# Satyam Singh

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#### **EDUCATION**

## **National Institute of Technology Nagaland**

Chumukedima, Nagaland

B.Tech in Computer Science

Expected Graduation, May 2027

**CGPA:** 9.85

## **PROFILE SUMMARY**

Targeting **Data Scientist** roles with an organization of high repute with a scope of improving knowledge and further career growth.

- Python (OPPs, Flask, Scikit-learn, TensorFlow, OpenCV, Langchain, Ollama) with a strong background in building scalable applications.
- Demonstrated ability to manage and deliver projects **efficiently**, from initial planning and design to final deployment and maintenance.
- Committed to staying updated with the latest industry trends and technologies, continuously enhancing skills to provide innovative solutions.

### **PROJECTS**

## **Credit Scoring Model Development**

June 2023- July 2023

Tools: NumPy, Pandas, Scikit-learn, Flask

Skills: Machine Learning, Data Preprocessing, Feature Engineering

A credit scoring model using machine learning predicts the likelihood of a borrower repaying a loan based on financial and Behavioral data.

#### Responsibilities:

- Developed the front-end using HTML and CSS, creating a responsive and intuitive user interface.
- Implemented Scikit-learn Pipelining to fasten the process and to avoid errors.
- Managed the backend entirely with flask and predict the credit score from model.
- Performing EDA, Feature Engineering, Hyperparameter Tuning, ensemble methods and **Gradient Boosting Classifier** is best Algorithm with accuracy of 80%.

## **Medical Das- RAG Application Chatbot**

Feb 2025 - March 2025

Tools: Streamlit, FAISS, Langchain, Mitral-7B API, PDF Loader

Skills: Retrieval-Augmented Generation (RAG), Natural Language Processing (NLP), Vector Search, Machine Learning, Data Processing

Developed Medical DAS, an Al-powered system designed to retrieve and generate relevant medical insights from uploaded PDFs, enhancing information accessibility for healthcare professionals and researchers.

#### Responsibilities:

- Built a **Streamlit-based UI** for seamless document upload and interaction.
- Implemented FAISS vector search to store and retrieve relevant medical text efficiently.
- Integrated Mitral-7B API via LangChain to generate context-aware medical responses.
- Designed a PDF ingestion pipeline to preprocess and convert documents into searchable embeddings.
- Optimized retrieval performance for accurate and rapid medical query responses.

## Medical Das2.0 - Al-Powered Healthcare Assistant

10 March 2025 - 14 March 2025

Tools: Python, Gradio, TensorFlow, OpenCV, ElevenLabs, GROQ API

Skills: Multimodal AI, Speech Recognition, Natural Language Processing (NLP), Deep Learning, Computer Vision
Developed Medical Das2.0, an AI-powered healthcare assistant that integrates multimodal AI for medical diagnostics and patient interactions, enabling voice-based consultations and medical data analysis with image.

## Responsibilities:

- Implemented Speech-to-Text (STT) & Text-to-Speech (TTS) models to facilitate real-time doctor-patient communication.
- Developed a **Gradio-based UI**, allowing seamless interaction via voice and text inputs.
- Configured the GROQ API for efficient AI model inference in medical data processing.
- Integrated a Multimodal Large Language Model (LLM) to analyse medical images and text for accurate diagnostics.
- Optimized model performance for fast and reliable medical consultations, improving accessibility to Al-driven healthcare.

## **Car Counter Using YOLO Model**

Dec 2024 - Jan 2025

Tools: Python, OpenCV, Ultralytics YOLO

Skills: Object Detection, Deep Learning, Real-Time Processing, Video Analytics

Developed a car counting system using the YOLO object detection model to monitor and analyse vehicle traffic efficiently. **Responsibilities**:

- Designed a **Python-based pipeline** to process video streams for real-time car detection and counting.
- Integrated the YOLO model from Ultralytics for high-accuracy object detection in various environments.
- Utilized OpenCV for video frame processing and visualization of detected vehicles.
- **Tuned model parameters** and optimized the detection pipeline for faster inference without compromising accuracy.
- Conducted tests in diverse scenarios like highways and parking lots to ensure scalability and reliability.

#### ACADEMIC ACHEIVEMENTS

- Assistant Coding Secretary at NIT Nagaland, actively involved in hosting tech fests like Ekarikthin and Tech Avinya and other coding-related events.
- Participated in a one-day program on cutting-edge technology, expanding knowledge of the latest advancements in the field.
- Completed machine learning, deep learning, and object detection projects, with a focus on practical applications and advanced techniques and currently working with professor on research project.

## **SKILLS**

**Programming:** Python, HTML/CSS, SQL, C, Java, Javascript

Library: Pandas, NumPy, Scikit-learn, TensorFlow, Matplotlib, Seaborn, OpenCV, Flask, SQL Alchemy, Beautiful Soup, Genism Core Skills: Machine Learning, Deep Learning, Object Detection, Data Structures, DBMS, Web Development, Artificial Neural Network (ANN), Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Long Short Term Memory (LSTM), Gated Recurrent Unit, Bidirectional RNN, Natural Language Processing (NLP), Data Science, SQL, Lang Chain, Ollama, RAG Tools: PyCharm, Git, Bootstrap, GitHub, Kaggle, VS Code, Hugging Face

### **Certificates/ Badges**

- GitHub Foundation GitHub.
- Machine Learning with Python Level -1 IBM
- Python, Problem Solving Hacker Rank
- Introduction to Programming Using HTML/ CSS Cognitive Class
- Deep Learning (ANN, RNN, CNN, GRU, Bidirectional, LSTM, Transformer) Cognitive Class
- 100 days of Machine Learning / Deep Learning Campus X
- Al Agent Foundation Hugging Face