
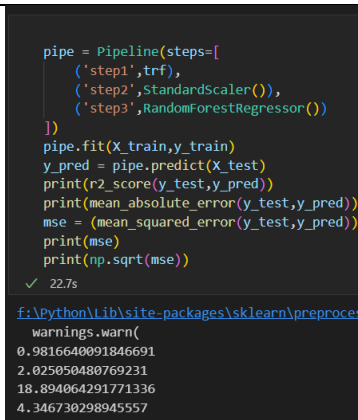
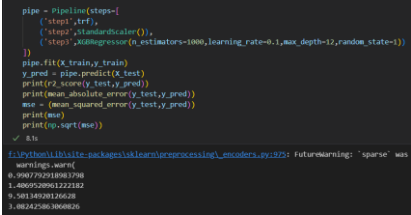
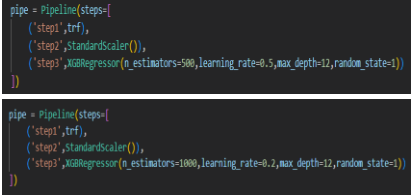


Project Development Phase Model Performance Test

Date	9 November 2023
Team ID	Team-591627
Project Name	T20 Totalitarian: Mastering Score Predictions
Maximum Marks	10 Marks

Model Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Metrics	Linear Regression: MAE – 12.948298639935082 MSE – 301.76259604827965 RMSE – 17.371315322918978 R2 Score – 0.7071505577568394	
		RandomForest Regression: MAE – 2.049331675081675 MSE – 19.29694803730359 RMSE – 4.3928291609512415 R2 Score – 0.9812730254056554	
		XGBRegression: MAE – 1.4069520961222182 MSE – 9.50134920126628 RMSE – 3.082425863060826 R2 Score – 0.9907792918983798	
2.		Hyperparameter Tuning – Changed 'n_estimators' from 500 to 1000.	

	Tune the Model	Changed 'learning_rate' from 0.2 to 0.1.	<pre> pipe = Pipeline(steps=[('step1',trf), ('step2',StandardScaler()), ('step3',XGBRegressor(n_estimators=1000,learning_rate=0.1,max_depth=12,random_state=1))]) </pre>
		<p>Validation Method – Performance Metrix like Mean Absolute Error and Root Mean Squared Error.</p> <p>Hyperparameter Tuning like changing 'n_estimators' from 500 to 1000 and changing 'learning_rate' from 0.2 to 0.1.</p>	<pre> pipe.fit(X_train,y_train) y_pred = pipe.predict(X_test) print(r2_score(y_test,y_pred)) print(mean_absolute_error(y_test,y_pred)) mse = (mean_squared_error(y_test,y_pred)) print(mse) print(np.sqrt(mse)) </pre> <pre> pipe = Pipeline(steps=[('step1',trf), ('step2',StandardScaler()), ('step3',XGBRegressor(n_estimators=500,learning_rate=0.5,max_depth=12,random_state=1))]) </pre> <pre> pipe = Pipeline(steps=[('step1',trf), ('step2',StandardScaler()), ('step3',XGBRegressor(n_estimators=1000,learning_rate=0.1,max_depth=12,random_state=1))]) </pre>