**Project Development Phase**

**Model Performance Test**

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| Date | 16 July 18, 2025 |
| Team ID | LTVIP2025TMID44001 |
| Project Name | TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning |
| Maximum Marks |  |

**Model Performance Testing:**

Project team shall fill the following information in model performance testing template.

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| **S.No.** | **Parameter** | **Values** | **Screenshot** |
|  | Model Summary | -Linear Regression, Decision Tree, Random Forest, SVR, XGBoost models were trained.  -Feature set: temp, rain, snow, holiday, weather, day, month, year  -Data preprocessing: Missing value imputation, LabelEncoding, StandardScaler |  |
|  | Accuracy | **Training Accuracy (R² Score):**  - Linear Regression - Decision Tree - Random Forest  - SVR - XGBoost   **Validation Accuracy (R² Score):**  - Linear Regression - Decision Tree  - Random Forest  - SVR - XGBoost |  |
| 3. | Fine Tunning Result( if Done) | -Fine-tuning done for Random Forest and XGBoost using parameters like n\_estimators, max\_depth, and learning\_rate.  **Best Tuned Validation Accuracy:**  - XGBoost - Random Forest | -2.0697957744082567  -9.06529426574707 |