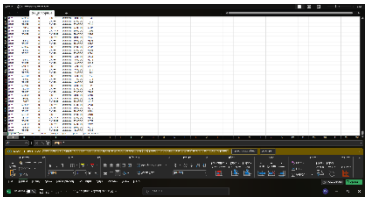
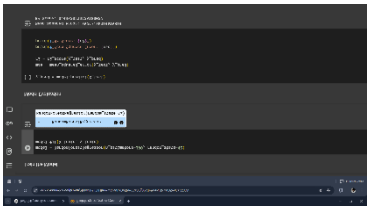
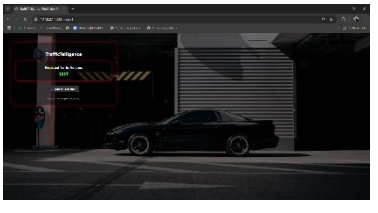
FUNCTIONAL AND PERFORMANCE TESTING

Date	30-06-2025
Team ID	LTVIP2025TMID45015
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	10 marks

Model Performance Testing

S.No	Parameter	Details	Screenshots
1.	Model Summary	- Algorithm: Linear Regression - Dataset Size: ~40,000 records - Features Used: 11	
2.	Evaluation metrics	- R^2 Score: 0.44520214425180027 - Mean Squared Error (MSE): 35247.36484615384	
3.	Prediction Sample	Input: holiday=Christmas Day, temp=5°C, weather=Snow, etc. Output: Predicted Traffic Volume: 1037 vehicles/hour	

Functional Testing Checklist

S.No.	Functionality Tested	Expected Outcome	Actual Outcome	Status
1	User Input Form (index.html)	Input form should accept and validate 11 features	Works as expected	✅
2	Prediction Output Page	Shows predicted traffic volume accurately	Works as expected	✅
3	UI Navigation	Pages navigate smoothly and are responsive	Works as expected	✅
4	Backend API (Flask)	Routes respond correctly with output via model	Works as expected	✅
5	Error Handling (missing values)	Error displayed or handled gracefully	Works as expected	✅