

Zack Mosley

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

Education

M.S. in Data Science

University of California, San Diego

University GPA: 3.80 /4.00

- Relevant Coursework: Statistics, Linear Algebra, Data Visualization, NLP, Big Data

La Jolla, CA

Expected Graduation: March 2026

B.S. in Management Information Systems

California State University, Sacramento

University GPA: 3.80 /4.00

Sacramento, CA

May 2024

- Honors: **Magna Cum Laude**, Dean's Honor List
- Relevant Coursework: Machine Learning, Data Mining, Advanced Analytics, Data Mgmt

A.S. in Accounting

May 2021

A.S. in Business Administration

Projects

Car Value Predictor (Personal Project, [Full Project](#))

End-to-end vehicle price prediction dashboard using scraped data from Cars.com.

- Built ML pipeline: **scraped 84K+ listings**, engineered features, analyzed depreciation trends
- Evaluated 4+ models (RF, XGBoost, CatBoost, LightGBM); final model: **MAE \$1.7K, R² 0.96**
- Validated on new data collected 1 month later, maintained R² > 0.95 despite market fluctuations

NYC Yellow Taxi Fare Prediction (Academic Project, [My Contributions](#) | [Full Project](#))

Large-scale predictive modeling using Apache Spark and LightGBM on 150M+ NYC taxi trip records.

- Analyzed 20GB+ trip data on SDSC supercomputer; engineered time/efficiency features, handled outliers
- Developed fare predictor (**MAE \$1.91, R² ≈ 0.94**) and tip classifier (**79% accuracy**)
- Achieved **36% RMSE improvement** vs baseline regression; earned **3rd place** in class competition

Amazon Sports & Outdoor Products Recommender System (Academic Project, [Full Project](#))

Hybrid recommender system (SVD + Ridge) built from 4M+ reviews for top-10 recommendations.

- Processed 4M+ reviews and metadata; engineered user/item features, handled extreme sparsity (99.998%)
- Built weighted hybrid (0.6 SVD + 0.4 Ridge) achieving **31.5% RMSE improvement** over baseline
- Achieved nDCG@10 of 0.9981 for top-10 rankings, demonstrating near-optimal quality

Skills

Languages & Tools: Python (Pandas, NumPy, Scikit-learn, Plotly, Matplotlib, Seaborn), **SQL**

(PostgreSQL, MySQL), **D3.js**, Tableau, Power BI, **Git**, JavaScript, Streamlit, Azure, AWS, Excel

ML & Analytics: Statistical Analysis, Regression, Classification, NLP, A/B Testing, Feature

Engineering, Cross-Validation, Model Evaluation

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

Experience

DBI Beverage

2014 - 2020

Stockton, CA

Lead AM Warehouse Associate

- Led team of 7 managing distribution of 50K+ cases/day for Coors, Modelo, and Corona brands
- Spearheaded new Warehouse Management Software (VIP EasyOps) implementation, partnering with vendors to modernize warehouse workflows
- Improved inventory accuracy 12% by analyzing operational data & implementing improvements
- Led warehouse expansion: designed floor layout from planning through implementation