Dhruv Mendiratta

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SUMMARY

Final-year Computer Science student with experience in GenAI systems at EY (LLMs, LangChain, FAISS) and AWS deployment at Deloitte. 3× published AI researcher with strong skills in Python, FastAPI, React, and full-stack AI product development.

SKILLS

Programming	Python, C, SQL, JavaScript
AI/ML	LangChain, LLMs, FAISS, TensorFlow, Keras, Scikit-learn
Data Tools	Pandas, NumPy, Matplotlib, GARCH
Web & APIs	FastAPI, React, Node.js, REST APIs, PostgreSQL
Cloud & DevOps	AWS (EC2, S3, Lambda), Git, Docker, Kubernetes
Other	MongoDB, JIRA, NLTK, Chart.js

EDUCATION

Manipal University Jaipur   Jaipur, Rajasthan
B.Tech in Computer Science and Engineering   Sept 2022 – Present
- 2× Student Excellence Award — 3× Published Researcher

WORK EXPERIENCE

Ernst & Young (EY)   Delhi, India
AI Intern, Generative AI & RAG Systems   May 2025 − Present
- Developed enterprise-grade RAG chatbot using LangChain, FAISS, and Gemini APIs, improving response accuracy by 30%
- Built scalable ingestion and chunking pipelines with embedding optimization for real-time queries
- Integrated prompt workflows with proprietary document stores to automate internal knowledge retrieval and compliance

Deloitte Touche Tohmatsu LLP   Gurugram, Haryana
Software Engineering Intern, Cloud Computing (AWS)   May 2024 − July 2024
- Completed hands-on training on AWS services including EC2, S3, Lambda, IAM, and CloudWatch
- Practiced real-world deployment scenarios involving cloud architecture, scalability, and security
- Engaged in knowledge-sharing sessions on cloud optimization, infrastructure design, and AWS tooling

PROJECT WORK

Enterprise RAG Chatbot *LangChain, FAISS, Gemini API, Python*   May, 2025 − July, 2025
- Built an internal enterprise chatbot using RAG (Retrieval-Augmented Generation) for document Q&A
- Integrated vector search (FAISS) and prompt workflows to boost response accuracy by 30%
- Optimized document chunking and embeddings for contextual precision

Product Sentiment Analyzer (Full-Stack NLP App) *FastAPI, React, NLTK, PostgreSQL*   March, 2025
- Developed a full-stack app to classify user reviews using custom NLP logic and real-time API calls
- Designed a clean React UI with dynamic charts and visual sentiment indicators
- Built preprocessing + storage pipeline with PostgreSQL backend

Hybrid Stock Price Prediction Model *LSTM, GARCH, TensorFlow, Keras, Python*   January, 2025
- Engineered a hybrid deep learning model combining LSTM (sequential) and GARCH (volatility) networks
- Achieved $R^2 = 0.9901$, RMSE = 0.0125 on S&P 500 data using rigorous error analysis
- Submitted findings for publication in peer-reviewed research venues

Railway Ticketing Chatbot (Rule-Based NLP) *Python, NLTK*   May, 2025
- Created a rule-based chatbot for train ticket booking using keyword mapping and intent classification
- Simulated booking flow with text interface, input validation, and query classification logic

PUBLICATIONS

CML 2025: Skin Disease Detection using CNN+GAN models on ISIC dataset (Accuracy: 96.3%, Grad-CAM used for interpretability)

ICAESRTA 2K25: Hybrid BiLSTM-GRU model for S&P 500 forecasting ($R^2 = 0.9901$, MAE = 0.0101)

Journal: Role of AI in Radiology and Medical Diagnostics – Published in *Cuestiones de Fisioterapia* (2025)

HONORS & AWARDS

Student Excellence Award (x2): For AWS internship at Deloitte and peer-reviewed AI research at Manipal University

HackX Finalist (2024): Reached final round of Manipal University's premier hackathon

Paper Presentations: Presented at CML 2025 (Skin Disease AI) and ICAESRTA 2K25 (Stock Forecasting)