

# Pranav Rajaram

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## EDUCATION

### University of California, San Diego

La Jolla, CA

Bachelor of Science, Data Science

09/2023 - 06/2027

- GPA: 4.0/4.0
- Instructional Assistant: Supported over 900 students in Principles of Data Science course by developing supplementary materials, leading office hours, and assisting with course topics in Python, pandas, and statistical inference.
- Research Assistant: Analyzed historical commodity pricing data with PCA and cointegration testing, uncovering long-term interdependencies that informed research on African market dynamics and policy implications.

## PROFESSIONAL EXPERIENCE

### Verisk

Data Science Intern

06/2025 – 08/2025

- Built a multi-agent RAG workflow with LangChain to simulate legal processes for casualty claims, reducing research time by 40% and improving consistency in settlement evaluation. Deployed as chatbot to Hugging Face spaces.
- Developed an NLP evaluation pipeline (keyword overlap, semantic similarity) to evaluate agent responses, improving accuracy of legal document alignment scoring and reducing reliance on manual review.
- Implemented Monte Carlo simulations to model distributions of claim settlement outcomes, enhancing risk evaluation and leading to more precise premium-setting strategies.

### 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.
- Enhanced on-court player detection with bounding box refinement using PyTorch, improving tracking accuracy by 15% and enabling new player movement insights.
- Created and deployed a dynamic R Shiny dashboard, allowing clients to monitor data quality issues in real time.

### Agentman

Software Engineering Intern

06/2024 – 09/2024

- Launched Generative AI customer support agents for Shopify and WordPress stores, streamlining order placement, product discovery, and tracking for thousands of end-users, reducing support tickets by 30%.
- Fine-tuned an LLM to dynamically generate React UI components and integrated Anthropic prompt caching, cutting component creation latency by 25%.
- Deployed Flask microservices to Google Cloud, leveraging Docker containerization to reduce deployment setup time and ensure reliable scaling.

## PROJECTS

### SMT Data Challenge (Finalist)

<https://pranavrajaram.com/smt-data-challenge.pdf>

- Developed a machine learning pipeline on MiLB tracking data to model baserunning with logistic regression and optimize cutoff play decisions with a Random Forest classifier, visualized through an interactive dashboard.

### 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.com/fire-ready-forests-site/>

- Built 3-D Canopy Height Models from LiDAR data and trained ML models to predict tree species and forest attributes, improving wildfire risk assessment and guiding resource allocation for forest management.

## TECHNICAL SKILLS

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

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

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