

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 and 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

Long Beach, 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 **12 hours** per month 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, Sabermetrics
- **Presentation and Communication:** Data Visualization, User Interface Design, Shiny App Development

PROJECTS

[Pitcher Analysis App](#)

Oct 2024

- 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](#)

Dec 2024

- Using machine learning, I answered and explored the following 3 questions.
 - 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?

Defensive Alignment Recommender

In progress

- Developing an application that clusters hitters based on the 2024 season data, determines optimal defensive positioning for each batter, visualizes positioning through heatmaps, validates recommendations using defensive runs saved metrics, and presents the results in an interactive dashboard with batter selection functionality.

[Creating an Improved FIP Statistic to Rank Pitchers](#)

Jan 2024

- Engineered and implemented a new statistical metric, aFIP (adjusted FIP), refining traditional FIP and xFIP by incorporating additional hit types such as infield fly balls, line drives, and ground balls.
- Applied regression analysis to quantitatively demonstrate aFIP's improvement over FIP and xFIP in predicting future ERAs, providing statistical evidence in the form of correlation and RMSE for its enhanced accuracy and effectiveness.

[MLB Similarity Calculator](#)

Dec 2023

- 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

Cerritos Frontier Baseball League

Baseball Assistant Coach

Cerritos, CA

Jan 2021 - May 2021

- Served as the pitching coach, successfully improving my players' pitching mechanics, leading to notable improvements in velocity and command, while prioritizing injury prevention.
- Implemented a scheduled routine for my players, incorporating long toss, bullpens, towel work, stretches, and arm recovery exercises to optimize performance and arm care.