Mukul Rana

Delhi, India

+91-8882894356 devmukulrana@gmail.com LinkedIn GitHub

Experience

FirstHuman Tech Dec 2025 – Present

Software Engineer (Remote), Australia

- Built a retrieval system over **5,000+ enterprise documents** using embeddings and vector search, raising retrieval quality through chunking strategy and re-ranking.
- Shipped a handwriting OCR pipeline on Azure Document Intelligence for semi-structured enterprise forms.
- Built FastAPI, PostgreSQL, Redis and Kafka services handling concurrent document ingestion and reliable reprocessing.

ASR Aviation Sep 2025 – Nov 2025

Software Engineering Intern (Remote)

- Optimised database queries and API endpoints to cut backend response times, and containerised services with Docker and Kubernetes for repeatable deployment.

IABTM Sep 2024 – Mar 2025

Full Stack Developer Intern (Remote)

- Built REST APIs and real-time messaging features with Node.js, Express and Socket.IO in a distributed team.

Projects

Multimodal Local RAG 2025

Python, FastAPI, FAISS, Computer Vision GitHub

- Fully offline retrieval system for querying PDFs and images; built for Smart India Hackathon 2025 (National Finalist), using hybrid chunking and multimodal indexing.

MicroRAG 2025

FastAPI, LangGraph, AWS, Microservices GitHub

- Microservice retrieval pipeline splitting ingestion, embedding and retrieval into independent services for modular scaling and end-to-end tracing.

Technical Skills

Languages: Python, Java, JavaScript/TypeScript, SQL

Backend & Data: FastAPI, Node.js, Express, REST, Microservices, Kafka, PostgreSQL, MongoDB, Redis, Neo4j

GenAI: RAG, Embeddings, Vector Search (FAISS, Qdrant), LangChain, LangGraph, Agents & Tool Calling, MCP , Evals & Tracing (LangSmith),

Infrastructure: AWS (EC2, S3), Docker, Kubernetes, Linux, Git, Nginx, CI/CD

Education

IMS Engineering College — B.Tech, Computer Science 2023 – 2027

SGPA 7.9 | Coursework: Data Structures & Algorithms, Operating Systems, DBMS, Computer Networks, AI

Achievements

- Smart India Hackathon 2025 National Finalist; 3× hackathon winner.
- 500+ problems solved on LeetCode.