

# Mayukh Jain

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## SUMMARY

Aspiring Data Scientist and ML Engineer with a strong foundation in predictive modeling, Computer Vision, and Generative AI. Proven track record of deploying scalable applications using Docker and other deployment tools. Skilled in Python, Scikit-learn, TensorFlow, and AWS cloud services. Completed projects in Agriculture fullstack application, flood prediction, fraud detection, and stock price forecasting with a focus on deploying scalable, data-driven applications.

## TECHNICAL SKILLS

**Programming Languages & Databases:** Python, C++, SQL, Java, JavaScript, Vector Databases (FAISS/ChromaDB)

**AI/ML & GenAI:** LangChain, RAG (Retrieval Augmented Generation), TensorFlow, PyTorch, Scikit-learn, DeepSeek API (LLMs), OpenCV, Pytesseract (OCR), Hugging Face Transformers, Cosine Similarity,

**Frameworks:** yTorch, FastAPI, Flask, Streamlit, React

**Libraries & Tools:** Pandas, NumPy, Matplotlib, Seaborn, Git, MySQL, Jupyter Notebook, REST APIs

**Cloud & MLOps:** AWS (EC2, S3, Lambda, IAM), Docker, Hugging Face Spaces, Vercel, Azure, Render, Qdrant, Supabase

## PROJECTS

**Academia.AI** | [Link](#) | [Code](#)

Jan 2026

*Intelligent Research & Learning Assistant* Fast API, Supabase (PostgreSQL + pgvector), RAG, Google Embeddings, Edge TTS

- Engineered a RAG-based study platform utilizing Google Gemini 1.5 and pgvector to enable context-aware Q&A across uploaded research papers with sub-second retrieval latency.
- Developed multi-modal generative features, including "CourseGenie" (an adaptive curriculum generator with interactive quizzes) and "Podcast Studio" (transforming topics into engaging 2-person audio dialogues).
- Architected a decoupled full-stack system using FastAPI and React, featuring real-time audio visualization, secure session-based history management, and split-screen document previewing for enhanced productivity.

**Cine Ai** | [Link](#) | [Code](#)

Nov 2025 – Dec 2025

*AI-Powered Movie Recommendation Full Stack System* React, FastAPI, RAG, Qdrant, Sentence Transformers, TMDB API

- Built a Semantic Search Engine using Python and Qdrant to index and query 10,000 movie vector embeddings, enabling natural language discovery beyond simple keywords.
- Integrated Retrieval-Augmented Generation (RAG) by connecting Google Gemini with the vector database to generate context-aware, AI-driven movie explanations for users.
- Deployed a Full-Stack Microservices Architecture with React (Vite) on Vercel and FastAPI on Hugging Face (using Docker), ensuring scalable, real-time performance across devices.

**Leaf Compass** | [Link](#) | [Code](#)

July 2025 – Dec 2025

*Full-Stack AgriAI App(Computer Vision & NLP)* React, Python, FastAPI, TensorFlow (CNNs), Scikit-learn, GenAI (LLMs)

- Built a Full-Stack Agri-Tech Platform using React and FastAPI, integrating CNNs and Regression models for disease diagnosis, crop recommendation, fertilizer recommendation and yield prediction with ~90% accuracy.
- Engineered a context-aware AI chatbot using the DeepSeek-V3.2 API, reducing user query resolution time by providing instant, interactive agricultural advice.
- Deployed a containerized backend on Hugging Face Spaces (Docker) with a Vercel frontend, ensuring high availability and scalable performance.

**NYAYA.AI** | [Link](#) | [Code](#)

Dec 2025

*Legal Intelligence Platform*

FastAPI, RAG, Llama 3, Pinecone, Docker, Vercel

- Developed a full-stack legal AI companion using Retrieval-Augmented Generation (RAG) to interpret the Bhartiya Nyaya Sanhita (BNS) with 98% accuracy.
- Architected a vector search pipeline using Pinecone and HuggingFace embeddings to query 15k + precedents in sub-second time.
- Integrated Llama 3.3 (via Groq) to build an AI Verdict Predictor and Automated Document Drafter for affidavits and agreements.

## EXPERIENCE

**Technical Team Member**

VIT University, Bhopal, India

*TechnoMech Club*

Oct 2024 – Present

- Spearheaded technical operations for coding contests and technical workshops, managing participation for 100+ students.
- Co-developed and maintained the club's official website, improving load times and mobile responsiveness.

## EDUCATION

**VIT Bhopal University** | CGPA : 8.34

Bhopal, India

B.Tech. in Computer Science, Cloud Computing and Automation

Aug 2023 – Present

## CERTIFICATIONS

AWS Cloud Practitioner Essentials

Smartbridge Certified Machine Learning in collaboration with Google

Applied Machine Learning in Python from University of Michigan

Microsoft Certified: Azure Data Fundamentals

IBM Cloud Computing Fundamentals

IBM Information Technology Fundamentals