

REVATI NATU

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Education

K. J. Somaiya School of Engineering, Somaiya Vidyavihar University

Oct. 2022 – Jun 2026

B. Tech in Information Technology with Honors in Artificial Intelligence (CGPA: 9.4)

Mumbai, MH

Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Data Science, Data Visualization, Data Analysis, Statistics, Cloud Computing, Software Methodology, Database Management Systems

Technical Skills

Languages: Python, C++, C, HTML, CSS, JavaScript, SQL

Technologies: TensorFlow, scikit-learn, Pandas, NumPy, OpenCV, LangChain, LangFlow, Hugging Face, GitHub, Linux

Developer Tools: VS Code, Jupyter Notebook, Google Colab, Codeblocks

Other Skills: Prompt Engineering, LLM Fine-tuning, Model Evaluation, Agile Methodology

Certifications: Generative AI with LLMs, Neural Networks and Deep Learning, Exploratory Data Analysis For Machine Learning, Data Science Methodology (IBM), Cybersecurity Certification (Google)

Experience

Commonwealth Secretariat - SDE

Jan 2025 – May 2025

- Contributed to the development of an AI prototype of an Early Warning Dashboard for the Governance and Peace Directorate at the Commonwealth Secretariat.

Forgery Detection System via Inpainting Techniques - Deep Learning Intern

Feb 2025 – Apr 2025

- Independently developed a computer vision system for forgery detection, achieving 95.52% accuracy, by leveraging a large publicly available image dataset, using image inpainting techniques on it and displaying the confidence score.
- Developed and deployed a DCGAN with a Streamlit UI to detect image forgeries for real-time digital forensics.

Diabetes Prediction System - Machine Learning Intern

Sep 2023 – Feb 2024

- Applied advanced preprocessing techniques and explored over 10 machine learning algorithms to create a Linear Stacking Classifier, achieving superior diabetes prediction accuracy.
- Led the research from data preprocessing to model evaluation, and presented findings at an international conference, earning the Best Paper award for its innovative contributions to the field.

Projects

Research Paper Summarizer and Chatbot

May 2025

- Built a Streamlit-based tool for uploading and querying research papers using Gemini Pro and LangChain, enabling efficient literature reviews with structured metadata extraction, CSV summarization, and smart Q&A from PDFs.

Retrieval-Augmented Generation System for Resume Analysis

Feb 2025

- Designed an resume intelligent document analysis system using RAG architecture, integrating LangChain, Ollama LLM, and vector embeddings for automated resume parsing and semantic search.

ECG-Based Arrhythmia Classification System

Apr 2025

- Conducted comparative analysis of machine learning and deep learning models for cardiac arrhythmia detection using the MIT-BIH dataset, achieving 97.32% accuracy with the Random Forest classifier.
- Implemented comprehensive data preprocessing techniques and evaluated model performance using multiple metrics to identify the most reliable approach for real-time clinical arrhythmia detection.

Phishing URLs Classification System

Aug 2024 – Oct 2024

- Developed a machine learning-based Phishing URL Classification System, implementing ensemble learning techniques to accurately classify over 230,000 websites with over 50 features.

Leadership / Extracurricular

Agastya International Foundation (Funded by JPMC)

Oct 2024 – Feb 2025

Engineering Volunteer

Mumbai, MH

- Mentored teams of 5 school students as a technical volunteer, offering hands-on guidance and engineering expertise to overcome technical challenges, complete projects successfully, and boost engagement and confidence in STEM concepts.

National Service Scheme (NSS), SVU

Aug 2023 – Sep 2023

General Secretary

Mumbai, MH

- Directed a 100+ member team as NSS General Secretary, streamlining roles to drive impactful community initiatives and hosting over 5 brainstorming sessions to enhance collaboration, boosting event success rates.