RISE KRISHNA SAI GANDHI GROUP OF INSTITUTIONS

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Valluru, Ongole, Andhra Pradesh


SMART INTERNZ VIRTUAL INTERNSHIP PROGRAM - 2025


Project Title:

TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning


Submitted by:

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Department: Electronics and Communication Engineering (ECE)

Team ID: LTVIP2025TMID47080

Team Members: Individual Project


Internship Duration: 01-06-2025 to 30-06-2025


Certificate


This is to certify that the project titled "TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning" is a bona fide work carried out by DULIPALLA MOHANA PRIYA, bearing Roll Number 228B1A0412, of Electronics and Communication Engineering (ECE), in partial fulfillment of the requirements for the SmartInternz Virtual Internship Program 2025.

This report has not been submitted to any other institution for the award of any degree or diploma.

Project Guide: Mr. Ganesh

HOD: S. V. Ravi Kumar, M.Tech, (Ph.D)

PRINCIPAL:Dr.K.V Subramanyam

Project Abstract

The aim of this project, TrafficTelligence, is to develop a smart machine learning model capable of predicting traffic volume based on inputs such as temperature, rain, snow, weather condition, hour, and day of the week. The model is built using Python's scikit-learn library and deployed using Flask to create an interactive web interface.

Technologies Used:

- Python

- Flask

- HTML/CSS

- Pandas, NumPy, scikit-learn

- Joblib

- Visual Studio Code, Spyder, Anaconda

Features:

- Takes 7 input features from the user via a web form

- Performs prediction using a trained Linear Regression model

- Presents predicted traffic volume to the user

Project Highlights:

- Successfully resolved feature mismatch error by aligning input form and model

- Model and scaler saved using joblib

- Real-time prediction functioning via Flask at http://127.0.0.1:5000

Conclusion:

This project effectively combines web development and machine learning, showcasing the application of data-driven prediction in smart transportation systems. It highlights individual competency in both backend and ML model deployment.