Project Initialization and Planning Phase

Date	10 July 2024
Team ID	740673
Project Title	**TRAFFICTELLIGANCE-Advanced Traffic Volume Estimation With Machine Learning**
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report :

In this project we have shown use of Regression algorithms such as Linear Regression, Decisiontree, Random Forest, and xgboost to predict the count of traffic volume. We will train and test thedata with these algorithms. From this best model is selected and saved in .pkl (Pickle) format. Oncethe model is saved, we integrate it with flask application and also deploy the model in IBM

Project Overview	
Objective	The primary objective is to revolutionize traffic management processes by implementing advanced machine learning techniques, ensuring faster and more accurate predictions and responses.

Scope	The project comprehensively assesses and enhances the traffic management process, incorporating machine learning for a more robust and efficient system.
	- Real-time decision-making for quicker loan approvals. - Continuous learning to adapt to evolving financial landscapes.
Problem Statement	
Description	Addressing inaccuracies and inefficiencies in the current traffic management system adversely affects operational efficiency and commuter satisfaction.
Impact	Solving these issues will result in improved operational efficiency, reduced congestion, and an overall enhancement in the traffic management process, contributing to commuter satisfaction and organizational success.
Proposed Solution	
Approach	Employing machine learning techniques to analyze and predict traffic patterns, creating a dynamic and adaptable traffic management system.
Key Features	• Implementation of a machine learning-based traffic prediction model. • Real-time decision-making for quicker response to traffic conditions.

Resource Type	Description	Specification/Allocation
Hardware		

Computing Resources	CPU/GPU specifications, number of cores	T4 GPU

Resource Requirements

Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	Traffic dataset, csv formate