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: TensorFlow, PyTorch, 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

PROJECTS

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.

Flood Prediction using Machine Learning | Link | Code — Sept 2024 – Dec 2024
Predictive Analytics / Time-Series — *Python, Flask, Streamlit, Random Forest, OpenWeather API, Scikit-learn*
- Assembled an ML-powered flood prediction system achieving 80–90% accuracy, enhancing disaster preparedness.
- Integrated real-time weather data via OpenWeather API, improving forecasting efficiency by 40%, and deployed a Flask-based web app for instant risk assessment.

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

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