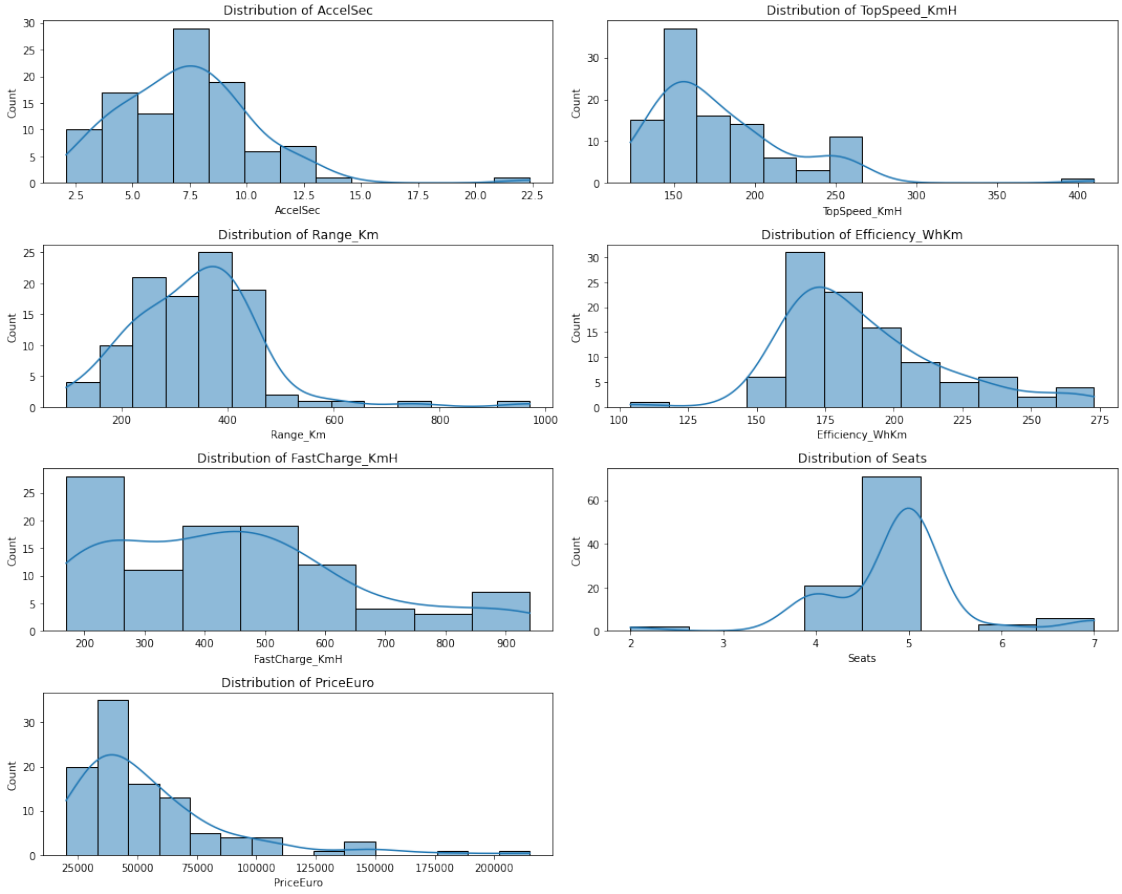
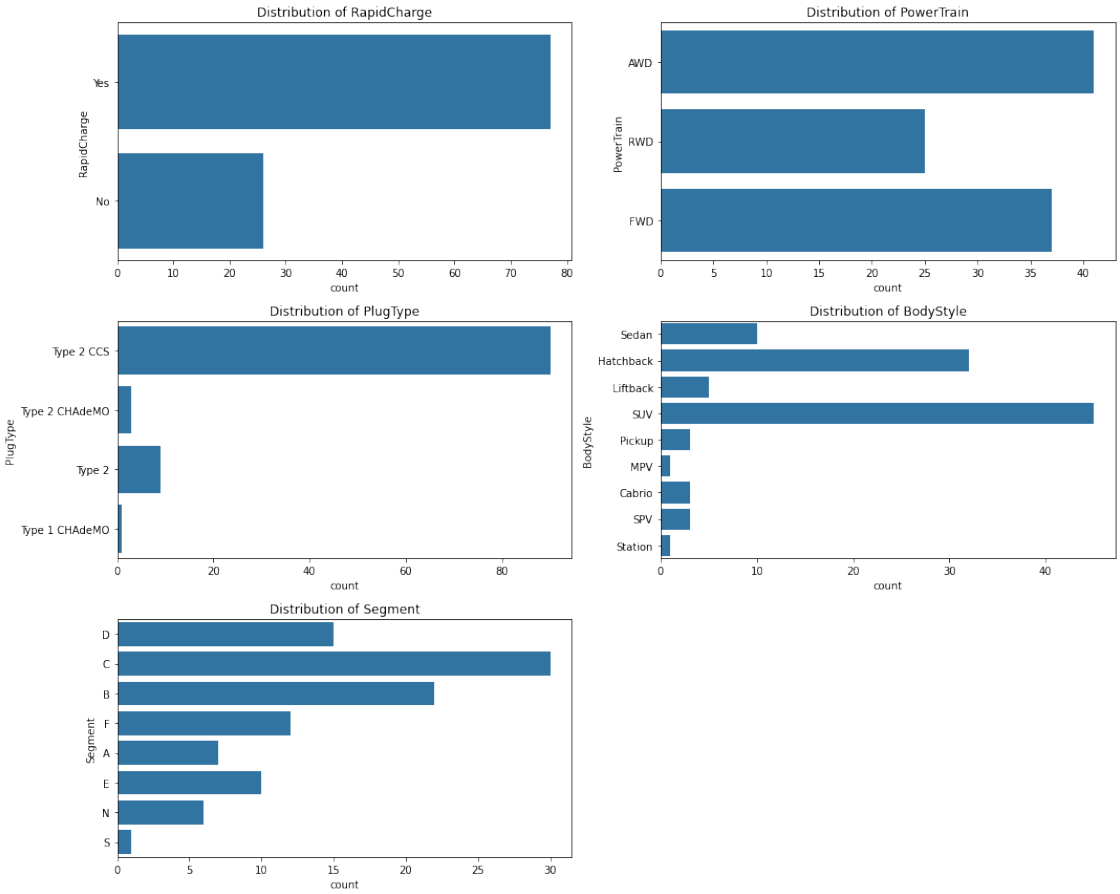
mainflow-4-main

July 7, 2024

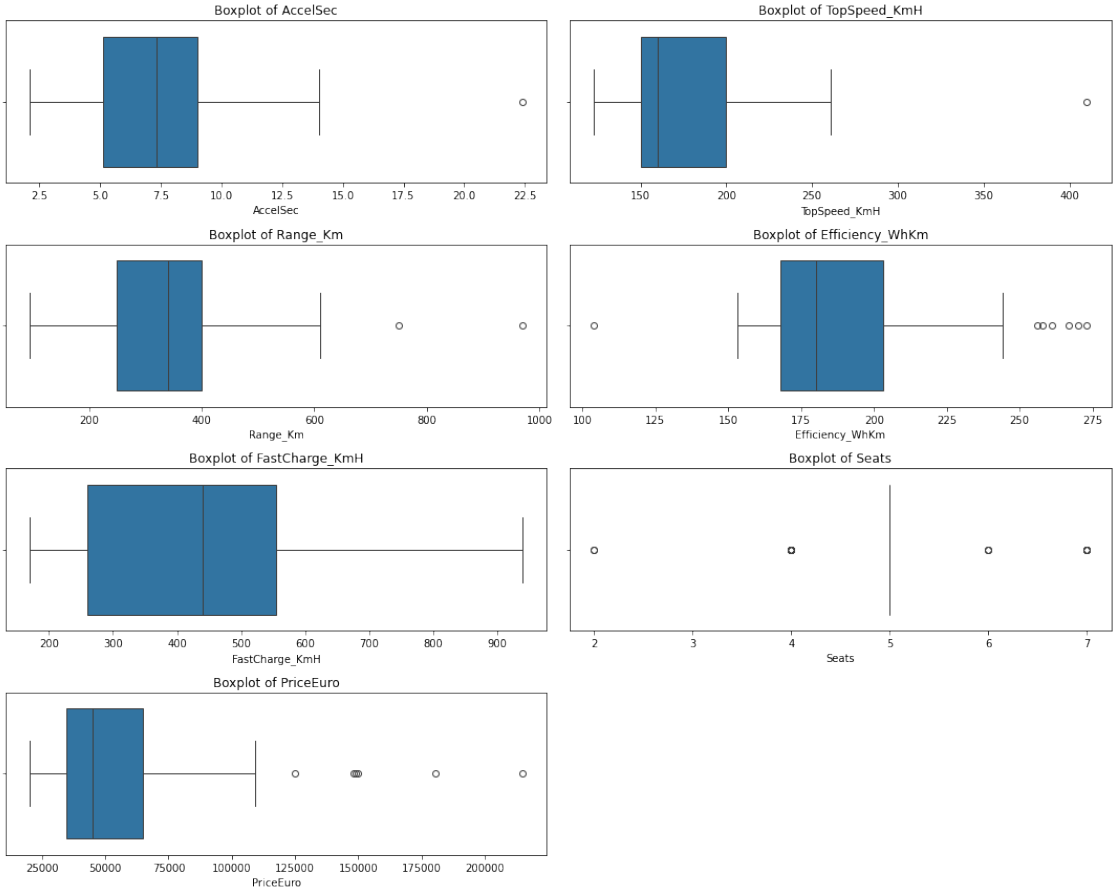
[3]:
```
import pandas as pd
df = pd.read_csv('EV_market.csv')
```

[9]:
```
import matplotlib.pyplot as plt
import seaborn as sns

numerical_columns = df.select_dtypes(include=['int64', 'float64']).columns
categorical_columns = df.select_dtypes(include=['object']).columns

categorical_columns = [col for col in categorical_columns if col not in␣
 ↪['Brand', 'Model']]

plt.figure(figsize=(15, 12))
for i, column in enumerate(numerical_columns, 1):
    plt.subplot(len(numerical_columns)//2 + 1, 2, i)
    sns.histplot(df[column], kde=True)
    plt.title(f'Distribution of {column}')
plt.tight_layout()
plt.show()

plt.figure(figsize=(15, 12))
for i, column in enumerate(categorical_columns, 1):
    plt.subplot(len(categorical_columns)//2 + 1, 2, i)
    sns.countplot(data=df, y=column)
    plt.title(f'Distribution of {column}')
plt.tight_layout()
plt.show()
```

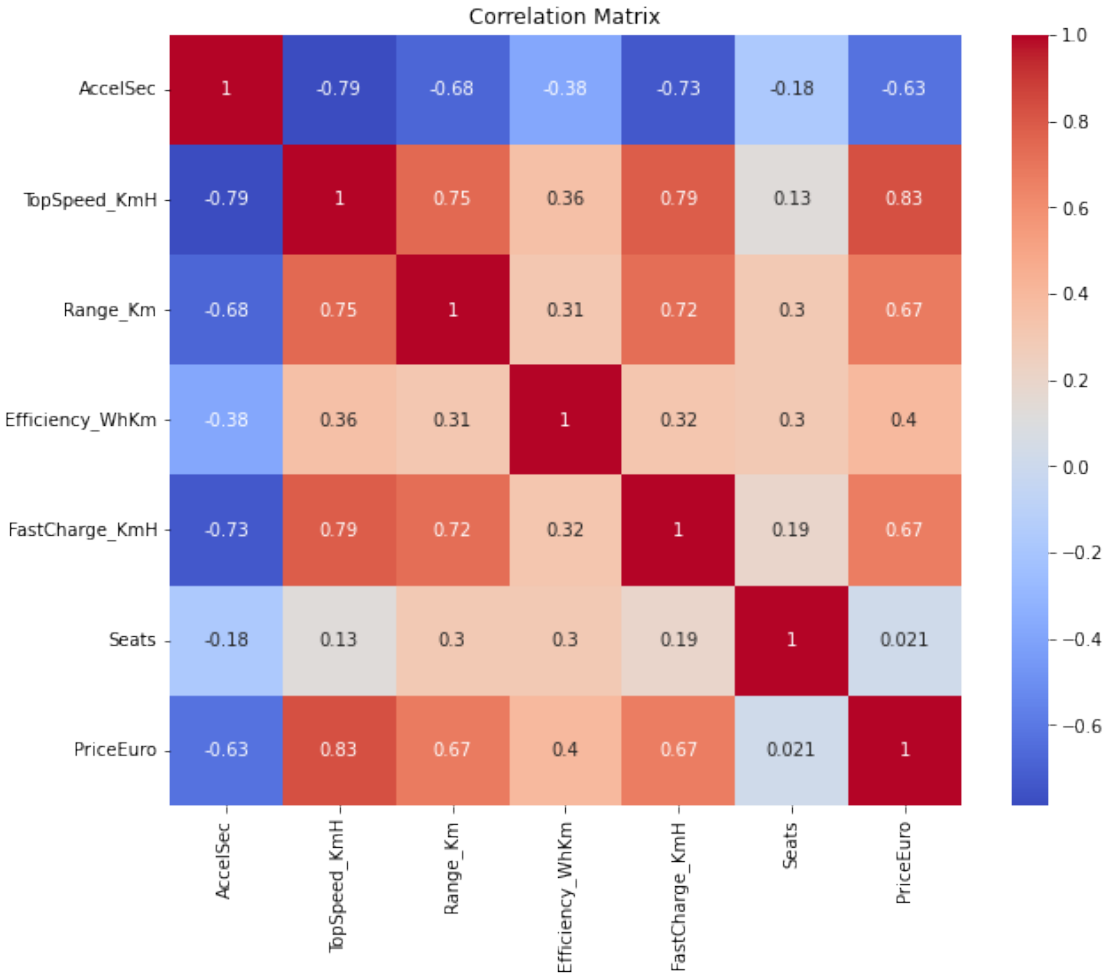

Distribution of AccelSec
Count
AccelSec
Distribution of TopSpeed_KmH
Count
TopSpeed_KmH
Distribution of Range_Km
Count
Range_Km
Distribution of Efficiency_WhKm
Count
Efficiency_WhKm
Distribution of FastCharge_KmH
Count
FastCharge_KmH
Distribution of Seats
Count
Seats
Distribution of PriceEuro
Count
PriceEuro



[5]:
```
plt.figure(figsize=(15, 12))
for i, column in enumerate(numerical_columns, 1):
    plt.subplot(len(numerical_columns)//2 + 1, 2, i)
    sns.boxplot(x=df[column])
    plt.title(f'Boxplot of {column}')
plt.tight_layout()
plt.show()
```



[6]:
```
plt.figure(figsize=(10, 8))
correlation_matrix = df[numerical_columns].corr()
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm')
plt.title('Correlation Matrix')
plt.show()
```


Correlation Matrix
AccelSec
TopSpeed_KmH
Range_Km
Efficiency_WhKm
FastCharge_KmH
Seats
PriceEuro
1 -0.79 -0.68 -0.38 -0.73 -0.18 -0.63
-0.79 1 0.75 0.36 0.79 0.13 0.83
-0.68 0.75 1 0.31 0.72 0.3 0.67
-0.38 0.36 0.31 1 0.32 0.3 0.4
-0.73 0.79 0.72 0.32 1 0.19 0.67
-0.18 0.13 0.3 0.3 0.19 1 0.021
-0.63 0.83 0.67 0.4 0.67 0.021 1
1.0
0.8
0.6
0.4
0.2
0.0
−0.2
−0.4
−0.6

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