

zmosleymis@gmail.com
(209) 487-4826

Zack Mosley

[Portfolio](#)
[LinkedIn](#)

Summary

Graduate student in Data Science at UC San Diego with hands-on experience in machine learning, statistical modeling, and distributed computing gained through coursework and applied projects. Built predictive models and recommendation systems using Python, scikit-learn, and Apache Spark. Seeking an entry-level data scientist role applying ML techniques to solve business problems.

Education

M.S. in Data Science <i>University of California, San Diego</i> Graduating: March 2026 University GPA: 3.80 /4.00	2024 - 2026 La Jolla, CA
B.S. in Management Information Systems <i>California State University, Sacramento</i> University GPA: 3.80 /4.00 (Magna Cum Laude)	2022 - 2024 Sacramento, CA
A.S. in Accounting A.S. in Business Administration	2020 - 2022

Projects

Car Value Predictor (2024) Pricing model to support used-car valuation decisions by estimating market prices across 10 major manufacturers using live marketplace data. ▶ Collected and standardized 84K+ vehicle listings via custom web scraper and automated pipeline for cleaning, outlier handling, and feature engineering ▶ Selected LightGBM after benchmarking regression approaches, achieving MAE \$1.7K (6.3% of average price) with $R^2 > 0.96$ across manufacturers ▶ Validated robustness on new data collected one month later, maintaining $R^2 > 0.95$ despite market volatility ▶ Delivered interactive Dash dashboard with price distributions and SHAP-based explanations to support transparent pricing decisions	(Personal Project, View Project)
Amazon Sports & Outdoor Products Recommender System (2025) Hybrid recommendation system designed to surface relevant products from a sparse 4M+ Amazon review dataset. ▶ Mitigated 99.998% sparsity by combining collaborative filtering (SVD) with content-based features (Ridge regression) to improve cold-start performance ▶ Benchmarked five recommendation strategies and optimized hybrid weighting (60% SVD, 40% Ridge) to balance personalization and coverage ▶ Achieved strong ranking quality (nDCG@10: 0.9981) with 31.5% error reduction over baseline methods	(Academic Project, View Code)
NYC Yellow Taxi Fare Prediction (2025) Fare prediction model built from 150M+ NYC taxi records, earned 3rd place in class competition. ▶ Engineered time/efficiency features from 20GB+ trip data using Apache Spark and Dask ▶ Trained regressor achieving MAE \$1.91 and R^2 0.94, improving RMSE by 49% over baseline ▶ Scaled training with distributed computing (15 workers, 60 cores) and validated performance using residual analysis	(Group Project, My Contributions View Code)

Skills

Programming & Libraries: Python (Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn), SQL, JavaScript (D3.js)

ML & Analytics: Regression, Classification, Recommendation Systems, Hyperparameter Tuning, A/B Testing

Data Engineering: ETL Pipelines, Apache Spark, Dask, Data Cleaning, APIs

Tools & Platforms: Git, Tableau, Excel, Azure

Experience

DBI Beverage <i>Lead AM Warehouse Associate</i> ▶ Managed 7-person team distributing 50K+ cases/day for Coors, Modelo, and Corona brands ▶ Spearheaded new Warehouse Management Software (VIP EasyOps) implementation, partnering with vendors to modernize workflows ▶ Improved inventory accuracy 12% through better labeling, FIFO procedures, and discrepancy investigation	2014 - 2020 Stockton, CA
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