**PROJECT DESIGN**

**System Architecture**

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| Date | 28 JUNE 2025 |
| Team ID | LTVIP2025TMID59766 |
| Project Name | **TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning** |
| Maximum Marks | 4 Marks |

**System Architecture:**

**Data Collection**:

* Data is gathered from CSV files or other sources.

**Data Preprocessing**:

* Clean the data, handle missing values, encode categorical variables, scale features, etc.
* Split the data into **Train Data** and **Test Data**.

**Algorithm Selection**:

* Choose a suitable algorithm based on the problem (e.g., Linear Regression, Decision Tree, Random Forest, etc.).

**Model Training**:

* Use the **Train Data** to train the model using the selected algorithm.

**Model Evaluation**:

* Evaluate the model's performance using the **Test Data**.
* Generate performance metrics like accuracy, precision, recall, RMSE, etc.

**Model Deployment**:

* Integrate the model into a **User Interface (UI)**.
* Allow users to input new data and receive predictions.

**Prediction & Interaction**:

* Users interact with the model via the UI.
* Model generates predictions based on user input.

