Nolan Lo

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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 and Probability *Graduation Date: June 2024*

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

EXPERIENCE

Farmers and Merchants Bank **Long Beach, CA**
Assistant Financial Data Analyst *May 2021 - Current*

- Single handedly created a SQL report that calculates the income generated by all business relationship specialists throughout the entire bank, providing essential compensation information. Automating this report saved 12 hours every quarter.
- Developed R scripts for advanced data analysis, executing complex calculations including decay analysis, prepayment speed calculations, and beta regression to optimize model results.
- 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.
- Utilized SQL and Cognos Analytics to create, maintain, and enhance critical data extracts and reports, automating work that previously occupied over 100 hours a year.

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.
    - 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?

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 **Cerritos, CA**
Baseball Assistant Coach *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.