Project Development Phase

Model Performance Test

Date	19-11-2023
Team ID	Team-591779
Project Name	Walmart Sales Analysis for Retail Industry with Machine Learning
Maximum Marks	10 Marks

Model Performance Testing:

S. No.	Parameter	Values	Screenshot

1	Metrics	MAE: - 1417.32
		MSE: - 12083384.61
		RMSE: - 3476.11
		R2 Score: - 0.974
			`print("MSE:", metrics.mean_squared_error(y_test,y_pred))`
			`MSE: 12083384.617536364`
			`print('RMSE:', np.sqrt(metrics.mean_squared_error(y_test,y_pred)))`
			`RMSE: 3476.116312429198`
			`print('MAE:',metrics.mean_absolute_error(y_test,y_pred))`
			`MAE: 1417.3229688475956`
			`print(metrics.r2_score(y_test, y_pred))`
			`0.9746164931311113`

2	Tune the model	Hyperparameter tuning: - Tuning the RandomForestRegressor	`RandomForestRegressor` `RandomForestRegressor(max_depth=25, min_samples_split=3, n_estimators=50)`

		Validation method: - Time Series Cross Validation	```from sklearn.model_selection import TimeSeriesSplit,cross_val_score```
			 ```cv=TimeSeriesSplit(n_splits=10)```
			 ```scores = cross_val_score(rf, x, y, cv = cv)```
			 ```print("Cross Validation Scores: ", scores)```
			 ```Cross Validation Scores: [0.36581115 0.46111931 0.69842702 0.61893673 0.71898625 0.71576812 0.55500449 0.56221755 0.73802908 0.84961531]```
			 ```np.mean(scores)```
			 ```0.6283915011292479```