Aditi Agrawal

aditi.agrawal2112@gmail.com | LinkedIn | GitHub | Personal Website

Education

University of California, Davis, USA Sept 2024 – March 2026
Master's in Computer Science | **CGPA: 3.91/4.0**

MIT-WPU, Pune, India Sept 2020 – June 2024
Bachelor of Technology in Computer Science and Engineering| **CGPA: 9.21 / 10.0**

IIT-Madras, Madras, India Sept 2021 – Dec 2024
BS in Data Science and its Application | **CGPA: 8.08 / 10.0**

Experience

Full Stack & AI Developer Intern, Butterflo, USA Jan 2026 – Present

- Designed an automated image classification pipeline using **Vertex AI and Gemini Vision Pro** for large-scale datasets.
- Optimized LLM prompt pipelines and agentic workflows using **N8N and LangChain**, reducing inference latency and API costs by 50% while maintaining high accuracy.
- Managed production **ML deployment (MLOps)** on **GCP**, including dataset versioning and real-time model endpoints.

Research Assistant, Speech Neuroengineering & Cybernetics Lab April 2025 – Present

- Led a demographic sensitivity analysis on 147 sEMG features in collaboration with **Meta's Neurotechnology program**.
- Built Mixed-Effects Models to quantify demographic effects on sEMG signals, identifying feature sensitivity to sex and subcutaneous fat.

Data Analytics Intern, fAIshion Inc., USA June 2025 – Aug 2025

- Built a conversational **multimodal** recommendation engine using **LangChain and OpenAI's CLIP** for semantic search.
- Developed automated **ETL pipelines** to process unstructured fashion API data and store vector embeddings in **Amazon S3**.
- Implemented collaborative filtering models and visualized trend analysis via **Power BI** for cross-functional decision-making.

Software Engineering Intern, Globemind Pvt Ltd, Pune, India Jan 2023 – Dec 2023

- Architected a **Full Stack** Hotel Management System to automate bookings, room assignments, and payment workflows.
- Developed responsive **React interfaces and RESTful APIs** to handle real-time guest check-ins.
- Managed the full SDLC for a private client, from requirement gathering to deployment and post-launch maintenance.

Projects

Oasis: Intelligent Multi-Account Calendar Assistant | Github | Demo

- Architected a Stateful Agentic Workflow using **LangGraph and Google Gemini** that autonomously routes user requests through specialized nodes for intent parsing, historical querying, and conflict resolution.
- Implemented a **Multi-Account Reasoning Engine** to manage cross-calendar availability, utilizing a custom "Resolver" node to calculate inverse availability and identify optimal scheduling gaps.
- Engineered an automated Intelligence Pipeline that transforms unstructured natural language into validated JSON objects for the **Google Calendar API**, enabling precise task synchronization and automated daily briefings.

Farm Sage: AI-Powered Strategic Automation | Github

- Developed a **parallel agentic workflow** using LangGraph and Morph LLM to simulate complex agricultural trade-offs.
- Designed a **Composite KPI Scoring**engine ($Score = f(Water, Cost, SoilHealth, Risk)$) that ranks seasonal strategies.
- Built an interactive recommendation dashboard featuring a glassmorphism UI to visualize risk analysis.
- Engineered **Pydantic-based JSON** enforcement to ensure deterministic scoring and **context-aware orchestration**.

Publications

Threat Detection in Social Media Networks Using ML-Based Network Analysis| Link May 2025

- Developed an ANN-based intrusion detection model for social media network traffic using the UNSW-NB15 dataset.
- Performed data preprocessing, class imbalance handling, and model evaluation using recall, F1-score, and ROC-AUC.

Food Waste Management with Community Collaboration | DOI May 2023

- Developed with MySQL and Apache; frontend implemented using HTML and JavaScript.
- Research focused on scalable, community-driven food waste management solutions.

Technical Skills

AI & Automation: LangGraph (Agentic Workflows), LangChain, LLMs, Prompt Engineering, TensorFlow, PyTorch, MCP, N8N
Programming & Full Stack: Python, SQL, React (Hooks, Context API), Next.js, FastAPI, JavaScript, HTML, CSS
Data & Cloud: GCP (Vertex AI, BigQuery, Cloud Run) , AWS (S3) , Tableau, Power BI , Docker, Vercel