High-Dimensional dan Multivariate Visualization

Diagram Batang

```python
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
from mpl_toolkits.mplot3d import Axes3D


dades01 = [54,43,24,104,32,63,57,14,32,12]
dades02 = [35,23,14,54,24,33,43,55,23,11]
dades03 = [12,65,24,32,13,54,23,32,12,43]

df_3d = pd.DataFrame([dades01, dades02, dades03]).transpose()
colors = ['r','b','g','y','b','p']


fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')
z= list(df_3d)
for n, i in enumerate(df_3d):
    print 'n',n
    xs = np.arange(len(df_3d[i]))
    ys = [i for i in df_3d[i]]
    zs = z[n]

    cs = colors[n]
    print ' xs:', xs,'ys:', ys, 'zs',zs, ' cs: ',cs
    ax.bar(xs, ys, zs, zdir='y', color=cs, alpha=0.8)

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

plt.show()
```
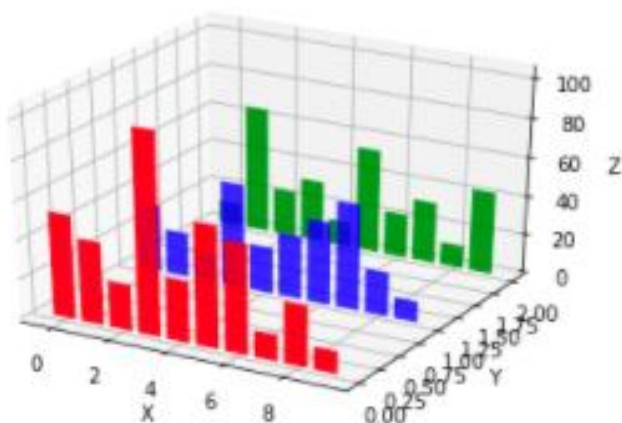
Multiple Dataframes

```
df_sale = pd.DataFrame([[20,30,10], [30,20,20], [20,40,40]], columns=list("ABC"))

    A   B   C
0   20  30  10
1   30  20  20
2   20  40  40

df_people = pd.DataFrame([[2,3,1], [3,2,2], [2,4,4]], columns=list("ABC"))

    A   B   C
0   2   3   1
1   3   2   2
2   2   4   4

df_department = pd.DataFrame([[1,2,1], [1,1,2], [2,1,1]], columns=list("ABC"))

    A   B   C
0   1   2   1
1   1   1   2
2   2   1   1
```

```
import pandas as pd
from mpl_toolkits.mplot3d import Axes3D
import matplotlib.pyplot as plt

columns = ['A', 'B', 'C']
df_names = ['sale', 'people', 'department']
df = [pd.DataFrame([[20,30,10], [30,20,20], [20,40,40]], columns=columns), pd.DataFrame([[

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

#make sure x and y axis get the right tick labels
plt.xticks([i for i in range(len(columns))], columns)
plt.yticks([i for i in range(len(df_names))], df_names)

#define a list for x positions
xs = list()
for i in range(len(df)):
    for j in range(len(columns)):
        xs.append(i + j * 0.1)

for c1, c in enumerate(['r', 'g', 'b']):
    ys = list()
    for i in range(len(columns)):
        ys.extend(df[c1].ix[:,i:i+1].unstack().tolist())
    cs = [c] * len(xs)
    ax.bar(xs, ys, zs=c1, zdir='y', color=cs, alpha=0.5, width=0.1)

plt.show()
```
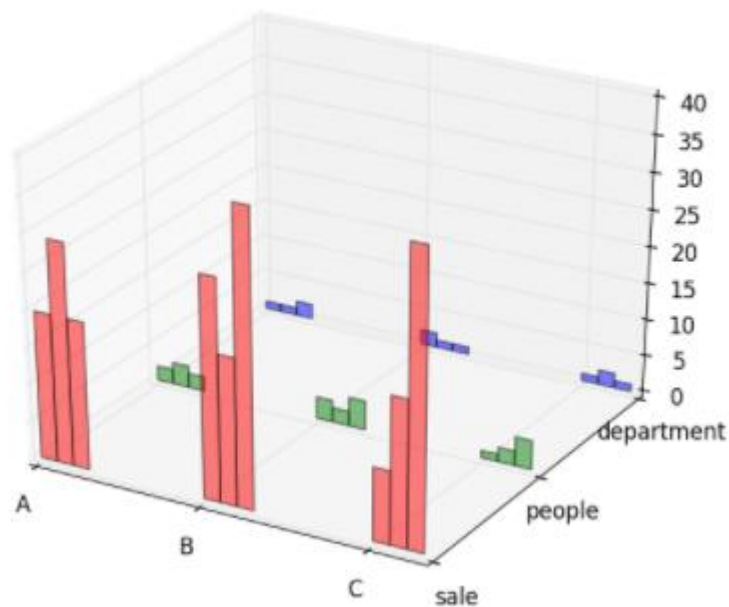
Scatter Plot

```python
import numpy as np
import matplotlib.pyplot as plt
from mpl_toolkits.mplot3d import axes3d

# Create data
N = 60
g1 = (0.6 + 0.6 * np.random.rand(N), np.random.rand(N),0.4+0.1*np.random.rand(N))
g2 = (0.4+0.3 * np.random.rand(N), 0.5*np.random.rand(N),0.1*np.random.rand(N))
g3 = (0.3*np.random.rand(N),0.3*np.random.rand(N),0.3*np.random.rand(N))

data = (g1, g2, g3)
colors = ("red", "green", "blue")
groups = ("coffee", "tea", "water")

# Create plot
fig = plt.figure()
ax = fig.add_subplot(1, 1, 1, axisbg="1.0")
ax = fig.gca(projection='3d')

for data, color, group in zip(data, colors, groups):
    x, y, z = data
    ax.scatter(x, y, z, alpha=0.8, c=color, edgecolors='none', s=30, label=group)

plt.title('Matplot 3d scatter plot')
plt.legend(loc=2)
plt.show()
```

Matplot 3d scatter plot