

ADITYA RAM V

Los Angeles, California, United States

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Education

University of Southern California

Master of Science in Data Science-Computer Science

Courses: **Machine Learning, Web Technologies, Applied NLP, Foundations of Data Management**

Los Angeles, CA, United States

January 2025 - December 2026

CGPA- 4.0/4.0

The Indian Institute of Technology (IIT) Madras

Bachelor of Technology (B. Tech), Chemical Engineering

Courses: **Data Structures and Algorithms, Probability and Statistics, Applied Machine Learning and Deep Learning**

Chennai, TN, India

August 2020 - June 2024

CGPA- 8.55/10

Skills

Programming: C++, Python, JavaScript, SQL, SAS, HTML, CSS, OOPs, Data-Structures, Algorithms, Front-end and Back-end dev, DBMS

Frameworks: TensorFlow, Keras, PyTorch, Flutter, Webasm, ReactJS, NodeJS, Django, Flask, Express.js, MongoDB, MySQL, LLMs, NLTK

Certificates: Machine Learning, Deep Learning, Natural Language Processing- Stanford University (Andrew Ng), Web Development.

Experience

USC- Information Technology Services

Los Angeles, CA, United States

IT Software Engineer-IoT Solutions

June 2025 - present

- Developed and deployed a **full-stack IoT-based equipment monitoring platform** using the **MERN stack** (MongoDB, Express, React, Node.js) to track battery health and operational status of classroom devices at USC. Integrated **RESTful APIs** using **Node.js** and **Express** to serve device data.
- Integrated **MongoDB** for device state persistence, and dynamic **ReactJS** dashboards with **Tailwind CSS** for responsive visualization and **deployed** on USC's ITS infrastructure enabling continuous polling and auto-refresh mechanisms, resulting in a **30%** reduction in classroom tech downtime.

Axis Bank- Business Intelligence Unit

Mumbai, India

Software Engineering Intern- AI/ML

May 2023 - August 2023

- Designed and deployed a production-grade **credit risk engine** enabling real-time anomaly detection with interpretable insights.
- Engineered a scalable **deep learning recommendation system** capable of suggesting optimal credit card upgrades with **TensorFlow** and **multi-label classification**, achieving **90% accuracy** across 27 credit card products based on income, spending, and product types.
- Built an end-to-end **funnel analytics platform** using **React, Tailwind CSS, SAS, MySQL** to optimize user conversions, integrating model outputs into business decision flows. Analyzed conversion patterns across **12M+** customer records over 4 months, delivering executive-level insights.

SEN-AI Data Science Research Lab, IIT Madras

Chennai, India

AI Research intern

January 2023 - May 2023

- Analyzed **Spatio-Temporal** variations by **up-sampling** and ML techniques to correlate **20+** air properties and particulate matter.
- Predicted particulate matter concentration in air at Chennai by **ARIMA** and **Prophet** time series modelling with **92%** accuracy.
- Headed collection and geotagging of **8,000+ images** utilizing ESP32-CAM and GANs, ensuring accurate location mapping real-world deployment.
- Designed and fine-tuned object detection models for real world road condition monitoring system of IIT Madras (YOLOv8 (medium), YOLOv7 (L), Faster R-CNN), attaining a peak **mAP@0.5 of 0.65** for pothole and anomaly detection-outperforming other models in internal evaluations.

Boston Consulting Group

Remote, India

Data Scientist Intern (Forage)

November 2022 - December 2022

- Collaborated on resolving declining profits for PowerCo by addressing significant customer churn using data-driven strategies. Performed **EDA, feature engineering** on a dataset of **14,600 customers and 190,000+ transactions** to identify churn patterns.
- Built a predictive churn model-**Random Forest and XGBoost**, attaining **90% accuracy** on utility data to identify if customer will churn in future.
- Segmented customers by churn risk and proposed a **targeted discount strategy**, forecasting a **78% reduction in potential revenue loss**.
- Delivered **data-driven business recommendations** to improve customer retention and long-term profitability for PowerCo.

Projects

Imagify AI Saas App- Image Generator / MERN, Tailwind CSS, Framer Motion, WT, Axios, Stripe, Razor pay, Clip-drop API

May 2025

- Created **Imagify**, a full-stack AI image generator Saas App using **MERN stack** with responsive UI powered by **Tailwind + Framer Motion**. Developed **secure user authentication** with **JWT** and managed credit balances, and enabling purchases through **Stripe and Razorpay**.
- Integrated **Clipdrop Text-to-Image API** for real-time AI generation; deducted credits per request and stored **transaction history** in MongoDB. Deployed frontend and backend with **environment-driven configuration**, ensuring scalability and production readiness.

Image Captions Generator - Computer Vision + NLP / Deep Learning, TensorFlow/Keras, InceptionV3, LSTM

April 2025

- Built an image captioning model integrating **InceptionV3** feature extraction with an **LSTM decoder** for context-aware text generation. Pre-processed MS COCO captions with **byte-pair encoding**, padding, and data generators, ensuring efficient GPU utilization for large-scale training.
- Optimized training using Adam, learning rate decay, and early stopping; achieved **BLEU-4 = 0.36** and **CIDEr = 1.12**, matching state-of-the-art baselines. Reduced training time by **22%** through mixed-precision training and batched feature caching, improving scalability and efficiency.

QuickShow - Event and Movie Booking Platform/ MERN, Tailwind CSS, Axios, JWT Authentication, Bcrypt, Mongoose

May-June 2025

- Designed and developed **Event Sphere**, a full-stack web app using **MongoDB, Express, React, and Node.js** to enable event creation, discovery, and registration. Implemented **role-based authentication**; built **RESTful APIs** for event CRUD, RSVPs/tickets, and **attendee management**.
- Integrated **file uploads for event banners/media**, optimized MongoDB queries for search and filtering, and built responsive UI with **React Router + Tailwind**. Streamlined development and deployment with env-based configuration, ensuring scalability and production readiness.

QuickGPT - Full-Stack AI SaaS App with LLM Integration/ React, Node.js, MongoDB Atlas, Stripe API, ImageKit, Gemini API

March 2025

- Developed QuickGPT, a full-stack SaaS application that transforms **Google Gemini API** into a customizable **AI-powered chat assistant**, enabling businesses and users to interact with **advanced LLMs** in a controlled and branded environment.
- Built a **React + Vite frontend** and **Node.js + Express backend**, integrated with **MongoDB Atlas** to securely store user queries, chat histories, and subscription details for persistent, personalized experiences. Implemented **Stripe API** for subscription billing and **ImageKit** for secure media uploads.
- Deployed backend on **Vercel** with environment variable management, ensuring **scalable, production-ready infrastructure**.