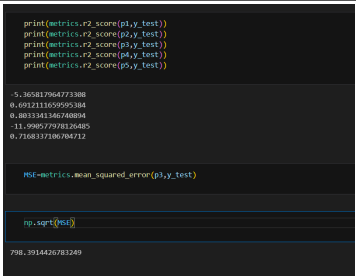
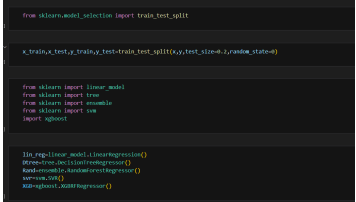


Project Development Phase Model Performance Test

Date	27 June 2025
Team ID	LTVIP2025TMID41330
Project Name	traffictelligence: advanced traffic volume estimation with machine learning
Maximum Marks	10 Marks

Model Performance Testing:

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

S.No.	Parameter	Values	Screenshot
1.	Metrics	<p>Regression Model: MAE - , MSE - 636,827.7, RMSE 798.39- , R2 score -0.8033</p> <p>Classification Model: Confusion Matrix - , Accuray Score- & Classification Report -</p>	 <pre> print(metrics.r2_score(p1,y_test)) print(metrics.r2_score(p2,y_test)) print(metrics.r2_score(p3,y_test)) print(metrics.r2_score(p4,y_test)) print(metrics.r2_score(p5,y_test)) 0.365817966773300 0.601211869995384 0.601334136740034 0.11090577978226485 0.716833706704712 RMSE=metrics.mean_squared_error(p1,y_test) np.sqrt(RMSE) 798.3914426781249 </pre>
2.	Tune the Model	<p>Hyperparameter Tuning - GridSearchCV used on parameters like: max_depth, n_estimators, min_samples_split (for RandomForest) Validation Method - K-Fold Cross Validation (K=5) used to avoid overfitting and ensure robust model performance</p>	 <pre> from sklearn.model_selection import train_test_split x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2,random_state=0) from sklearn import linear_model from sklearn import time from sklearn import ensemble from sklearn import svm import sklearn lin_reg=linear_model.LinearRegression() svm=svm.SVC(kernel='rbf') knn=kneighbors.KNeighborsRegressor() rf=ensemble.RandomForestRegressor() svm=svm.SVC() svm=svm.SVC() </pre>