

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
- Supported over 900 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, used PCA and cointegration testing to identify long-term trends and interdependencies to support research on market dynamics in Africa.

PROFESSIONAL EXPERIENCE

Verisk

Data Science Intern

06/2025 – 08/2025

- Built a multi-agent Retrieval-Augmented Generation (RAG) workflow using LangChain to simulate legal processes for casualty claim modeling, and deployed an interactive legal chatbot to Hugging Face Spaces for user-facing access.
- Evaluated agent-generated responses using NLP techniques such as keyword overlap, semantic similarity, and rule-based agreement checks to assess alignment with legal document content.
- Implemented Monte Carlo simulations to estimate distributions of claim settlement outcomes, enabling more data-driven risk evaluation for casualty models.

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.

PROJECTS

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/>

- 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.com/lights-out/>

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

TECHNICAL SKILLS

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

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

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