

# Nolan Lo

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## EDUCATION

### University of California San Diego

MS in Data Science, GPA: 4.0

San Diego, CA

Expected Graduation Date: March 2026

- Relevant Coursework: Machine Learning, Data Management, Big Data, Data Visualization, Python, Statistics.

### University of California San Diego

BS in Mathematics, Statistics & Probability

San Diego, CA

Graduation Date: June 2024

- Relevant Coursework: Statistics, Data Analysis and Inference with R, Stochastic Processes, Linear Programming, Probability.

## EXPERIENCE

### Farmers and Merchants Bank

Assistant Financial Data Analyst

Lakewood, CA

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

### House Price Prediction App

[https://nolanlo.shinyapps.io/House\\_Price\\_Prediction/](https://nolanlo.shinyapps.io/House_Price_Prediction/)

- 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/](https://nolan-lo.github.io/portfolio/1_Pitcher_Analysis_App/)

- Developed 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/](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:
  - o Can pitch characteristics like velocity, spin rate, location, and pitch type predict batter whiff rates?
  - o Can we use inherently talent based metrics like bat speed and swing length to predict batter success?
  - o How do pitch selection and pitch effectiveness vary by inning and game state?

### MLB Similarity Calculator

[https://nolan-lo.github.io/portfolio/4\\_Similarity\\_Calculator/](https://nolan-lo.github.io/portfolio/4_Similarity_Calculator/)

- Developed an app to analyze players' season performances and identify historical counterparts with the highest similarity.
- Conducted large-scale data manipulation to efficiently handle and analyze extensive datasets.
- Crafted an intuitive user interface using skills in R and shiny app UI creation.

## LEADERSHIP EXPERIENCE

### Farmers and Merchants Bank

Model Implementation Programming Leader

Lakewood, CA

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.