

# Pranav Rajaram

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## EDUCATION

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### University of California, San Diego

La Jolla, CA

Bachelor of Science, Data Science

Expected Graduation: June 2026

- GPA: 4.0/4.0
- Supported over 500 students as an Instructional Assistant for Principles of Data Science course by developing supplementary materials, leading office hours, and assisting with course topics in Python, pandas, and statistical inference.
- Analyzed historical commodity pricing data as a Research Assistant in an Economics Lab, identifying trends and correlations to support research on education and market dynamics in resource-driven economies.

## PROFESSIONAL EXPERIENCE

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### ShotQuality

Data Science Intern

07/2024 – 12/2024

- Utilized Python and SQL to perform rigorous quality checks and validation of basketball tracking data, leading to a 20% improvement in data accuracy and reliability for shot probability models.
- Worked with the Computer Vision team to enhance on-court player detection by utilizing PyTorch and torchvision to generate and refine bounding boxes, improving tracking accuracy and performance.
- Created and deployed a dynamic Tableau dashboard that provides real-time data quality metrics to customers.

### Agentman

Software Engineering Intern

06/2024 – 09/2024

- Implemented and published Generative AI customer support agents for Shopify and WordPress stores, enabling users to place orders, explore products, and track orders seamlessly.
- Fine-tuned an LLM to generate dynamic UI components for chatbot responses, and integrated Anthropic prompt caching functionality to optimize component creation speed.
- Deployed Flask functions to Google Cloud and became proficient in calling APIs with cURL and Postman. Developed a robust understanding of full stack web development and mastered containerization with Docker.

### 4for4

Data Analyst & Columnist

06/2021 – Present

- Authored 100+ data-driven articles read by 5,000+ monthly subscribers.
- Developed NFL Lookahead Lines web application using R Shiny, providing interactive betting line insights to users.
- Established partnership to write 30 articles for Yahoo Sports, expanding audience reach to 100,000 average readers.

## PROJECTS

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### NFL Big Data Bowl

<https://www.kaggle.com/code/pranavrajaram/wrap-up-a-look-at-nfl-tackle-probabilities>

- Utilized XGBoost to model NFL tracking data, assigning tackle probabilities to plays to develop a new "Tackle Rate over Expectation" metric. Commended for quality of visualizations and animations by NFL analytics departments.

### Fire-Ready Forests Data Challenge

<https://pranavrajaram.github.io/fire-ready-forests-site/>

- Used Aerial and Terrestrial Laser Scanning data to build 3-D Canopy Height Models, generate engineered treelists, and train machine learning models to predict tree species and forest attributes for wildfire simulation.

### Power Outage Analysis

<https://pranavrajaram.github.io/lights-out/>

- Built a Random Forest Regression model with sklearn to analyze a dataset of power outages, used techniques like one hot encoding, hyperparameter tuning, and cross-validation to optimize model predictions.

## TECHNICAL SKILLS

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**Programming Languages:** Python, Java, JavaScript, SQL, R

**Frameworks & Libraries:** PyTorch, TensorFlow, LangChain, Flask, React, pandas, scikit-learn, Dask

**Tools & Platforms:** Git, Docker, Kubernetes, AWS, Heroku, PostgreSQL, Tableau, Postman, cURL