Project Development Phase

Model Performance Test

Date	10 NOvember 2022
Team ID	PNT2022TMID07229
Project Name	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	**Regression Model:** MAE – 1325.112086905962 MSE - 9577053.62710202 RMSE – 3094.6815065692977 R2 score – 0.8661221626879432 RMSLE - 8.03744027403009 ADJ_R2_score - 0.8661152969113608	(see code below)

```python
def find_scores(Y_actual, Y_pred, X_train):
    scores = dict()
    mae = mean_absolute_error(Y_actual, Y_pred)
    mse = mean_squared_error(Y_actual, Y_pred)
    rmse = np.sqrt(mse)
    rmsle = np.log(rmse)
    r2 = r2_score(Y_actual, Y_pred)
    n, k = X_train.shape
    adj_r2_score = 1 - ((1-r2)*(n-1)/(n-k-1))

    scores['mae']=mae
    scores['mse']=mse
    scores['rmse']=rmse
    scores['rmsle']=rmsle
    scores['r2']=r2
    scores['adj_r2_score']=adj_r2_score

    return scores

model = LGBMRegressor(boosting_type="gbdt",learning_rate=0.07,metric="rmse",n_estimators=300,objective="root_mean_squared_error"

model.fit(X_train, Y_train)

Y_pred = model.predict(X_test)

find_scores(Y_test, Y_pred, X_train)
```

```
C:\Users\gurun\anaconda3\lib\site-packages\sklearn\utils\validation.py:993: DataConversionWarning: A column-vector y was passed
when a 1d array was expected. Please change the shape of y to (n_samples, ), for example using ravel().
  y = column_or_1d(y, warn=True)
{'mae': 1325.112086905962,
 'mse': 9577053.62710202,
 'rmse': 3094.6815065692977,
 'rmsle': 8.03744027403009,
 'r2': 0.8661221626879432,
 'adj_r2_score': 0.8661152969113608}
```