Adam McNelis Mahmoud

Berkeley, CA | (916) 996-5404 | adam.mcmoud@gmail.com | linkedin.com/in/adam-m-mahmoud | adammcnelismahmoud.com

EDUCATION

University of California, Berkeley — Berkeley, CA
B.A. in Data Science — *concentration in Applied Math and Modeling* — Aug. 2022 – May 2026
B.A. in Applied Mathematics — *concentration in Numerical Analysis* — GPA: 3.86 / 4.00
Coursework: Data Structures, Data Engineering, Machine Learning, Probability, Data Mining, Linear Algebra, Numerical Analysis

EXPERIENCE

Data Scientist — Sept. 2025 – Present
Omnium — *Remote*
- Design ANOVA frameworks and cross-price elasticity regressions to quantify cannibalization effects across product pack sizes, identifying statistically significant interactions and informing a concurrent ∼15% promotion between targeted size pairs.
- Built a generalizable R-to-Excel pipeline to benchmark promotional elasticity and lift across competitor brands, generating client-facing visualizations that inform promo mix decisions including reallocation of 6 promotional weeks from price reduction to displays.

Data Scientist Intern — May – Aug. 2025
Omnium — *San Diego, CA*
- Constructed and compared regression-based demand models to quantify market preferences, projecting ∼$9 million sales growth opportunity from new flavor launches and establishing a reusable framework for product innovation analyses.
- Led 15 account-level planning sessions with client representatives and brokers across national retailers, delivering data-driven distribution, pricing, and promotional recommendations resulting in $1–$2 retail price increases across dozens of products.
- Developed seasonality clustering enhancements within Omnium's forecasting R&D efforts, replacing fixed-period seasonal assumptions with data-driven seasonal structures and establishing a generalizable pipeline adopted across client portfolios.

Data Intern — Jan. – May 2025
Fung Institute for Engineering Leadership, UC Berkeley — *Berkeley, CA*
- Engineered and implemented an end-to-end data pipeline that automates source data ingestion, cleaning, standardization, and reconciliation across academic systems, integrating analyst quality assurance checkpoints and powering real-time metrics and visualizations on the program's live website.
- Conducted outcome and equity analyses on student and alumni data, delivering faculty-facing recommendations that shaped cohort composition, accessibility strategy, and program resource allocation.

Data Analyst — Sept. 2023 – Mar. 2025
Enrollment Management Department, UC Berkeley — *Berkeley, CA*
- Designed policy-constrained enrollment scenario models in SQL and Python, analyzing admissions yield and student residency tradeoffs to deliver university targets that contributed to enrolling over 700 additional in-state students in 2025.
- Architected and launched the Enrollment Management website, translating institutional data into accessible visualizations and digestible metrics to communicate enrollment and demographic insights to campus stakeholders.

PROJECTS

Equitable College Planner | *Python, Streamlit, Git, DuckDB, PCA* — UC Berkeley Datathon for Social Good
- Built an interactive college recommendation tool that ranks institutions by student-defined fit using weighted similarity scoring across numeric and categorical features, implemented through a DuckDB-based data pipeline.
- Developed an ROI model incorporating residency-adjusted cost, retention and graduation outcomes, and earnings estimates; visualized personalized recommendations using PCA projections of schools and a user preference vector.

Seasonality Clustering – A Hierarchical Agglomerative Approach | *Python, SQL, VS Code* — Omnium Internship
- Implemented hierarchical agglomerative clustering on product seasons with custom distance metrics combining velocity variation and temporal gaps to favor continuous seasonal clusters; evaluated models across multiple linkage criteria using dendrograms and silhouette scores.
- Applied clustered season definitions to pricing regressions, reducing multicollinearity compared to standard 13-period models and achieving higher R^2 values with improved demand predictions.

Analyzing Academic Resource & Funding Allocation at UC Berkeley | *Excel* — UC Berkeley CAPRA
- Investigated UC Berkeley's central campus finances for the Academic Senate's Committee on Academic Planning and Resource Allocation, analyzing departmental and divisional ledgers to inform policy recommendations.
- Queried CalAnswers data on enrollment and revenue streams, producing visualizations of program-level trends to identify sources of revenue and loss.

TECHNICAL SKILLS

Languages: Python, SQL, R, Java, MATLAB, HTML/CSS
Libraries: Pandas, NumPy, scikit-learn, statsmodels, SciPy, PyTorch, PyMongo, Keras, Matplotlib/Seaborn
Databases & Tools: PostgreSQL, DuckDB, MongoDB (NoSQL), Excel, Tableau, Git, Jupyter
Methods: Regression, ANOVA, Hypothesis (A/B) Testing, Forecasting, Clustering, Econometrics, PCA, Neural Networks