

AMAN SAGAR

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Summary

Data Science & ML student at IIT Madras with hands-on experience in machine learning pipelines, LLM-based systems, and data analytics. Skilled in Python, SQL, deep learning, and RAG-based AI – with a focus on interpretability, real-world deployment, and measurable impact.

Education

Indian Institute of Technology Madras

Chennai, Tamil Nadu

B.S. in Data Science and Applications – GPA: 8.01/10

Sep 2023 – Present

Experience

Summer Intern

May 2026 – Present

Vicharanashala Lab – IIT Ropar

Punjab, India

– Working on research problems at the intersection of AI and real-world applications under faculty supervision.

Research Intern – Machine Learning

May 2025 – Aug 2025

IISER Bhopal

Bhopal, India

– Built a clinically-driven breast cancer classification system using Logistic Regression, SVM, Naive Bayes, and XGBoost.

– Applied cost-sensitive learning ($F\beta \approx 7.8$) to prioritize recall, achieving **100% recall** with zero false negatives.

– Implemented feature selection (RFE, LASSO) and SHAP interpretability; designed reject-option classifier validated with 10-fold CV.

– Developed a Streamlit-based clinical decision support system and published findings as a structured research paper.

AI & ML Intern – Crop Disease Detection

May 2025 – July 2025

Annam.ai – IIT Ropar

Punjab, India

– Built deep learning models for rice and wheat disease classification using EfficientNetV2B3 & ResNet50.

– Engineered large-scale annotated datasets with CLAHE preprocessing, augmentation, and normalization pipelines.

– Applied transfer learning, hyperparameter tuning, and Test Time Augmentation; achieved **Top 15 rank** nationally.

PR & Outreach Head | WebOps Team

Aug 2024 – July 2025

Sundarbans House (Student Organization), IIT Madras BS

Chennai, India

– Led social media strategy and community outreach; organized events with **1,000+ participants**.

– Collaborated with WebOps to manage digital assets and streamline event tech operations.

Projects

AI Agents & LLM Systems | Python, LangChain, RAG, Streamlit

2025

– Built an LLM Agent with multi-step reasoning, a RAG-based Virtual Teaching Assistant, a Data Analyst Agent (NL → insights), and an automated PPT Generator.

KrishiSetu – AgriTech Platform | Next.js, Tailwind CSS, Firebase, LLMs

2025

– Built a full-stack AgriTech platform with market price dashboard, AI crop advisory, disease detection, and farmer community forum;

Top 50 at Zinnovatio 3.0 Hackathon, shortlisted at SuperHack 2025.

EdTech & Retail Analytics Dashboards | Python, SQL, Power BI, EDA

2025

– Built Power BI dashboard analyzing EdTech course trends, learner engagement, and instructor impact.

– Designed end-to-end retail analytics pipeline with EDA, time-series, ABC classification, and ROP-based inventory optimization.

Hospital Management System | Flask, Vue.js, SQLite, Celery, Redis

2024–2025

– Built full-stack system with appointment scheduling, role-based authentication, and async background job processing.

Technical Skills

Languages: Python, SQL, JavaScript

ML / DL: Scikit-learn, TensorFlow/Keras, XGBoost, SHAP, Feature Selection (RFE, LASSO, PCA)

AI Systems: LLMs, Prompt Engineering, RAG, AI Agents, LangChain

Data & Visualization: Pandas, NumPy, Matplotlib, Power BI, Streamlit, Statistical Analysis

Web Development: Flask, Next.js, Vue.js, Tailwind CSS

Databases: MySQL, PostgreSQL, SQLite, Firebase

Tools: Git, GitHub, VS Code, Google Colab, Excel, Kaggle, Ubuntu

Achievements & Positions of Responsibility

Secretary, Sportify – Sports Society of IIT Madras BS Degree

Present

Selected Finalist – Google GenAI Exchange Hackathon

Top 10 (Rank 8) – Design-a-Thon 2025, IIIT Nagpur

Top 15 – Annam.ai Soil Classification Challenge Parts 1 & 2

Shortlisted – SuperHack 2025

Smart India Hackathon – built “VighnaSetu”, AI-powered civic-issue reporting platform