Tugas Analisis Visualisasi Data Praktikum

High Dimensional and Multivariate

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FAKULTAS SAINS DAN TEKNOLOGI

PROGRAM STUDI SISTEM INFORMASI

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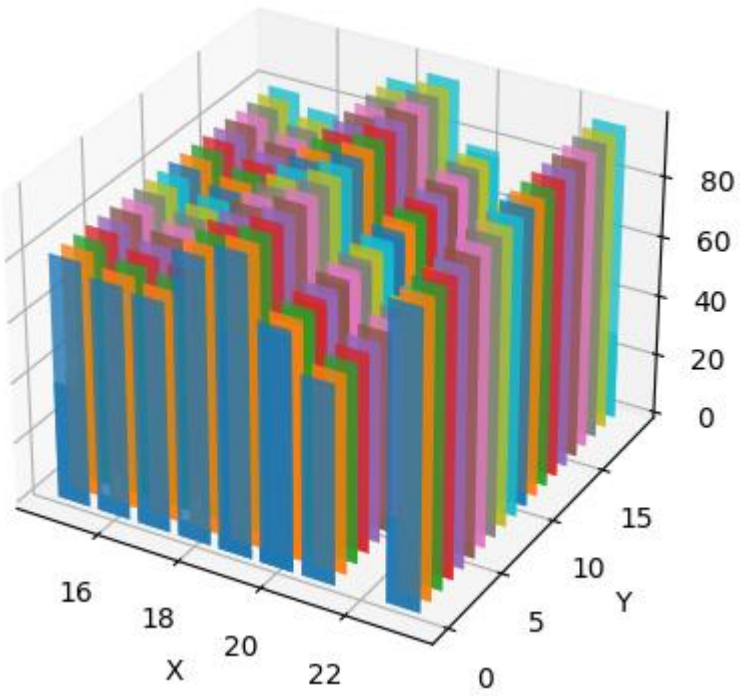
Laporan

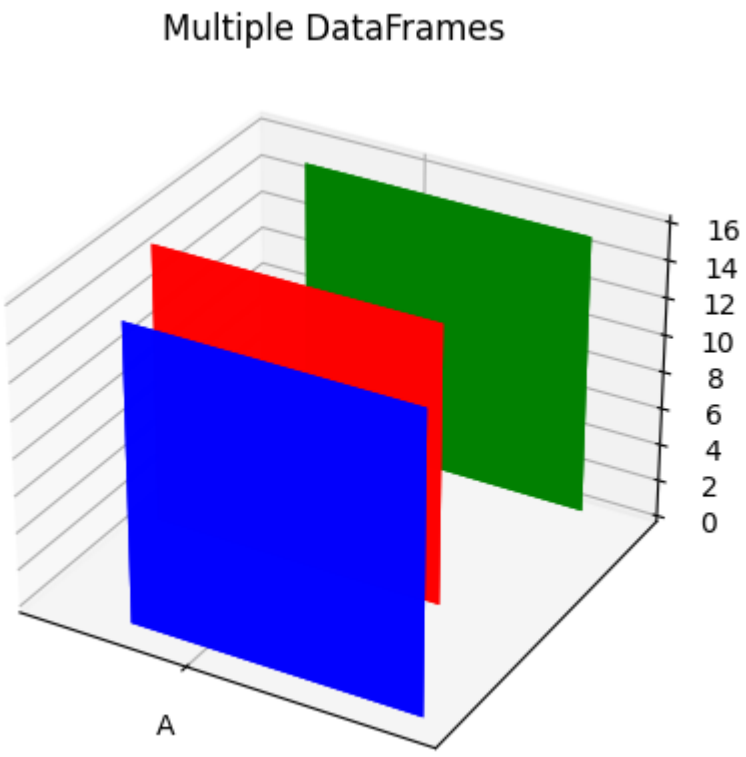
```python
# Import Package dan Library
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
from mpl_toolkits.mplot3d import Axes3D
```

```python
# Import Dataset
data_1 = pd.read_csv(r"D:\Coolyeah\Mata Kuliah\SMT 5\Analisis Visualisasi Data Praktikum\5. High Dimensional dan Multivariate\shopping_data.csv")

col_1 = data_1['Age']
col_2 = data_1['Annual Income']
col_3 = data_1['Spending Score']

df_3d = pd.DataFrame([col_1.head(20), col_2.head(20), col_3.head(20)]).transpose()
df_3d
```

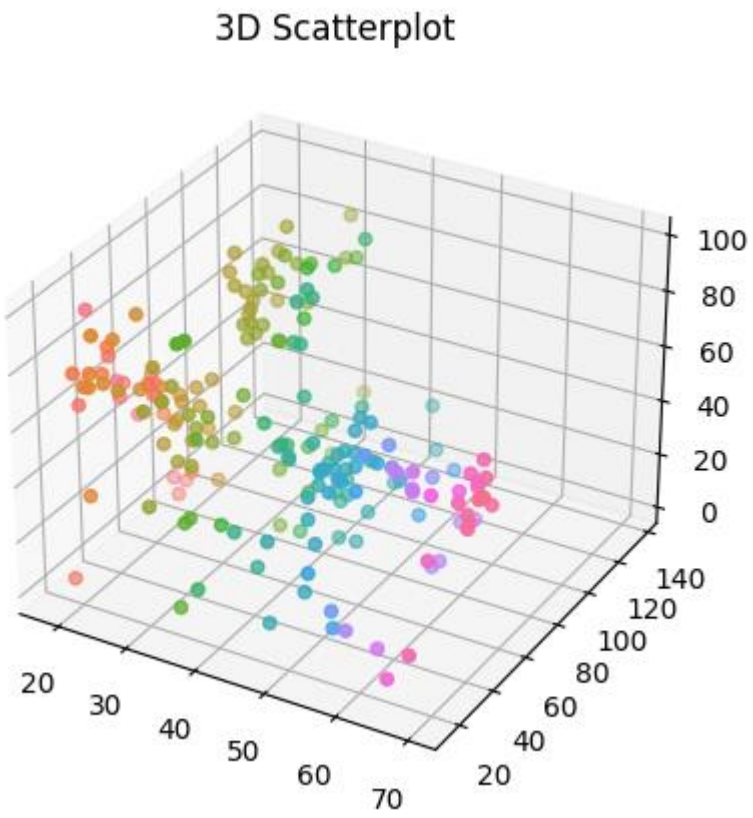
```python
colors_1 = ['r', 'b', 'g', 'y', 'b', 'w']
fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')
age_annual = df_3d.groupby(['Age', 'Annual Income']).size().reset_index(name='Count')
for i, spec in enumerate(age_annual['Annual Income']):
    ax.bar(col_2.head(20), col_3.head(20), zs=i, zdir='y', alpha=0.8)

ax.set_xlabel('X')
ax.set_ylabel('Y')
ax.set_zlabel('Z')

plt.show()
```


80
60
40
20
0
16
18
20
22
X
0
5
10
15
Y

```python
columns = ['A', 'B', 'C']
df_name = ['Age', 'Annual Income', 'Spending Score']
colors_3 = ('r', 'g', 'b')

main_df = [df_3d]

fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')

plt.xticks([i for i in range(len(columns))], columns)
plt.yticks([i for i in range(len(df_name))], df_name)

xs = []
for i in range(len(main_df)):
    for j in range(len(columns)):
        xs.append(i + j * 0.1)

for c1, color in enumerate(colors_3):
    x = data_1['Age'].head(3)
    y = data_1['Annual Income'].head(3)
    z = data_1['Spending Score'].head(3)

    ax.bar(xs, y, z, zdir='y', alpha=0.8, color=colors_3)

plt.title('Multiple DataFrames')
plt.show()
```




```
data = [col_1, col_2, col_3]

colors_3 = ('r', 'g', 'b')
groups = ['Age', 'Annual Income', 'Spending Score']

fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')

cmap = ListedColormap(sns.color_palette("husl", 256).as_hex())
ax.scatter(x, y, z, c=col_1, marker ='o', cmap=cmap)

plt.title('3D Scatterplot')
plt.show()
```


3D Scatterplot
100
80
60
40
20
0
140
120
100
80
60
40
20
20
30
40
50
60
70