

Siddharth Shukla

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Education

Graphic Era Hill University

2022 - 2026

Bachelor of Technology in Computer Science (GPA: 8.71 / 10)

Dehradun, Uttarakhand

Prabhat Senior Secondary Public School

2020 - 2021

Class 12th - Percentage: 95.2%

Kanpur, Uttar Pradesh

Prabhat Senior Secondary Public School

2018 - 2019

Class 10th - Percentage: 94.8%

Kanpur, Uttar Pradesh

Projects

Airline-Passenger-Refferal-Prediction | Machine Learning, Scikit-learn, Classification, Gradio

- Built and deployed a classification model to predict whether a passenger will refer the airline to others, addressing a critical business need to improve customer satisfaction and retention.
- Validated model robustness through cross-validation, confirming stable performance with only a 0.02% difference in misclassifications compared to a single train-test split.
- Generated a model accuracy of **94%** using **Logistic Regression** and a precision score of **94%** for the positive class.

EduChat | Python, Flask, LangChain, Prompt Engineering

- Engineered a full-stack **Retrieval-Augmented Generation (RAG)** system using **LangChain** and a **FAISS** vector store to enable accurate, context-aware chat over uploaded PDF documents.
- Developed a AI Essay Grading module using the **Gemini 2.5 Flash Chat Model**, leveraging dynamic system prompting to evaluate essays against user-defined rubrics.
- Demonstrated robust Software Implementation by building a production-ready backend, handling API Key security and successfully debugging complex cloud errors (400/404 Model Access, 429 Quota Exceeded).

Advanced-Zomato-Restaurant-Clustering-and-Sentiment-Analysis | Clustering, NLP, Scikit-learn, Sentiment Analysis

- Developed a **clustering** model for Zomato restaurants based on reviews and features, allowing the identification of different restaurant segments and assisting in strategic marketing decisions.
- Faced challenges in **text preprocessing** for sentiment analysis, conducted feature engineering for clustering and reduced dimensionality by **90%** using **PCA** for better visualization.
- Achieved an **ROC AUC** score of **0.921** with **XGBoost classifier**, and **86%** accuracy for sentiment classification.

ChatBot-Using-Deep-Learning | Keras, TensorFlow, Sequence Modeling, LSTM

- Built and fine-tuned an LSTM-based chatbot to handle natural language queries, enhancing user interaction and automating customer support responses.
- Implemented the model with TensorFlow and Keras, utilizing pre-trained embeddings to improve contextual understanding of responses, leading to a 25% improvement in response relevance.
- Achieved a validation accuracy of 90% demonstrating a well trained language model for conversational AI.

Skills

Programming Languages: Java, C, C++, Python, SQL

Artificial Intelligence: Scikit-learn, NLP, Recommender Systems, Hypothesis Testing, TensorFlow, Keras, Neural Networks, LangChain, RAG, GenAI.

Tools: Git, VSCode, Jupyter Notebook, Github, Hugging Faces.

Concepts: Operating System, DBMS, Data Structure and Algorithm, Computer Networks, OOPs, REST APIs.

Soft-Skills : Communication, Analytical thinking, Teamwork, Adaptability, Time management

Achievements

- Completed the IIT Kharagpur/NPTEL certification for "Introduction to Machine Learning" with an **Elite** score of **82%**.
- Engineered a predictive pricing model using a Decision Tree Regressor for the Kaggle 'Backpack Prediction Challenge', achieving a Mean Absolute Error of 33.66 and ranking in the top 61% (2066/3,383) of global competitors.

Publications

- Enhancement of Usability of Chatbots using Machine Learning, 2024 Asia Pacific Conference, IEEE.** Authors: Rahul Chauhan, Siddharth Shukla, Siddharth Pokhriyal, Swati Devliyal, and Ravi Ranjan Kumar. [Link](#)