SAURABH KR VIDYARTHI

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Education

M.Tech in Robotics And Autonoums Systems **Aug. 2023 – June 2025**
Indian Institute of Science, Bangalore

B.Tech in Computer Science and Engineering spl Intelligent Systems **Aug. 2019 – May 2023**
MIT ADT University, Pune, Maharastra

Relevant Coursework

- Introduction to NLP
- Machine Learning
- Data Science
- Mathematical Techniques: Linear Algebra, Probability
- Pattern Recognition and Neural Network
- Edge AI
- Speech Information Processing
- Foundation of Robotics

Projects

1. **Link prediction in graph data from Twitter dataset, model was evaluated in Kaggle competition at IISc level**
   - Two lakh data points were given as raw data with two columns From node and To node, with no additional information. Performed feature engineering on top of raw data after cleaning data, using important features from research papers such as Jaccard coefficient, Page rank, followers, following. Applied different classification algorithms and compared all; Random Forest outperformed all models with an accuracy of 0.8075 AUC on a local system with a very limited amount of GPU.

2. **Large Language Model (LLM) based blog generation webpage using Llama 2**
   - Used open source LLM model from Meta-AI Llama 2 tuned for chat query, model: Llama-2-70b-chat and integrated the tuned model with the front end using streamlit and langchain.compared the result of the model with the help of research paper published by Meta-AI for Llama-2.

3. **Self Driving Car Simulation using Conv-nets:**
   - Successfully trained a self-driving car using Convolutional Neural Networks (CNNs). The project involved utilizing the open-source Self-Driving Car Simulator provided by Udacity. Adopted the model proposed by NVIDIA in one of their research papers.

4. **LLM And Large Image Model Application Using Gemini Pro Model**
   - In this project, Gemini pro model is integrated with the front end, and an image is used as query data to describe that image. Google.generativeai module is being used for API call. Given an image, it is capable of describing the context of the image.

5. **Classification of Indian cities based on road accidents using NDAP dataset of 2023.**
   - Dataset was taken from NDAP, and it contained 9 features, some of them were highly co-related. The job here was to use unsupervised clustering techniques to cluster different cities across India into one of the 3 categories: danger zone, careful zone, safe zone. Used clustering methods such as K-means++, GMM, DB-Scan, Agglomerative.

6. **Face Recognition Based Attendance Management System**
   - Utilized Haar-Cascade Classifier for precise face detection in this project. The detected faces were then cross-referenced with a ground truth dataset containing student images, facilitating automated attendance marking in an Excel sheet.

Technical Skills

Languages | **Tools**:Python, TensorFlow, Keras, Numpy, Scikit-learn, Hugging Face, LangChain, Pandas.
Technical: Worked on Clustering, LLM, EDA, Computer Vison, Garph data.

Academics

- B-Tech CSE IS : 8.41 CGPA
- M-Tech RAS : 8.2 CGPA