

# Hudson Smith

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## EDUCATION

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### University of California Berkeley - Applied Mathematics BA (Data Science Concentration)

Expected Graduation May 2026

GPA: 3.5/4.0

**Relevant Coursework:** Probability Theory, Statistical Inference, Linear Algebra, Real Analysis, Data Structures, Principles and Techniques of Data Science

## PROJECTS

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### Water Park Ticket Predictor | [GitHub](#)

- Extracted and structured daily sales data from a 2,600-page PDF of transaction records.
- Built regression models to predict daily ticket sales using weather and temporal features.
- Compared scikit-learn linear regression with a PyTorch neural network; linear model achieved lower test RMSE of 37 tickets versus 180 for the neural net, and better generalization.
- Analyzed residuals and high-variance days, concluding demand volatility limited predictability at extreme sales levels.
- Found feature engineering contributed more to performance gains than increased model complexity for this dataset.

### Spam Email Filter

- Applied data analysis of over 8000 emails to find keywords, symbols, and trends (HTML and Links) that correlated to spam emails.
- Used feature engineering, and then trained a logistic regression model.
- Applied K Folds cross-validation
- Balanced performance tradeoffs with applicability.

## WORK EXPERIENCE

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### City of Brentwood

April 2022 - August 2025

#### Assistant Pool Manager

- Led bi-weekly of 30+ staff members, training to strengthen teamwork and response in high stress scenarios.
- Applied creative thinking to come up with quick solutions to urgent problems. Quickly evaluated staff numbers along with temperature to see if opening was in question during peak temperature days.

## SKILLS

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**Languages:** Python, Java, SQL

**Tool and Software:** IntelliJ Idea, VS Code, Jupyter Notebook, MatLab

**Libraries:** Pandas, NumPy, scikit-learn, Matplotlib, Seaborn, PyTorch