1 improvement over original models and ~10% cosine similarity improvement over original models.

Soccer Match Computer Vision Detection | UC Berkeley | YOLO, Tensorflow, Keras
- Trained You Only Look Once ("YOLO") CNN machine learning models to identify the location of soccer players and the ball in images of a soccer match. Extracted and processed ~1 TB of game images.
- Optimized by testing five versions of YOLO, image processing methods, and tuned hyperparameters. Achieved precision/recall of 0.868/0.771, improved from 0.586/0.264 in first model.

GitHub Portfolio: https://github.com/timothy-majidzadeh