APRAJITA

GitHub aprajita Aprajita

Education

Vellore Institute of Technology, Bhopal **2022 - 2026**
B.Tech – Computer Science & Engineering *CGPA - 7.94*
Vidya Bharati Chinmaya Vidyalaya **2022**
12th - CBSE Board *Percentage – 77.6%*
Hill Top School **2020**
10th - ICSE Board *Percentage – 94.8%*

Work Experience

Tata Motors Limited **Dec'24 – Jan'25**
Machine Learning Intern *Jamshedpur*

- Developed a deep learning model using TensorFlow/Keras to predict used car prices based on features like age, mileage, fuel type, and power.
- Deployed the model with a Flask API and integrated it into a front-end form for real-time predictions via JavaScript.
- Preprocessed structured data, engineered relevant features, and optimized model performance through evaluation and tuning.
- Built a responsive HTML interface to collect user input and display predicted prices dynamically.

Projects

Recipe Search Website

- Developed a responsive web application enabling users to search and filter recipes based on ingredients, cuisine, and dietary preferences using HTML, CSS, and JavaScript.
- Integrated user interaction features such as ratings, reviews, and bookmarking, improving engagement and return visits.
- Implemented responsive design principles for seamless multi-device functionality across mobile and desktop platforms.
- Optimized front-end performance with efficient DOM manipulation and lightweight styling for faster page loads.

Breast Cancer Classification

- Built a supervised machine learning pipeline using scikit-learn for early-stage breast cancer detection using structured diagnostic data.
- Engineered features and applied normalization techniques to enhance model accuracy and reduce bias in classification.
- Integrated explainable AI (XAI) techniques such as SHAP values for transparency in decision-making and trust in model outputs.
- Designed the system with clinical usability in mind, supporting timely and reliable diagnostic assistance for healthcare professionals.

Sign Language Detection using LSTM

- Designed and trained an LSTM-based neural network for real-time sign language gesture recognition using sequential video frame data.
- Implemented a complete data pipeline using OpenCV and MediaPipe for keypoint extraction, frame normalization, and preprocessing.
- Optimized model accuracy through hyperparameter tuning and experimentation with stacked LSTM architectures.
- Aimed for deployment in assistive communication systems to support hearing and speech-impaired users through real-time gesture-to-text translation.

Skills Summary

Technical Skills: Python, Java, HTML, CSS, JavaScript, SQL
Skills: Web Development (HTML, CSS, JavaScript), Front-End Optimization, Machine Learning, Supervised Learning, Feature Engineering, Data Normalization, Deep Learning, LSTM, Computer Vision, OpenCV, MediaPipe, Hyperparameter Tuning, Model Optimization, Assistive Technology, Sequential Data Processing, Gesture Recognition, Data Preprocessing
Language: English (Full Proficiency), Hindi (Native)
Certifications: Fundamentals of Digital Marketing (March'23),Python by Kaggle)(April'23), HTML, CSS and JavaScript for Web Developers – (November'23),Java Spring Framework 6 with Spring Boot 3 course on Udemy(November'24), Gen AI by IBM (April'25), Full Stack Developer MERN by SmartBridge (April'25)

Achievements

- Cleared the college round of Smart India Hackathon in 2024
- Listed amongst the top 300 teams at the National Level and top 10 at State level in ATL Marathon 2020

Position of Responsibility

-**Data Science Club,VIT Bhopal**

Core Member,HR team

● Spearheaded recruitment processes, resulting in a 30% increase in club membership within the first semester.

● Implemented data-driven strategies for team collaboration, leading to a 20% improvement in project completion rates.

- **English Literary Association,VIT Bhopal**

Core Member,PR and Marketing

● Collaborating on the development of upcoming promotional campaigns to increase visibility.

● Aiming to boost social media engagement by 20% within the next quarter through targeted content strategies.

Core Member,Technical and Finance Wing

● Financial Management: Managed and allocated budgets for various events and activities, ensuring optimal use of resources while maintaining financial records accurately.

● Data Collection: Created and utilized Google Forms to gather and analyze data for event planning, participant feedback, and financial reporting.

- **Blockchain Club,VIT Bhopal**

Core Member,Event Management

● Collaborating with the Event Management team to plan and execute engaging events.

● Currently working on streamlining communication channels to enhance team efficiency, aiming for a 20% reduction in planning time by the end of the semester.

-Volunteered at the inaugural ceremony of Blockchain Club at VIT Bhopal

-Was a Council Member in High School (Vice-Captain and Coordinator of my house in std. 8th and std. 9th respectively)