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# Titanic Dataset - Exploratory Data Analysis (EDA)

import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load dataset
df = pd.read_csv("train.csv")

# Summary statistics
print("Summary Statistics:")
print(df.describe(include='all'))

# Histograms for numerical features
df.hist(bins=20, figsize=(15, 10))
plt.tight_layout()
plt.savefig("histograms.png")
plt.close()

# Boxplots for numerical features
numerical_cols = ['Age', 'Fare', 'SibSp', 'Parch']
for col in numerical_cols:
    plt.figure()
    sns.boxplot(x=df[col])
    plt.title(f'Boxplot of {col}')
    plt.savefig(f'boxplot_{col}.png')
    plt.close()

# Correlation matrix
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plt.figure(figsize=(10, 8))
sns.heatmap(df.corr(), annot=True, cmap='coolwarm')
plt.title('Correlation Matrix')
plt.tight_layout()
plt.savefig("correlation_matrix.png")
plt.close()

# Pairplot for selected features
sns.pairplot(df[['Survived', 'Pclass', 'Age', 'Fare']], hue='Survived')
plt.savefig("pairplot.png")
plt.close()

print("EDA visuals saved: histograms, boxplots, correlation matrix, pairplot.")
```