Model Development Phase Template

Date	14 July 2024
Team ID	739941
Project Title	Exploratory Analysis of Rain Fall Data in India for Agriculture
Maximum Marks	4 Marks

Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include classification reports, accuracy, and confusion matrices for multiple models, presented through respective screenshots.

Initial Model Training Code:

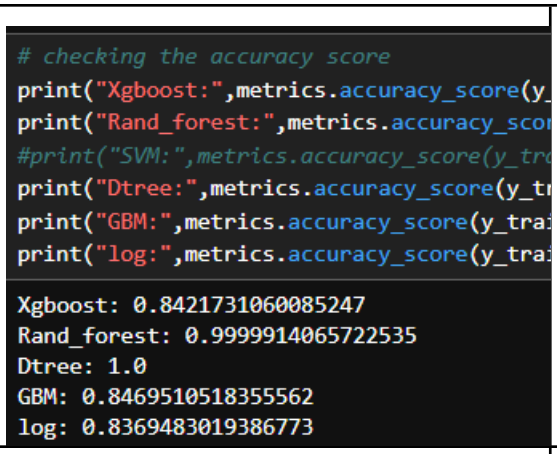
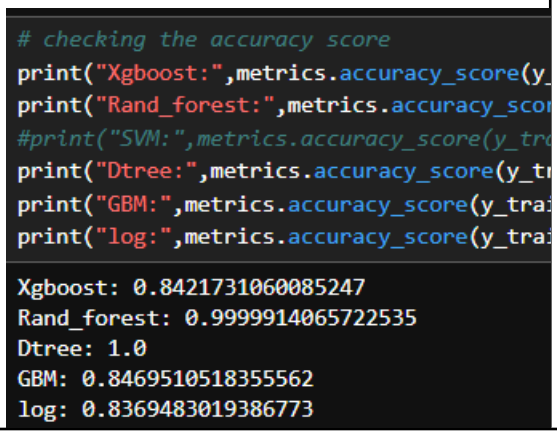
```
# checking the accuracy score
print("Xgboost:",metrics.accuracy_score(y_train,p1))
print("Rand_forest:",metrics.accuracy_score(y_train,p2))
#print("SVM:",metrics.accuracy_score(y_train,p3))
print("Dtree:",metrics.accuracy_score(y_train,p4))
print("GBM:",metrics.accuracy_score(y_train,p5))
print("log:",metrics.accuracy_score(y_train,p6))
```

Model Validation and evaluation report:

Model	Classification Report	F1 Score	Confusion Matrix

Random Forest	`# checking the accuracy score`
	`print("Xgboost:",metrics.accuracy_score(y_train,p1))`
	`print("Rand_forest:",metrics.accuracy_score(y_train,p2))`
	`#print("SVM:",metrics.accuracy_score(y_train,p3))`
	`print("Dtree:",metrics.accuracy_score(y_train,p4))`
	`print("GBM:",metrics.accuracy_score(y_train,p5))`
	`print("log:",metrics.accuracy_score(y_train,p6))`
	
	Xgboost: 0.8421731060085247
	Rand_forest: 0.9999914065722535
	Dtree: 1.0
	GBM: 0.8469510518355562
	log: 0.8369483019386773
		99%	----

Decision Tree	`# checking the accuracy score`
	`print("Xgboost:",metrics.accuracy_score(y_`
	`print("Rand_forest:",metrics.accuracy_scor`
	`#print("SVM:",metrics.accuracy_score(y_tr`
	`print("Dtree:",metrics.accuracy_score(y_t`
	`print("GBM:",metrics.accuracy_score(y_trai`
	`print("log:",metrics.accuracy_score(y_trai`
	
	Xgboost: 0.8421731060085247
	Rand_forest: 0.9999914065722535
	Dtree: 1.0
	GBM: 0.8469510518355562
	log: 0.8369483019386773
		`y_pred = Dtree.predict(x_test)`
		
		`conf_matrix = metrics.confusion_matrix(y_test, y_pred)`
		`print(conf_matrix)`
		
		[[19224 3333]
		[3088 3447]]		

LOG		83 %	---
Gradient Boosting		84 %	---