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Nim : A11.2020.12799

The screenshot shows the Google Colab interface for a notebook titled "Klasifikasi Data dengan K-NN.ipynb". The left sidebar displays the file explorer with a folder named "sample_data" containing a file "Social_Network_Ads.csv". The main code editor area contains the following Python code:

```
import numpy as np
import matplotlib.pyplot as plt
import pandas as pd
```

The output area is currently empty, showing only a pair of brackets "[]". The bottom status bar indicates the notebook is "selesai pada 15.54" (finished at 15:54).

The screenshot shows the same Google Colab interface, but with additional code and output. The code editor now includes:

```
[1] import numpy as np
import matplotlib.pyplot as plt
import pandas as pd

[2] dataset = pd.read_csv('Social_Network_Ads.csv')

dataset.head()
```

The output area displays the first five rows of the "Social_Network_Ads.csv" dataset:

| | User ID | Gender | Age | EstimatedSalary | Purchased |
|---|----------|--------|-----|-----------------|-----------|
| 0 | 15624510 | Male | 19 | 19000 | 0 |
| 1 | 15810944 | Male | 35 | 20000 | 0 |
| 2 | 15668575 | Female | 26 | 43000 | 0 |
| 3 | 15603246 | Female | 27 | 57000 | 0 |
| 4 | 15804002 | Male | 19 | 76000 | 0 |

The bottom status bar indicates the notebook is "selesai pada 15.59" (finished at 15:59).

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7L_lqUc-6FMEhWfQyF#scrollTo=3P_2XFUZH3O

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Komentar Bagikan

File

sample_data
Social_Network_Ads.csv

+ Kode + Teks

```
x = dataset.iloc[:, [2,3]].values  
y = dataset.iloc[:, -1].values
```

```
[6] print(x)
```

```
[ 38  65000]  
[ 47  51000]  
[ 47 105000]  
[ 41  63000]  
[ 53  72000]  
[ 54 108000]  
[ 39  77000]  
[ 38  61000]  
[ 38 113000]  
[ 37  75000]  
[ 42  90000]  
[ 37  57000]  
[ 36  99000]  
[ 60  34000]  
[ 54  70000]  
[ 41  72000]  
[ 40  71000]  
[ 42  54000]
```

0 d selesai pada 16.03

89°F T-storms

Search

4:03 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7L_lqUc-6FMEhWfQyF#scrollTo=F1gG0EING6RA

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan

Komentar Bagikan

File

sample_data
Social_Network_Ads.csv

+ Kode + Teks

```
[ 23  82000]  
[ 22  63000]  
[ 31  68000]  
[ 25  80000]  
[ 24  27000]  
[ 20  23000]  
[ 33 113000]  
[ 32  18000]  
[ 34 112000]
```

```
print(y)
```

```
[0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 0 0 0 1 0 0 0 0 0  
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0  
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0  
0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0  
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 1 0 1 1 0 0 0 1 0 0 1  
1 1 0 0 1 1 0 1 1 0 1 1 0 1 0 0 0 1 1 0 1 1 0 1 0 1 0 0 1 1 0 1 0 0 1  
1 0 1 1 0 1 1 0 0 1 0 0 1 1 1 1 0 1 1 1 1 0 1 0 1 0 1 1 1 1 0 0 0  
1 1 0 1 1 1 1 0 0 0 1 1 0 0 1 0 1 0 1 1 0 1 0 1 1 0 0 0 1 1 0 1 0  
0 1 0 1 0 0 1 1 0 0 1 1 0 1 1 0 0 1 0 1 0 1 1 1 0 1 1 1 1 1 0 1  
1 1 0 1 0 1 0 0 1 1 0 1 1 1 1 1 0 1 1 1 1 1 0 1 1 1 0 1]
```

0 d selesai pada 16.04

89°F T-storms

Search

4:04 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7l_lqUc-6FMEhWFQyF#scrollTo=mVQX88xwILC0

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Komentar Bagikan

File

{x}

- sample_data
- Social_Network_Ads.csv

+ Kode + Teks

```
[10] [ 33 149000]
      [ 40  71000]
      [ 51 146000]
      [ 46  79000]
      [ 35  75000]
      [ 38  51000]
      [ 36  75000]
      [ 37  78000]
      [ 38  61000]
      [ 60 108000]
      [ 20  82000]
      [ 57  74000]
      [ 42  65000]
```

```
len(x_train)
```

300

0 d selesai pada 16.11

89°F T-storms

Search

4:11 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7l_lqUc-6FMEhWFQyF#scrollTo=EQLJ_i6UjIRH

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan

Komentar Bagikan

File

{x}

- sample_data
- Social_Network_Ads.csv

+ Kode + Teks

```
[12] len(x)
```

400

```
[13] len(x_test)
```

100

```
[14] len(y)
```

400

```
[15] len(y_test)
```

100

```
len(y_train)
```

300

0 d selesai pada 16.15

86°F Partly sunny

Search

4:15 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7LlqUc-6FMEhWFQyF#scrollTo=RaaloxX2LBph

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Komentar Bagikan

File

..

sample_data

Social_Network_Ads.csv

+ Kode + Teks

```
[17] from sklearn.preprocessing import StandardScaler
      sc = StandardScaler()
      x_train = sc.fit_transform(x_train)
      x_test = sc.transform(x_test)
```

```
print(x_train)
```

```
[ 0.08648817  1.05583366]
[-0.11157634 -0.3648304 ]
[-1.20093113  0.07006676]
[-0.30964085 -1.3505973 ]
[ 1.57197197  1.11381995]
[-0.80480212 -1.52455616]
[ 0.08648817  1.8676417 ]
[-0.90383437 -0.77073441]
[-0.50770535 -0.77073441]
[-0.30964085 -0.91570013]
[ 0.28455268 -0.71274813]
[ 0.28455268  0.07006676]
[ 0.08648817  1.8676417 ]
[-1.10189888  1.95462113]
[-1.6960924  -1.5535493 ]
[-1.20093113 -1.089659 ]
[-0.70576986 -0.1038921 ]
[ 0.08648817  0.09905991]
```

0 d selesai pada 16.22

86°F Partly sunny

Search

4:22 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7l_lqUc-6FMEhWFQyF#scrollTo=6_CAOAsjLv13

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan Menyimpan...

Komentar Bagikan

File

sample_data
Social_Network_Ads.csv

+ Kode + Teks

```
[ 0.38358493 -0.13288524]
```

```
print(X_test)
```

```
[ -1.10189888  0.41798449]  
[ -0.30964085 -1.43757673]  
[  0.48261718  1.22979253]  
[ -1.10189888 -0.33583725]  
[ -0.11157634  0.30201192]  
[  1.37390747  0.59194336]  
[ -1.20093113 -1.14764529]  
[  1.07681071  0.47597078]  
[  1.86906873  1.51972397]  
[ -0.40867311 -1.29261101]  
[ -0.30964085 -0.3648304 ]  
[ -0.40867311  1.31677196]  
[  2.06713324  0.53395707]  
[  0.68068169 -1.089659  ]  
[ -0.90383437  0.38899135]  
[ -1.20093113  0.30201192]  
[  1.07681071 -1.20563157]  
[ -1.49802789 -1.43757673]  
[ -0.60673761 -1.49556302]  
[  2.1661655  -0.79972756]  
[ -1.89415691  0.18603934]  
[ -0.21060859  0.85288166]  
[ -1.89415691 -1.26361786]
```

0 d selesai pada 16.25

86°F Partly sunny

Search

4:25 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/12-iyj2mmwlnnai7l_lqUc-6FMEhWFQyF#scrollTo=IAXE2W1uMWC0

Klasifikasi Data dengan K-NN.ipynb ☆

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Komentar Bagikan

File

sample_data
Social_Network_Ads.csv

+ Kode + Teks

```
[19] [ 0.77971394 -0.8287207 ]  
[ 0.28455268 -0.27785096]  
[ 0.38358493 -0.16187839]  
[ -0.11157634  2.21555943]  
[ -1.49802789 -0.62576869]  
[ -1.29996338 -1.06066585]  
[ -1.39899564  0.41798449]  
[ -1.10189888  0.76590222]  
[ -1.49802789 -0.19087153]  
[  0.97777845 -1.06066585]  
[  0.97777845  0.59194336]  
[ 0.38358493  0.99784738]]
```

```
from sklearn.neighbors import KNeighborsClassifier  
classifier = KNeighborsClassifier(n_neighbors = 5, metric = 'minkowski', p=2)  
classifier.fit(x_train, y_train)
```

```
KNeighborsClassifier  
KNeighborsClassifier()
```

0 d selesai pada 16.30

86°F Partly sunny

Search

4:30 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x Selamat Datang di Colaboratory x Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/1wVl0U6XLCtXrxXm2H_LpEeeH7WLA0AcB#scrollTo=2Xr4xdJ7KfaS

Klasifikasi Data dengan K-NN.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan

Komentar Bagikan

File

sample_data Social_Network_Ads.csv

Kode

```
from matplotlib.colors import ListedColormap
x_set, y_set = x_train, y_train
x1, x2 = np.meshgrid(np.arange(start=x_set[:, 0].min()-1, stop=x_set[:, 0].max()+1, step=0.01),
                     np.arange(start=x_set[:, 1].min()-1, stop=x_set[:, 1].max()+1, step=0.01))
plt.contourf(x1, x2, classifier.predict(np.array([x1.ravel(), x2.ravel()]).T).reshape(x1.shape),
             alpha = 0.75, cmap = ListedColormap(('red', 'green')))
plt.xlim(x1.min(), x1.max())
plt.ylim(x2.min(), x2.max())
for i, j in enumerate(np.unique(y_set)):
    plt.scatter(x_set[y_set == j, 0], x_set[y_set == j, 1],
                c = ListedColormap(('red', 'green'))(i), label = j)
plt.title('Klasifikasi Data dengan K-NN (Data Training)')
plt.xlabel('Umur')
plt.ylabel('Estimasi Gaji')
plt.legend()
plt.show
```

<ipython-input-23-3d40f6b13854>:10: UserWarning: *c* argument looks like a single numeric RGB or RGBA sequence,
plt.scatter(x_set[y_set == j, 0], x_set[y_set == j, 1],
<function matplotlib.pyplot.show(close=None, block=None)>

Klasifikasi Data dengan K-NN (Data Training)

3 0

11 d selesai pada 21.02

81°F Mostly cloudy 9:02 PM 4/8/2023

Klasifikasi Data dengan K-NN.ipynb x Selamat Datang di Colaboratory x Klasifikasi Data dengan K-NN.ipynb x +

colab.research.google.com/drive/1wVl0U6XLCtXrxXm2H_LpEeeH7WLA0AcB#scrollTo=2Xr4xdJ7KfaS

Klasifikasi Data dengan K-NN.ipynb

File Edit Lihat Sisipkan Runtime Fitur Bantuan Semua perubahan disimpan

Komentar Bagikan

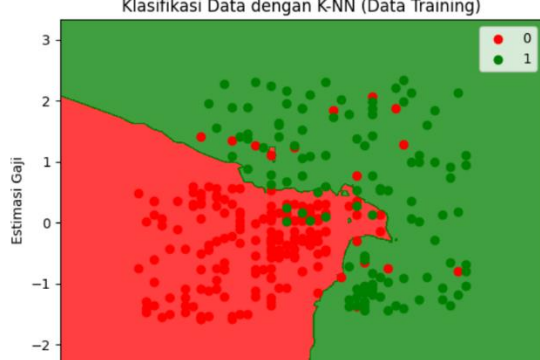
File

sample_data Social_Network_Ads.csv

Kode

```
<ipython-input-23-3d40f6b13854>:10: UserWarning: *c* argument looks like a single numeric RGB or RGBA sequence,
plt.scatter(x_set[y_set == j, 0], x_set[y_set == j, 1],
<function matplotlib.pyplot.show(close=None, block=None)>
```

Klasifikasi Data dengan K-NN (Data Training)



Estimasi Gaji

3 2 1 0 -1 -2

0 1

11 d selesai pada 21.02

81°F Mostly cloudy 9:03 PM 4/8/2023

