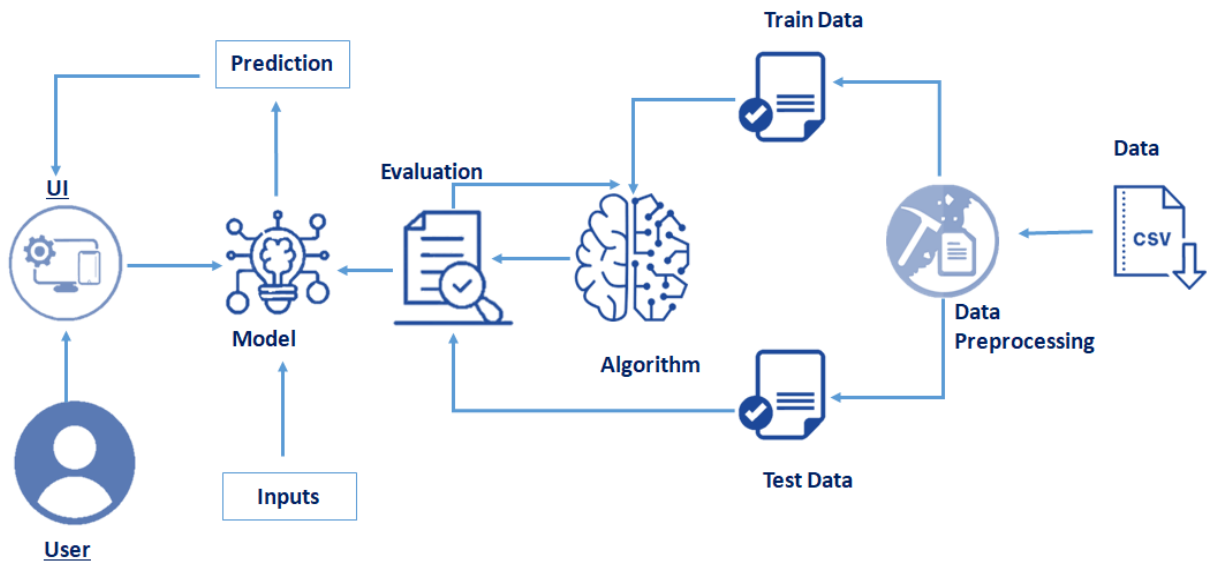


REQUIREMENT ANALYSIS

Technical Requirements

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

Technical Requirements:



Category	Details
Programming Languages	Python (ML/Backend), JavaScript (Frontend), SQL
Frameworks/Libraries	TensorFlow, Scikit-Learn, OpenCV (if CV used), Flask/Django (backend), React/Angular (frontend)
Database	PostgreSQL, MongoDB, or MySQL
Cloud Platforms	AWS, Google Cloud, Azure (for hosting, storage, compute)
Data Storage	Cloud Storage, SQL/NoSQL databases
APIs	RESTful APIs for external data integration (weather, maps, events)
Data Visualization Tools	Plotly, Dash, Power BI, Tableau, D3.js
Hardware Requirements	Servers, Edge Devices, Traffic Cameras, IoT Sensors
Security Requirements	Data encryption, Secure API endpoints, User authentication (OAuth, JWT)
Deployment Tools	Docker, Kubernetes, CI/CD pipelines
Scalability	Auto-scaling cloud services, Load balancing

User Interface:

Page/Module	UI Elements
Login Page	Username, Password, Login Button, Forgot Password, Sign Up (optional)
Dashboard (Main)	Traffic Map, Current Traffic Status, Real-Time Traffic Volume Chart, Notifications, Weather Overlay, Filters (location, time)
Prediction Module	Input Parameters (date, time, location), Show Prediction Button, Result Display (graph/chart), Export Option
Historical Data	Date/Time Picker, Traffic Volume Graph, Heatmaps, Download Data Button
Alerts & Notifications	List of Congestion Alerts, Custom Alert Setup, Toggle Notifications
Reports	Generate Report Button, Download (PDF/Excel), Charts/Statistics View
Admin Panel	Manage Users, Data Sources, API Keys, System Logs, Settings
Help/Support	FAQs, Contact Support Form, User Guide