

Performance and Functional Testing

Testing

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

Performance Testing

Test Case	Description	Expected Outcome
Load 1000 Requests	Send 1000 simultaneous prediction requests	95% respond < 2 seconds, no crashes
Stress Test	Increase load to 5000 requests/minute	Response degrades gracefully without failure
Spike Test	Sudden 10x increase in API calls	No server crash, some delay acceptable

- ☐ Response Time (UI and API)
- ☐ Throughput (requests per second)
- ☐ CPU & Memory Utilization
- ☐ Error Rates under load
- ☐ Model Prediction Latency

Functional Testing:

Test Case	Description	Expected Result
Input UI Check	Enter valid and invalid road names	Accept valid, show error for invalid input
CSV Upload	Upload correct and corrupted CSV file	Process valid, reject invalid with error
Prediction API	Call API with valid parameters	Return traffic prediction in JSON
Model Output	Check prediction for known traffic scenario	Prediction matches historical pattern