Project Development Phase Model Performance Test

Date	10 November 2022
Team ID	PNT2022TMID47681
Project Name	Project – Exploratory Analysis of Rainfall Data in
	India for Agriculture
Maximum Marks	10 Marks

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.N	Parameter	Values	Screenshot
1	. Metrics	Regression Model: 1.MAE-Linear Regression MSE-Linear Regression	[85] from sklearn.metrics import mean_absolute_error,mean_squared_error [86] s=mean_squared_error(y_train,y_train_pred) print('mean squared error of testing set:%2f'%s) p=mean_squared_error(y_test,y_test_pred)
		2. R2 score-Linear Regression	print('mean squared error of testing set:%2f'%p) mean squared error of testing set:0.117443 mean squared error of testing set:0.116943 from sklearn.metrics import r2_score s=r2_score(y_train,y_train_pred) print('r2_score of testing set:%2f'%s) p=r2_score(y_test,y_test_pred) print('r2_score of testing set:%2f'%p) r2_score of testing set:0.313694 r2_score of testing set:0.316578

	Classification Model: 1.Confusion Matrix -Logistic Regression 2.Accuracy Score- Logistic Regression& 3.Classification Report – Logistic Regression	<pre>[] logreg = LogisticRegression() logreg.fit(X_train_res, y_train_res) LogisticRegression() [] y_pred2 = logreg.predict(X_test) print(confusion_matrix(y_test,y_pred2)) print(accuracy_score(y_test,y_pred2)) print(classification_report(y_test,y_pred2)) [[17601 5116]</pre>
		[[1766] [1515 4860]] 0.772067922452908
2. Tune Mode	/' '	from sklearn.model_selection import GridSearchCV model=LogisticRegression() grid_vals={'penalty':['11','12'],'Rainfall':[0,1,0.2]} grid_lr=GridSearchCV(estimator=model,param_grid=grid_vals, scoring='accuracy',cv=6,refit=True,return_train_score=True) [109] grid_lr.fit(X_train,y_train) preds=grid_lr.best_estimatorpredict(X_test)
	2. Validation method-Hold-out-cross validation	<pre> // [113] from sklearn.model_selection import train_test_split X,y=np.arange(10).reshape((5,2)),range(5) X_train,X_test,y_train,y_test=train_test_split(X,y,test_size=0.2,random_state=11) X_train_X_test_y_train</pre>