SACHIN GOYAL

(+91) 6280034162 | sachingoyal9274@gmail.com | Ludhiana, Punjab, India | Portfolio

EDUCATION

BE/B.TECH COMPUTER ENGINEERING | Thapar Institute of Engineering and Technology | CGPA 7.97   2023– 2027

TECHNICAL SKILLS

Programming Languages: C, C++, Python, R, MATLAB

AI & Data Science: Machine Learning, Generative AI (LLMs, Prompt Engineering, RAG), Data Analysis, Data Visualization

Databases: MySQL, Neo4j

Tools & Platforms: FastAPI, LangChain, VS Code, GitHub, Google Colab, AutoCAD, Hugging Face

PROJECTS

AI CHATBOT & AUTOMATION SUITE | Thapar Institute of Engineering and Technology | Project   Jun 2025 – present

- Technologies: **Generative AI** | Agentic AI | RAG
- Developed **Agentic AI** applications, including a Course Generator (roadmaps + templates) and an AI YouTube Blog Generator.
- Implemented intelligent assistants such as a **Code Assistant**, Math Solver, Content summarizers for YouTube videos & websites.
- Created a **Database Query Chatbot** enabling natural language interaction with databases without SQL knowledge.

SMART INDIA HACKATHON 2025 – ROCKFALL PREDICTION & SAFETY SYSTEM   Aug 2025 – present

- *Technologies: Agentic AI, IoT, Machine Learning, Python, React.*
- Selected problem statement: **AI-based system for predicting and mitigating rockfall incidents in open-pit mines**.
- Designing a smart app with **real-time risk maps, alert mechanisms (SMS/email), and incident tracking**.
- Implementing **IoT sensor integration** (displacement, pore pressure, vibration) for proactive monitoring.
- Contributing to the **Agentic AI assistant** module to support miners with safety guidance and automated emergency response.
- Target outcome: **cost-effective, scalable solution** enhancing mine safety through predictive analytics and AI-driven decision support.

PERSONAL AI HEALTH ASSISTANT | Thapar Institute of Engineering and Technology | Project   Jan 2025 – May 2025

- Technologies: Python, Gradio, scikit-learn, Pandas, GeoPy, KNN, Random Forest.
- Built an ML-based Sleep Quality Predictor using Random Forest on a lifestyle dataset with custom health advice logic.
- Developed an interactive Gradio interface that provides personalized diet recommendations based on nutritional needs, predicts diseases from symptoms, and locates nearby doctors.

OPEN-CV-VEHICLE-DETECTION| Thapar Institute of Engineering and Technology | Project   Jun 2025 – July 2025

- *Technologies: Python, OpenCV, YOLOv8.*
- Demonstrated skills in computer vision pipeline development and real-time object detection.
- Built a real-time vehicle detection and tracking system using OpenCV and YOLOv8 to process and annotate video streams. Utilized the lightweight YOLOv8n model for fast and accurate vehicle recognition.

INVOLVEMENT

- Selected to attend **Google Cloud AI Lab Series** (In-person), gaining exposure to advanced Generative AI applications and industry best practices.
- **Cleared Internal Hackathon for SIH 2025:** Qualified for the next round of the **Smart India Hackathon 2025**.
- Guinness World Record Holder – Participated in the AICTE Python programming event with 112,319 participants.

COMPETITIVE PROGRAMMING & PRACTICE

- Solved **300+ DSA** problems across platforms.
- Codolio: Sachin Goyal | Codolio
- Focused on problem categories such as DP, Graph algorithms, and sorting techniques.