

Kuangyu (Connie) Zou

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EDUCATION

Cornell University

Ithaca, NY

MEng. Operation Research & Information Engineering-Data Analytics

August 2024 – December 2025

Coursework: Data Visualization, Database Management, Exploratory Data Analysis, Machine Learning, Data Mining, Statistical Analysis, A/B Test

University of California San Diego

San Diego, CA

B.S. Data Science & Applied Mathematics

September 2020 – March 2024

Coursework: Probability and Statistics, Linear Algebra, Machine Learning, Data Structure, Algorithm, Business Analytics

PROFESSIONAL EXPERIENCE

Shepherd Ventures, San Diego, California

Quantitative Analyst Intern

April 2024 – Present

- Designed a volatility-driven stock selection strategy using K-means clustering to classify S&P 100 stocks by volatility, identifying the lowest-volatility stock cluster as the basis for the initial investment portfolio combination
- Researched and built an innovative methodology through Mean-Variance Optimization(MVO) method in Python, improved portfolio performance by ensuring 35.8% of the investment principal remains protected against market downturns
- Applied the MVO-DB to optimize portfolio allocation monthly and conducted efficient frontier analysis to achieve a balance between future investment returns and potential risks, ensuring the portfolio delivers 2% excess return for every 1% of volatility risk undertaken
- Enhanced portfolio performance by 5% through removing stocks with negative 21 day moving average
- Built 5+ data visualization charts through Tableau to track portfolio trends based on OEX market values; helped the team identify the potential headroom of model improvement in preselection accuracy and Sharpe ratio maximization

Hagos Marketing, Dallas, Texas

Marketing Research Analyst

June 2023 – September 2023

- Performed deep dive analysis based on both internal and external data sources to build customer profiles and extract insights based on competitor strategies and historical trends; helped the client to prioritize market entry strategies for high-growth regions and implement e-commerce and data-driven strategies
- Built financial models using linear regression and advanced data visualization techniques via Excel to facilitate actionable insights for revenue forecasting and cost management

PROJECT EXPERIENCE

Bank Transaction Classification and Credit Scoring Model Optimization-Capstone Project

October 2023 – March 2024

- Performed data pre-processing based on 100K+ transaction data, included missing values, outliers and duplicates; ensured the data integrity and improved the data quality for future modeling steps
- Leveraged TF-IDF to transform text data into numerical features; built SVM and XGBoost models to predict the credit risk status; improved the baseline model performance by 4% through hyperparameter tuning

Airline Rating Recommendation System Data Analysis

October 2023 – December 2023

- Conducted exploratory data analysis based on 23K+ airline customer review data to extract top factors impact overall ratings, such as seat types, airline services and temporal trends
- Leveraged NLP techniques(CountVectorizer) to analyze user behavior patterns in review data, enhancing model performance through sentiment and word frequency analysis
- Optimizing the ElasticNet model and achieving a Mean Squared Error (MSE) of 4.22, provided practical recommendations for enhancing the customer experience

Market Share and Pricing Optimization via MNL Model

August 2023– September 2023

- Applied the Multinomial Logit (MNL) model in R, incorporating product-specific variables, brand dummy variables, and customer segmentation interactions, improving prediction accuracy from 30% to 42%
- Simulated market shares under varying smartphone prices, constructed residual demand curves, and identified profit-maximizing prices, leading to optimized pricing strategies and increased revenue potential

SKILLS SUMMARY

Programming: SQL, Python, R, Spark, LaTeX, Git, JavaScript(D3), CSS, MATLAB

Analytical Skills: Database System(MySQL, PostgreSQL), Machine Learning and Statistical analysis, A/B Testing

Data Visualization: Tableau, Power BI, Advanced Google Sheets, Excel(Pivot Table), Matplotlib

Language Skills: English(Fluent), Mandarin(Native)