

Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID17991
Project Name	Project - Machine Learning based Vehicle Performance Analyzer
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Metrics	<p>Regression Model:</p> <p>Decision Tree: MSE - 4.523908708185876 R2 score -0.7039071895543038 MAE used as criterion for fitting the model.</p> <p>Random Forest: MSE - 3.9726468401642077 R2 score -0.7530288269306447 MAE used as criterion for fitting the model.</p> <p>Linear Regression: MSE - 4.338104808526008 R2 score -0.7054992348800743</p>	<p>Decision Tree:</p> <pre> decision tree regressor [32] from sklearn.tree import DecisionTreeRegressor dt=DecisionTreeRegressor(random_state=0,criterion="mae") dt.fit(x_train,y_train) /usr/local/lib/python3.7/dist-packages/sklearn/tree/_classes.py:370: FutureWarning: DecisionTreeRegressor(criterion='mae', random_state=0) </pre> <pre> [36] from sklearn.metrics import r2_score,mean_squared_error r2_score(y_test,y_pred) 0.7039071895543038 [37] mean_squared_error(y_test,y_pred) 20.465749999999996 [38] np.sqrt(mean_squared_error(y_test,y_pred)) 4.523908708185876 </pre> <p>Random Forest:</p> <pre> random forest [40] from sklearn.ensemble import RandomForestRegressor rf= RandomForestRegressor(n_estimators=10,random_state=0,criterion='mae') rf.fit(x_train,y_train) from sklearn.metrics import r2_score,mean_squared_error r2_score(y_test,y_pred2) 0.7530288269306447 [44] mean_squared_error(y_test,y_pred2) 15.781929166666664 [45] np.sqrt(mean_squared_error(y_test,y_pred2)) 3.9726468401642077 </pre>

			<pre>[49] from sklearn.metrics import r2_score, mean_squared_error r2_score(y_test, y_pred) 0.7054992348800743 [50] mean_squared_error(y_test, y_pred) 18.819153329756478 [51] np.sqrt(mean_squared_error(y_test, y_pred)) 4.338184886526808</pre>
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