DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

PROJECT PROPOSAL

1. Project Title: - LE_Road Sign Detection

2. Project Scope: -

- **Objective:** To create a system that can automatically recognize the traffic signs has been need to reduce traffic accidents and to drive more freely.

- **Scope:**

  1. Collect a large dataset of road sign images and annotate them with labels identifying the type of sign.
  2. Pre-process the data to improve the quality of the images, such as removing noise and distortion.
  3. Select an appropriate machine learning algorithm, such as CNN, MobilenetV2, to train a model on the annotated dataset.
  4. Train the selected model on the annotate dataset to learn to recognize road signs.
  5. Evaluate the performance of the trained model on a separate dataset to assess its accuracy, precision, and recall.
  6. Deploy the system in a real-world environment and monitor its performance to identify any issues or areas for improvement.

- **Deliverables:**

  1. A dataset of annotated road sign images.
  2. A trained machine learning model capable of accurately detecting and recognizing road signs.
  3. A software system capable of integrating the road sign detection system and providing real-time feedback.
  4. A report summarizing the system's performance, including accuracy, precision, and recall metrics, and any issues or areas for improvement identified during deployment phase.

3. Requirements: -

➢ Hardware Requirements

1. Laptop with 8 GB RAM
2. Internet Connectivity

➢ Software Requirements

1. Python language
2. Deep learning framework such as TensorFlow, Keras, PyTorch.
3. Computer Vision libraries such as OpenCV, Scikit learn
4. Data Visualization libraries such as matplotlib, seaborn.
5. IDE such as Jupyter Notebook, VS Code
6. Python web framework such as Flask

STUDENTS DETAILS

Name	UID	Signature
Toshiba Ansari	20BCS6671	Toshiba
Sarthak Jain	20BCS6689	Sarthak

APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)