Raghav Dewangan

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Education

University of California, San Diego — San Diego, CA

B.S. in Data Science — *Aug 2022 – June 2026*

- Relevant Coursework: Data Structures and Algorithms, Object-Oriented Programming, Computer Networks, Machine Learning/AI, Data Cleansing/Analytics, Statistics/Probabilistic Theory

Experience

Co-Founder and Fullstack Engineer — February 2024 - September 2024

Rentora — *Santa Cruz, CA*

- Spearheaded back-end development with **Next.js**, enhancing platform scalability by 35% through RESTful APIs
- Increased secure database interactions by 40% through **Clerk** for user authentication and authorization flows
- Engineered and secured **Firestore** database solutions, ensuring 99.9% uptime and encrypted management of user data, aligning with best practices for data security
- Developed and maintained a robust deployment pipeline via **Vercel**, facilitating continuous integration and deployment, reducing deployment time by 30% and improving code quality.
- Managed sprints and members through **AGILE** and utilization of **Jira** software, increasing productivity by 25%

Undergraduate Research Assistant — March 2023 - July 2023

Professor James Davis, AI Lab UCSC — *Santa Cruz, CA*

- Pinpointed areas of bias within current modern facial attribute classification models through extended data collection, analysis, and visualization
- Created custom dataset via iCrawler Bing webscraper, ensuring and improving model resilience across diverse visual contexts by 25%
- Trained and improved new learning model with significant statistical improvement of 15% from previous model studied, while transcribing process and findings in research paper submitted to ArXiv

Projects

Covid Outbreak Predictor | *Python, TensorFlow, Streamlit* — April 2025

- Deployed an interactive forecasting app using stacked LSTMs to predict daily COVID cases across countries
- Designed a reusable preprocessing pipeline to clean, scale, and window 230K+ time series records using scikit-learn
- Engineered time-based features and one-hot encoded country context to improve cross-country model generalization
- Trained and evaluated **TensorFlow** models on normalized case data, optimizing performance via validation curves
- Visualized actual vs predicted trends with **Matplotlib**, enabling data-driven interpretation of global case surges

Calories and User Ratings EDA | *Python, Pandas, Plotly, Seaborn* — March 2025

- Cleaned and consolidated 230K+ multi-source entries, resolving nulls, type mismatches, and outliers using Pandas
- Built automated pipelines to parse and restructure nested nutrition data, integrating **GridSearchCV** for hyperparameter tuning and optimized model selection
- Developed predictive models to estimate user ratings based on calorie and nutrient data, improving accuracy through iterative tuning
- Engineered calorie-based feature bins using quantile thresholds to reveal key rating trends
- Visualized correlations between calories, nutrients, and ratings through **Seaborn** and interactive **Plotly** dashboards

iCrawler CelebA Dataset Improvement | *Python, Keras, Tensorflow* — March 2023 - July 2023

- Scraped Bing images in **Python** to expand CelebA dataset by 30% and increase image diversity.
- Cleaned and optimized data using **Pandas**, reducing noise by 20% for VGG16 attribute learning.
- Used **TensorFlow** and **NumPy** to enhance data quality, improving model accuracy by 15%.
- Visualized long-tail patterns, boosting classification accuracy of underrepresented attributes by 25%.

Technical Skills

Certifications: AWS Certified Cloud Practitioner, AWS Solutions Architect Associate
Languages: NextJS, NodeJS, TSX, Java/JavaScript, Python, C, C++, SQL
Developer Tools: Git, Docker, VirtualBox, WSL, Bash, Flask, Streamlit, Vercel, Linux/Unix, AWS API Gateway
Tools: Splunk, WireShark, Terraform, AWS, GCP, Catalyst, FireBase, Excel, Tableau
Libraries/Frameworks: React, pandas, NumPy, Matplotlib, skLearn, TensorFlow, Keras