

# SACHIN GOYAL

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## 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, and 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.
- 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.