# Diego Osborn

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### EXPERIENCE

#### Data Analytics Intern | UC San Diego Career Center

Sep 2024 – Present

- Developed an iteractive Power BI dashboard analyzing career outcomes for 12,000+ graduates, providing insights on salary trends, industries, and top employers to guide student career planning
- Built a PostgreSQL database to store and query 100,000+ Handshake accounts, creating structured views to categorize
  alumni by graduation year and degree type, facilitating the archival of alumni accounts for improved data organization and
  historical tracking

# Baseball Analytics Intern | UC San Diego Baseball

Feb 2023 – Present

- Automated 40+ opponent scouting reports and conducted ad-hoc analytical projects to enhance game preparation, contributing to UC San Diego's 2023 NCAA Division-1 Baseball Big West Conference Championship
- Generated post-game pitching report graphics, summarizing pitch metrics (e.g., velocity, movement profiles) and visualizing pitch location and break patterns to support coaches in post-game analysis and player development

#### Baseball Analytics Intern | Palm Springs Power Baseball

Jun 2023 – Jul 2023

• Developed an interactive Looker dashboard with visualizations to assist players and coaches in evaluating pitch effectiveness and batted ball metrics by analyzing live in-game pitch data from FlightScope

# PROJECTS

Home Price Evaluator: Determining Market Value | Python, Pandas, scikit-learn, Matplotlib, Seaborn Feb 2025-Mar 2025

- Collaborated with a team to develop and optimize a **LightGBM** model on **2.2M**+ **real estate records**, incorporating geospatial and economic data to improve home price estimation
- Merged real estate data with six external datasets, including census demographics, crime rates, university proximity, and property taxes, to enhance market context
- Engineered **zip code-level features**, applying the haversine formula for university proximity and clustering market segments to improve valuation insights
- Built a valuation framework, based on expected price and actual price, that identified 10.5% of homes as potential
  investment opportunities, aiding market analysis

Spotify Statistical Analysis | Python, SciPy, Statsmodels, scikit-learn, Matplotlib, Seaborn

Feb 2025-Mar 2025

- Collaborated with a team to analyze 100,000+ Spotify tracks to identify key audio features influencing song popularity, helping artists and streaming platforms optimize advertising strategies
- Conducted **hypothesis testing** on explicit lyrics and genre impact, while applying **PCA** to identify underlying relationships between features
- Developed predictive models (linear regression, logistic regression, ridge regression) to classify songs as "popular" or "not popular."

Power Outages Statistical Analysis | Python, Pandas, scikit-learn, Plotly

Jun 2024

- Analyzed U.S. power outage data (2000–2016) to identify key factors affecting major power outages and built a predictive
  model for energy consumption, helping power companies improve outage response
- Engineered features related to seasonality, climate, economic indicators, and region; conducted hypothesis testing and missingness analysis; implemented a machine learning pipeline for regression modeling
- Optimized a RandomForestRegressor model, achieving a test  $\mathbb{R}^2$  of 0.99974 and a relative test error of 8%—significantly outperforming the baseline linear regression model

# SKILLS

Languages: Spanish (fluent)

Programming Languages: Python, R, Java, HTML5, LATEX

Tools/Databases: SQL, PostgreSQL, SQLite, Tableau, Power BI, Looker

Libraries: Pandas, NumPy, Matplotlib, scikit-learn, Seaborn, Plotly, SciPy, Psycopg2, Statsmodels

#### EDUCATION

# University of California, San Diego

Sep 2022 - Jun 2026

B.S. Data Science; Minors: Economics, Mathematics

Relevant Coursework: Probabilistic Modeling and Machine Learning, Data Management, Statistical Methods,

Probability Theory, Exploratory Data Analysis & Statistical Inference

Honors: UCSD Eleanor Roosevelt College Honors Program, Provost Honors (2x)