SACHIN MAURYA

B.Tech. (Hon's) CSE (AI)

: 8528187710 || E mail || LinkedIn || Github || Portfolio

PROFILE SUMMARY

Pursuing B.Tech (Honors) in Computer Science and Engineering (AI) with hands-on experience in Data Science, Machine Learning, and Deep Learning. Focused on predictive maintenance, generative modeling, and medical image analysis. Developed a digital twin of centrifugal pumps using LSTM and XGBoost, and built CNN-based models for classification, segmentation, and detection on CT and X-ray images. Proficient in Python, TensorFlow, OpenCV, and in building end-to-end ML pipelines. Currently expanding expertise in Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), and Agentic AI with a strong focus on real-world applications and autonomous systems.

EDUCATION

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2025	B.Tech. 4rd Year(7^{th} Sem)	CSVTU – (Bhilai)	*7.6 (till 6 sem)*
2021	Twelfth	Holy Angels Public School (C.B.S.E)	*75%*
2019	Tenth	S.B.T Public School (C.B.S.E.)	80%

SKILLS

- **Programming & Libraries**: Python (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow, PyTorch, OpenCV), SQL
- **Core AI/ML Concepts**: Statistics & Probability, Data Structures & Algorithms, Supervised & Unsupervised Learning, Deep Learning (CNNs, LSTMs, GANs), Natural Language Processing (NLP), Foundation Models
- **Advanced AI Technologies**: Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Prompt Engineering, Vector Databases (FAISS, ChromaDB), Agentic AI Architectures (LangChain Agents, ReAct, AutoGPT - theoretical & experimental understanding)
- **Cloud & Deployment**: Google Cloud Platform (Firebase), Amazon Web Services (S3, EC2), Docker

EXPERIENCE

Diagnostic Tool of a centrifugal Pump (NSTL-DRDO) || IIT Roorkee || Onsite

15 Jan – 15 Jun 2025

- Built a predictive maintenance system for centrifugal pumps using LSTM ,CNN and ensemble models (XGBoost, Random Forest) on sensor time-series data.
- Designed a real-time dashboard for anomaly detection and failure prediction to improve operational efficiencv in defense systems.

18 feb – 15 Aug 2025

Data Scientist || QuickCURD || Remote

- Engineered a multimodal diagnostic system combining CT scan and X-ray image models for medical condition detection across multiple body regions
- Developed scalable ML workflows with emphasis on data consistency, domain-specific features, and robust handling of anomalies and edge cases in real-world clinical data.

PROJECTS

- **Multimodal AI Diagnostic Assistant for Chest and Abdomen Scans**
  Designed an AI system that integrates CT scan and X-ray images to detect chest and abdominal conditions using CNN-based classification and segmentation models. Implemented a real-time diagnostic dashboard with explainable AI to assist clinicians in decision-making. Enabled multimodal fusion for improved diagnostic accuracy across multiple organ systems.
- **LLM-Powered Medical Report Generator**
  Built an agentic AI system that combines medical image model outputs with a Retrieval-Augmented Generation (RAG) pipeline to generate structured clinical reports. Integrated a Large Language Model (LLM) to translate diagnostic results into doctor-friendly summaries. Enhanced report reliability by retrieving context from verified medical literature.
- **AI-Powered Stock Trend Prediction and News Sentiment Analysis**
  Built an LSTM-based model for multi-stock trend prediction using historical price data and technical indicators. Enhanced forecasts using LLM-driven news sentiment analysis via RAG from financial headlines

ACHIEVEMENTS

- **Received Letters of Recommendation from Prof. Anil Kumar and Prof Ankit Bansal, IIT Roorkee,** for developing AI-driven predictive maintenance models
- **5 – star hacker Rank (Python and C)**