
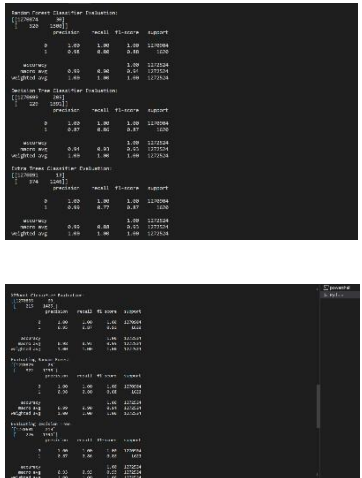


Project Development Phase Model Performance Test

Date	22 November 22, 2023
Team ID	591837
Project Name	Project – online fraud detection
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.	Model Summary	Random Forest Classifier Decision Tree Classifier Extra Trees Classifier Support Vector Machine Classifier XGBoost Classifier	 <pre> 1 import pickle 2 import pandas as pd 3 from sklearn.model_selection import train_test_split, GridSearchCV 4 from sklearn.preprocessing import LabelEncoder, MinMaxScaler 5 from sklearn.ensemble import ExtraTreesClassifier, RandomForestClassifier 6 from sklearn.metrics import classification_report, confusion_matrix 7 8 # Activity 1: Importing the libraries 9 import matplotlib.pyplot as plt 10 import seaborn as sns 11 from sklearn.svm import SVC 12 from sklearn.tree import DecisionTreeClassifier 13 from xgboost import XGBClassifier 14 plt.style.use('fivethirtyeight') </pre> <pre> rf_model = RandomForest(X_train, X_test, y_train, y_test) dt_model = DecisionTree(X_train, X_test, y_train, y_test) et_model = ExtraTrees(X_train, X_test, y_train, y_test) svc_model = SupportVector(X_train, X_test, y_train, y_test) xg_model = xgboost(X_train, X_test, y_train, y_test) </pre> <pre> models = { 'Random Forest': RandomForestClassifier(), 'Decision Tree': DecisionTreeClassifier(), 'Extra Trees': ExtraTreesClassifier(), 'Support Vector Machine': SVC(), 'XGBoost': XGBClassifier() } </pre>
2.	Accuracy	Training Accuracy – Random Forest = 1.0 Decision Tree = 1.0 XGBoost = 1.0 Validation Accuracy – Random Forest R2 Accuracy = 0.9546 Decision R2 Accuracy = 0.9519 XGBoost R2 Accuracy = 0.9603 Random Forest Accuracy: 0.9893 Decision Tree Accuracy: 0.9887 XGBoost Accuracy: 0.9906	 <pre> Random Forest Classifier Evaluation Classification Report precision recall F1-score support 0 1.00 1.00 1.00 1142084 1 1.00 1.00 1.00 1000 avg / total 1.00 1.00 1.00 1143084 Accuracy: 1.00 Confusion Matrix: [[1142084 0] [0 1000]] Extra Trees Classifier Evaluation Classification Report precision recall F1-score support 0 1.00 1.00 1.00 1142084 1 1.00 1.00 1.00 1000 avg / total 1.00 1.00 1.00 1143084 Accuracy: 1.00 Confusion Matrix: [[1142084 0] [0 1000]] </pre>

[illegible]