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import pandas as pd
import numpy as np
from sklearn.model selection import train test split
from sklearn.linear model import LogisticRegression
from sklearn.metrics import classification report, confusion matrix
import matplotlib.pyplot as plt
import seaborn as sns
# Load dataset
df = pd.read csv('creditcard.csv') # Ensure you have the dataset from Kaggle
# Check for class distribution
print(df['Class'].value counts())
# Separate features and target
X = df.drop(['Class', 'Time'], axis=1)
y = df['Class']
# Split dataset
X train, X test, y train, y test = train test split(X, y, test size=0.2, random state=42,
stratify=y)
# Train logistic regression model
model = LogisticRegression(max iter=1000)
model.fit(X_train, y_train)
# Predictions
y_pred = model.predict(X_test)
# Evaluation
print("Classification Report:\n", classification report(y test, y pred))
print("Confusion Matrix:\n", confusion_matrix(y_test, y_pred))
# Visualize confusion matrix
sns.heatmap(confusion_matrix(y_test, y_pred), annot=True, fmt='d', cmap='Blues')
plt.title('Fraud Detection Confusion Matrix')
plt.xlabel('Predicted')
plt.ylabel('Actual')
plt.show()
```