Project Design Phase-I

Proposed Solution Template

Project Name: TrafficTelligence - Advanced Traffic Volume Estimation with Machine Learning

Team ID: 591643

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem statement	Traffic problem is one of the major problems now a days, In the increase in no of vehicles and non-usage of public transport leading to traffic related issues, making an eye on count of traffic at each level enables the government to take the further decisions such as building new roads, increasing infrastructure, developing multi-channel connectivity.ML models could give early alerts of severe traffic to help prevent issues related to traffic problems. Hence, there is need to develop ML model capable in predicting Traffic volume.
2.	Idea/Solution description	Develop an ML model that predicts Traffic volume leveraging Convolutional Neural Networks (CNNs). This system will efficiently and accurately predict traffic volume with acceptable level of precision and in reducing the error in the dataset of the projected Traffic volume from model with expected observable Traffic volume.
3.	Novelty/Uniqueness	Use of Convolutional Neural Networks (CNNs) for predicting traffic volume ensures precision and efficiency, reducing difficulty in predicting and preventing traffic congestion. This develops a system that adapts to changing traffic patterns automatically. It provides Accurate, real-time traffic volume data and contributes to economic growth

4.	Social Impact/Customer Satisfaction	Customer satisfaction with a machine learning (ML) solution for predicting traffic volume can be influenced by various factors. Here are some key aspects that can impact customer satisfaction in this context are Accuracy of Predictions, Real-time Performance, Ease of Integration, Scalability, Reliability and Stability, Data Privacy and Security.
5.	Business Model (Revenue Model)	A machine learning solution for predicting traffic volume can be monetized through various business and revenue models. One can be Data Monetization: Explore opportunities to monetize the traffic data itself. Aggregated and anonymized traffic data can be valuable for urban planning, retail site selection, and other industries. Sell access to this data to interested parties while ensuring compliance with privacy regulations.
6.	Scalability of the Solution	The scalability of a machine learning (ML) solution for predicting traffic volume refers to its ability to handle increasing amounts of data and growing computational demands while maintaining or improving performance.