import pandas as pd import

numpy as np

import matplotlib.pyplot as plt import

seaborn as sns

from sklearn.model\_selection import train\_test\_split from

sklearn.ensemble import RandomForestClassifier

from sklearn.metricsimport confusion\_matrix, classification\_report from

sklearn.preprocessing import StandardScaler

from imblearn.over\_sampling import SMOTE

data = pd.read\_csv('C:\\pythoncmr\\creditcard.csv')

print("Missing values in each column:")

print(data.isnull().sum())

scaler = StandardScaler()

data['scaled\_amount'] = scaler.fit\_transform(data['Amount'].values.reshape(-1, 1)) data =

data.drop(['Amount'], axis=1)

sns.countplot(x='Class', data=data)

plt.title('Distribution of Fraudulent and Legitimate Transactions') plt.show()

X = data.drop('Class', axis=1) y

= data['Class']

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42, stratify=y) smote

= SMOTE(random\_state=42)

X\_resampled, y\_resampled = smote.fit\_resample(X\_train, y\_train) model

= RandomForestClassifier(n\_estimators=100, random\_state=42)

model.fit(X\_resampled, y\_resampled)

y\_pred = model.predict(X\_test) print("Confusion

Matrix:") print(confusion\_matrix(y\_test, y\_pred))

print("\nClassification Report:")

print(classification\_report(y\_test, y\_pred))

new\_transaction = [[0.0, -1.0, 0.5, 0.2, 0.3, -0.1, 0.2, -0.4, 0.1, -0.5, -0.1, 0.0, -0.1, -0.3, -0.4, -0.5, 0.6, -0.2,

0.1, -0.5, 0.3, -0.1, 0.1, -0.2, 0.4, -0.1, 0.0, -0.3, -0.2, 0.1, 0.2, -0.5]] # Example input

scaled\_transaction = scaler.transform(new\_transaction)

prediction = model.predict(scaled\_transaction)

if prediction[0] == 1:Machine Learning Using Python

print("Fraudulent transaction detected!") else:

print("Transaction is legitimate.")