# Sayantika Laskar

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#### Education

B.Tech, VIT Bhopal University

Bhopal, India

Computer Science and Engineering, specialization in Health Informatics with current CGPA of 8.68

#### Skills

Java, Python, Machine Learning, Deep Learning, Github, Computer Vision, DBMS, C++, API Integration, Streamlit, SQL

#### **Projects**

#### **Face Emotion Detection System,**

Mar, 2025 - Apr, 2025

Python, TensorFlow, OpenCV, Streamlit, FER-2013 Dataset

- Designed and trained a CNN on the FER-2013 dataset, achieving 98% classification accuracy across seven emotion categories.
- Integrated the trained model with OpenCV to enable real-time webcam-based facial emotion recognition as well as image uploads for testing.
- Deployed the system using Streamlit, providing an interactive interface where users could test live detection and visualize predictions in an accessible way.

Sign Language Recognition, Python, OpenCV, CNN, TensorFlow, Keras

Jan, 2025 – Feb, 2025

- A CNN-based model capable of recognizing and classifying American Sign Language (ASL) hand gestures in real time using webcam input.
- Built a gesture preprocessing pipeline with OpenCV to detect, segment, and normalize hand gestures.
- Implemented a mapping system to convert detected gestures into ASL symbols, creating a foundation for a communication aid between signers and non-signers.

HealthBot - AI-Powered Medical Chatbot, Python, LangChain, FAISS, OpenAI API, NLP

Dec, 2024 – Jan, 2025

- Developed a retrieval-based medical chatbot using LLMs, LangChain, and FAISS for real-time question answering based on medical literature.
- Implemented memory and context management to enable multi-turn conversations, ensuring the chatbot could recall previous interactions for improved accuracy.
- Integrated the system with the OpenAI API for natural language understanding, making the chatbot capable of providing clear, human-like responses to users in real time.

### **Internships**

Akai Space, Data Labeler and AI Developer

Jul. 2025 | Remote

Contributing to AI model development by labeling datasets, testing model outputs, and supporting data-centric ML workflows in a hybrid work environment

#### **Achievements**

**Raman Research Award 2025** 

Jul, 2025 | Bhopal, India

 $Awarded \ for \ Scopus-indexed \ research \ paper \ on \ climate \ change \ modeling \ using \ ARIMA, \ published \ in \ IEEE \ Xplore.$ 

Flipkart Grid 7.0, Semi-Finalists

Jul, 2025 – Aug, 2025 | Remote

Recognized among top participants in Flipkart's national-level competition

**Health Hackathon Participant** 

Feb, 2025 | Bhopal, India

Participated at VIT Bhopal University in collaboration with John Hopkins University and was among the top selected 236 teams

Young Leaders Viksit Bharat Program(Ministry of Sports and Youth Affairs)

Jan, 2025 | Delhi, India

Finalist after excelling in quiz, essay ("Tech for Viksit Bharat"), state-level pitch, and national presentations at Bharat Mandapam.

#### Co-curricular

#### **Data Structure and Algorithm**

Solved 810 problems in Leetcode, 570 in GFG(hash maps, stacks, queue, arrays, strings, sorting, linked lists), 50 in HackerRank using Java and C++, and codeforces ranking of 781

GSSoC '24, Contributor

Contributed to issues relating to Machine Learning and Deep Learning with 12 merged pull requests and 660 points

#### **Extracurricular**

GDSC Club, VIT Bhopal, Machine Learning Team Core Member

Conducted and organized an event with around 80 participants and contributed in open-source projects

Fine Arts Club, VIT Bhopal, Social Media and PR and Outreach Team Core Member

Managed 5 events with approx. 100 participants(each) to enhance communication, management, team work skills

#### **Publications & Conferences**

#### International Conference on Data Computation and Communication, 2024

Nov, 2024 - Nov, 2024 | Bhopal, India

Presented 2 papers on heart disease prediction using Machine Learning and climate change using ARIMA

Timestamp Extraction and Log Classification Using Supervised Machine Learning: A Comparative Study,

Jun, 2025 | Faridabad, India

Journal of Software Engineering Tools & Technology Trends (JoSETTT)

## Mitigating Climate Change: Utilizing Global Warming Through ARIMA Modelling

Apr, 2025 | Sehore, India

Explored the application of ARIMA time series modeling to analyze global temperature rise patterns and forecast future climate trends.

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