Michelle Zhu

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EDUCATION

University of California, San Diego (La Jolla, CA)
Major: **Master of Science in Business Analytics (M.S.)**

University of California, San Diego (La Jolla, CA)
Major: **Business Economics (B.S.)** | Minor: **Finance**
• **Researcher at UCSD Department of Economics (Link)**

COMPUTER SKILLS

- **Analytics & Programming Languages**: SQL, Python, Stata, Tableau, A/B Testing, Statistical visualization
- **Machine Learning: Machine Learning:** Logistic Regression, neural networks, XGBoost, Decision Trees, Random Forest, KNN, K-Means, Factor Analysis**,** Pandas, Scikit-Learn, pyrsm.

WORK EXPERIENCES

Graduate Record Examination (GRE) Tutor (Remote, San Diego). March 2024 – Jan. 2025

- Developed customized lesson plans and practice materials to address individual student needs and weaknesses
- Monitored student progress and provided feedback to help them achieve their target scores

Fintech Market Investigator, Certified Fintech Analyst Institute (CFTA) Dec. 2023 –June.2024

Led a project analyzing real estate investment trends by constructing and refining a financial model using Python

- Developed and optimized machine learning algorithms to enhance the predictive accuracy of the model by over 30%
- Conducted in-depth interviews and market analyses

Data Analyst Intern, Compass, Inc. (A Technology-Driven Real Estate Agency Located in NYC) Jul. 2023 – Sept. 2023

- Used Python to collect and preprocess real estate big data including domestic economic and demographic data, house sales, mortgage payments, interest rates, etc.; helped the team reduce the data processing time by 20%
- Imported data into data pipeline and firm-wide analysis models
- Collaborated with the IT Business Intelligence Team to test the models and produce the General Purpose Report
- Produced weekly, monthly, and quarterly reports on market trends and activities to support the decision-making process

Data Analyst InternBaynovation (A Data-Driven Consultancy Located in San Jose, CA) Jan. 2023 – Mar. 2023

Worked on a house data analysis project with a research team

- Conducted data cleaning, missing value imputation, and data transformation on 10,000 Redfin house records in San Jose using SQL
- Utilized Pearson correlation, multicollinearity analysis, and stepAIC model to analyze features for predicting house values
- Developed linear regression models to predict house prices based on factors such as location, year of completion, floor space, etc.
- Evaluated model performance using metrics such as root mean squared error (RMSE) and mean absolute percentage error (MAPE); tuned model parameters to improve predictive accuracy by 32%
- Visualized results using Python Matplotlib and Tableau to analyze factors affecting house prices; made advice based on the findings

RESAERCH PROJECTS

QuickBooks Upsell Campaign Response Modeling Feb. 2025

- Conducted in-depth analysis on 75,000 small business responses from the QuickBooks version 3.0 upsell campaign dataset to identify key trends and customer behavior patterns.
- Engineered predictive models, including logistic regression, decision trees, and neural networks, to classify businesses based on their likelihood to respond to a second wave of mailings.
- Performed feature engineering by extracting key attributes such as purchase history, engagement metrics, and financial indicators to enhance model accuracy.
- Implemented hyperparameter tuning and cross-validation techniques to optimize model performance, ensuring robust and reliable predictions.

Investment Decision Analysis Oct. 2024

- Conducted a decision tree analysis to provide data-driven recommendations for Carlos Morales' investment dilemma.
- Analyzed different scenarios, calculating expected monetary value (EMV) for various investment strategies.
- Identified risk factors, including market research outcomes, technical feasibility, and angel investment support.
- Developed a structured decision model using Radiant's decision analysis framework to optimize investment choices.
- Provided recommendations aligning with different risk preferences, balancing potential rewards and financial exposure.

Research Assistant, Peer Influences on Individual Political & Economic Behaviors Jun. 2023 – Mar.2024

- Imported dataset from census using Python Pandas Library for predictive analysis preprocessing
- Scanned data with Missingno visualization and performed data imputation; categorized data into variables for robust model training
- Executed a Decision Tree Classifier using Scikit-learn to predict ward values; achieved a 92% accuracy rate via parameter tuning
- Visualized the decision tree structure using Matplotlib to interpret the decision-making process and derive insights
- Automated feature importance extraction to identify the most predictive variables of ward values