


## Project Development Phase Model Performance Test

Date	18 November 2022
Team ID	PNT2022TMID02157
Project Name	Project – Car resale value prediction
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	<b>Regression Model:</b> MAE - 48473.59547884187, MSE - 9302776023.700481, RMSE - 96450.89954842557, R2 score – Training - 0.9866850181729586 R2 score – Training – 0.9267367646204865	 <pre> regressor_rf = RandomForestRegressor() regressor_rf.fit(x_train,y_train) y_train_pred = regressor_rf.predict(x_train) y_test_pred = regressor_rf.predict(x_test)  mse_rf = metrics.mean_squared_error(y_test,y_test_pred) mae_rf = metrics.mean_absolute_error(y_test,y_test_pred) rmse_rf = np.sqrt(metrics.mean_squared_error(y_test,y_test_pred)) print('MAE: ',mae_rf) print('MSE: ',mse_rf) print('RMSE: ',rmse_rf)  r2_train_rf = r2_score(y_train,y_train_pred) print('train_r2_score: ',r2_train_rf) r2_test_rf = r2_score(y_test,y_test_pred) print('test_r2_score: ',r2_test_rf) </pre> <p>MAE: 48473.59547884187  MSE: 9302776023.700481  RMSE: 96450.89954842557  train_r2_score: 0.9866850181729586  test_r2_score: 0.9267367646204865</p>
2.	Tune the Model	<b>Hyperparameter Tuning –</b> n_estimators = [200, 400, 600, 800, 1 000, 1200, 1400, 1600, 1 800, 2000], max_features = ['auto', 'sqrt'], max_depth = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100, None], min_samples_split= [2, 5, 10], min_samples_leaf = [1, 2, 4], bootstrap =[True, False]  <b>Validation Method -</b> Cross Validation	