Nolan Lo

Los Angeles, CA | 562-712-4551 | nolanlo.dsc@gmail.com | linkedin.com/in/nolan-lo/ | nolan-lo.github.io/portfolio/

EDUCATION

University of California San Diego — **San Diego, CA**
MS in Data Science, GPA: 4.0 — *Expected Graduation Date: March 2026*
- Relevant Coursework: Machine Learning, Data Management, Big Data, Data Visualization, Python, Statistics.

University of California San Diego — **San Diego, CA**
BS in Mathematics, Statistics & Probability — *Graduation Date: June 2024*
- Relevant Coursework: Statistics, Data Analysis and Inference with R, Stochastic Processes, Linear Programming, Probability.

EXPERIENCE

Farmers and Merchants Bank — **Lakewood, CA**
Assistant Financial Data Analyst — *May 2021 - Current*
- Designed and implemented a **SQL** script that calculates income generated by all business relationship specialists across the bank, automating the process and saving **150 hours** annually by providing critical compensation insights.
- Developed **R** scripts to generate detailed analyses, including decay analysis, prepayment speed calculations, and beta regression, resulting in optimized model accuracy and performance.
- Streamlined workflows throughout my team by creating **R**, **SQL**, and **Cognos Analytics** reports, automating tasks that previously required over **100 hours** annually, enabling better resource allocation and efficiency.
- Recruited for expertise in query building, data analytics, and programming to implement and enhance the bank's in-house Interest Rate Risk model, improving risk assessment processes.

SKILLS

- **Programming Languages**: R, Python, SQL
- **Software**: SQLite, Spark, MapReduce, Excel
- **Concepts**: Machine Learning, Data Analysis, Advanced Statistics
- **Presentation and Communication**: Data Visualization, User Interface Design, Shiny App Development

PROJECTS

Optimal Pitch Prediction Model
https://nolan-lo.github.io/portfolio/1_Optimal_Pitch_Predictor/
- Engineered a machine learning model using XGBoost to predict the optimal pitch type and location for inducing a swing and miss (WHIFF) or a called strike.
- Evaluated model performance using Log Loss, ROC-AUC, and Brier Score to assess probability calibration and classification accuracy.

House Price Prediction App
https://nolan-lo.github.io/portfolio/2_House_Price_Prediction_App/
- Developed a Shiny web app using XGBoost to predict house prices based on user input, leveraging machine learning for accurate predictions and a user-friendly interface.

Pitcher Analysis App
https://nolan-lo.github.io/portfolio/1_Pitcher_Analysis_App/
- Created an interactive Shiny app in R for advanced pitcher analysis, providing visual breakdowns of pitching metrics, tendencies, insights, and rankings for pitchers.
- Visualized pitch location and strike zone patterns, displaying pitch frequency and locations in key scenarios (e.g., strikeouts, hits allowed) to offer in-depth insights into a pitcher's situational tendencies.
- Applied statistical analysis to create pitch-specific percentile ranks, facilitating comparisons of pitch effectiveness for individual pitchers against league-wide data.

Machine Learning to Explore Statcast Data from the '24 MLB Season
https://nolan-lo.github.io/portfolio/3_Exploring_Statcast_with_ML/
- Utilized machine learning to explore the following three questions related to Statcast data from the '24 MLB season:
    - Can pitch characteristics like velocity, spin rate, location, and pitch type predict batter whiff rates?
    - Can we use inherently talent based metrics like bat speed and swing length to predict batter success?
    - How do pitch selection and pitch effectiveness vary by inning and game state?

LEADERSHIP EXPERIENCE

Farmers and Merchants Bank — **Lakewood, CA**
Model Implementation Programming Leader — *April 2024 - Current*
- Despite recently graduating and not having formal technical mentorship, I took initiative to lead the data analysis and implementation of a new interest rate risk model at Farmers and Merchants Bank.
- As the only team member with formal programming and database knowledge, I independently managed critical data extracts, customized software implementations using SQL, and maintained organized change logs, successfully delivering all project objectives and clearing model risk management requirements.