



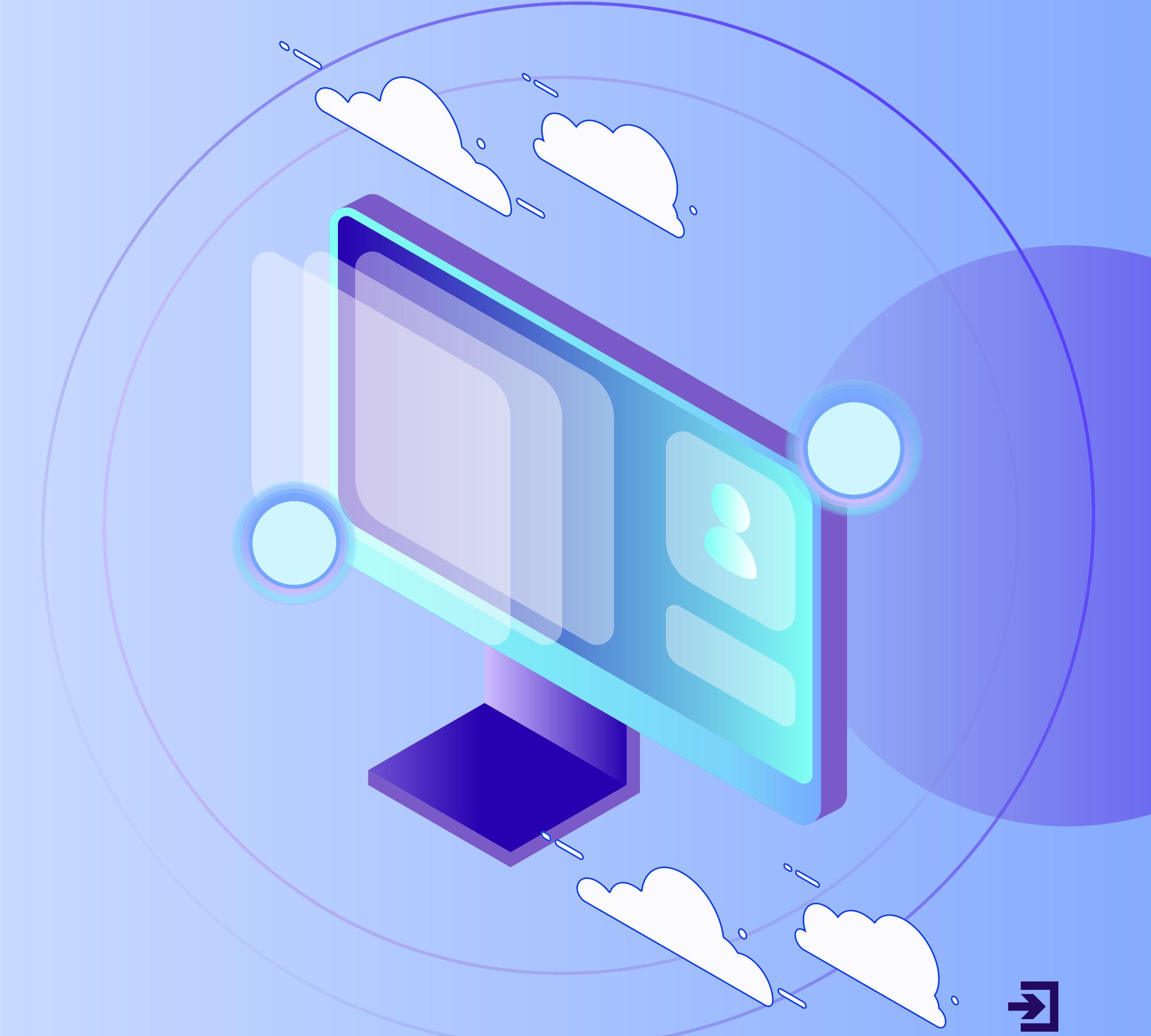
FEATURE- BASED CLASSIFICATION

USING KNN

DIGITAL SKILL FAIR 35.0

X

by Vivi Linda Utami



ABOUT ME *

Hi, everyone! I am Vivi Linda Utami majoring in Diploma 3 Accounting at Jenderal Soedirman University with a GPA OF 3.73, I have explored various aspect of accounting, such as preparation of financial statements, analysis of financial data, and application of modern accounting standards.

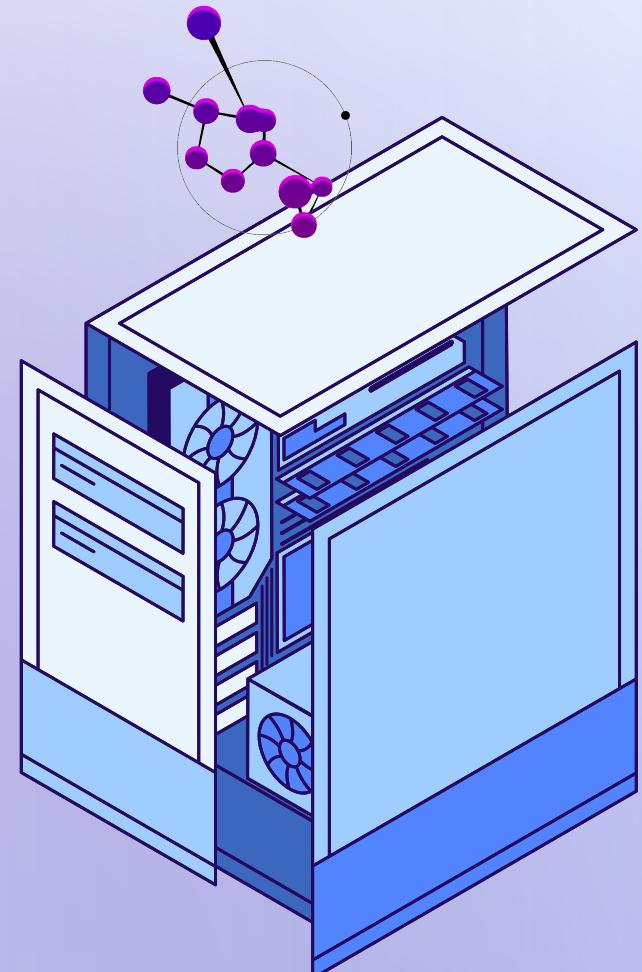


Introduction

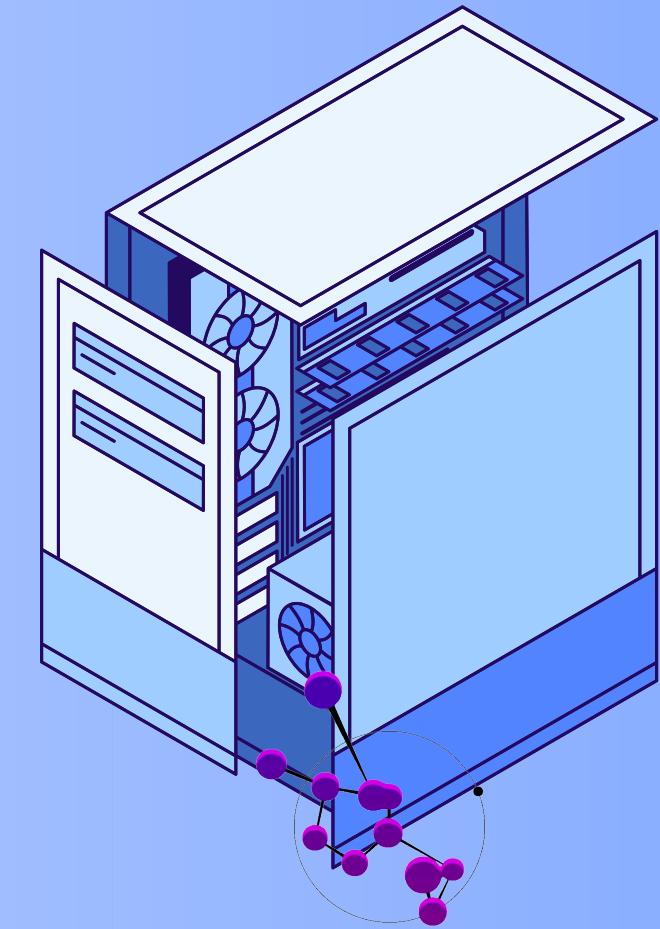
During my academic journey, I realized the importance of data science in the modern accounting world. I continue to develop skills such as data analysis, financial visualization, and the use of software such as Python and excel to support more in-depth accounting analysis.



DEFINITION KNN (K-NEAREST NEIGHBOURS)



KNN adalah model machine learning yang dapat digunakan untuk melakukan prediksi berdasarkan kedekatan karakteristik dengan sejumlah tetangga terdekat. Prediksi yang dilakukan dapat diterapkan baik pada classification maupun regression tasks.



FEATURES USED



1. Fitur Input (x):

- tinggi: Tinggi badan dalam satuan cm
- berat: Berat badan dalam satuan kg

Fitur ini digunakan untuk melatih model pembelajaran mesin dengan:
`X_train = np.array(sensus_df[['tinggi', 'berat']])`

2. Label Target (y):

- jk: Jenis kelamin (pria atau wanita)
`y_train = np.array(sensus_df['jk'])`

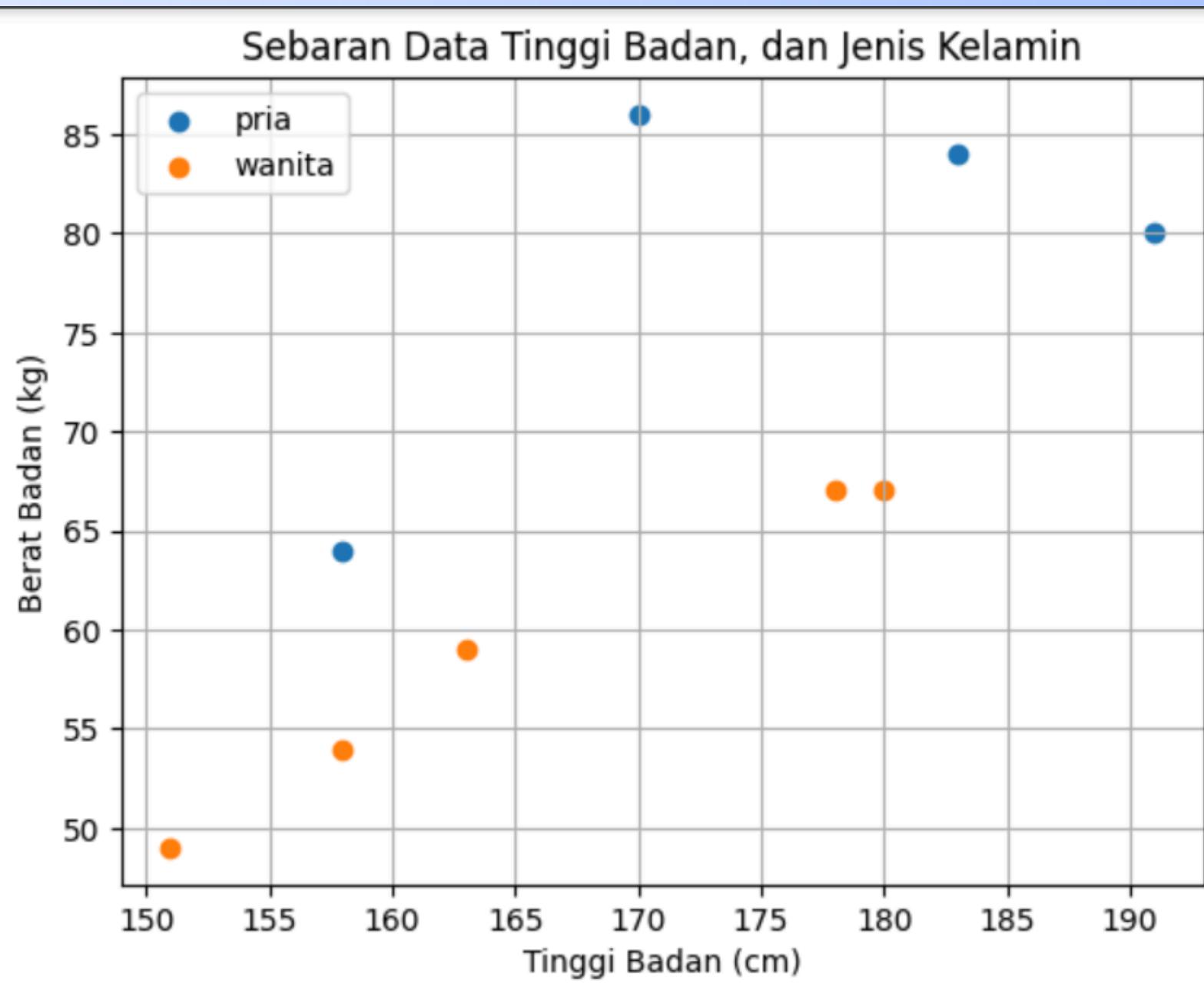


SAMPLE DATASET

	tinggi	berat	jk
0	158	64	pria
1	170	86	pria
2	183	84	pria
3	191	80	pria
4	151	49	wanita
5	163	59	wanita
6	180	67	wanita
7	158	54	wanita
8	178	67	wanita



VISUALISASI DATA



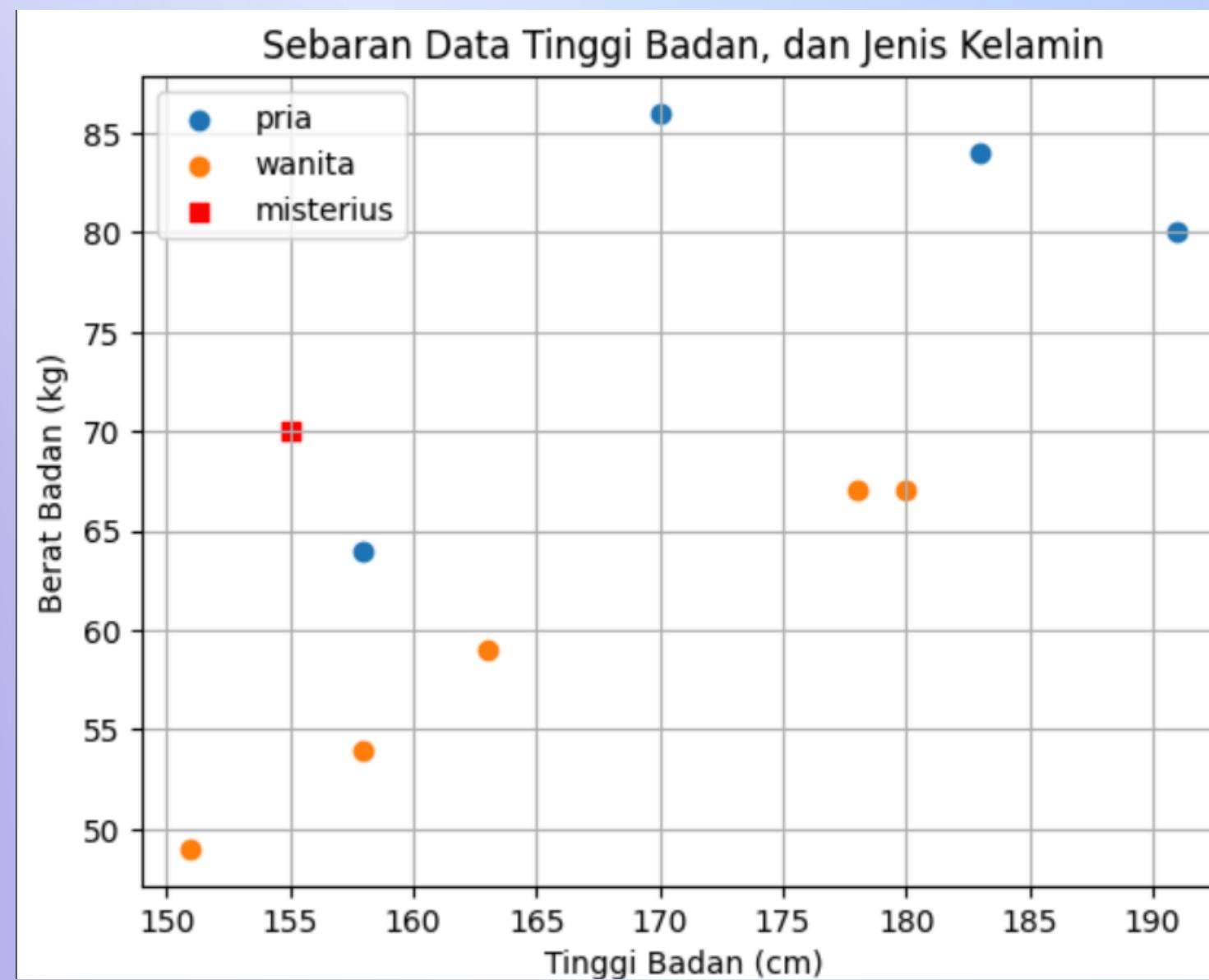
PREPROCESSING DATASET

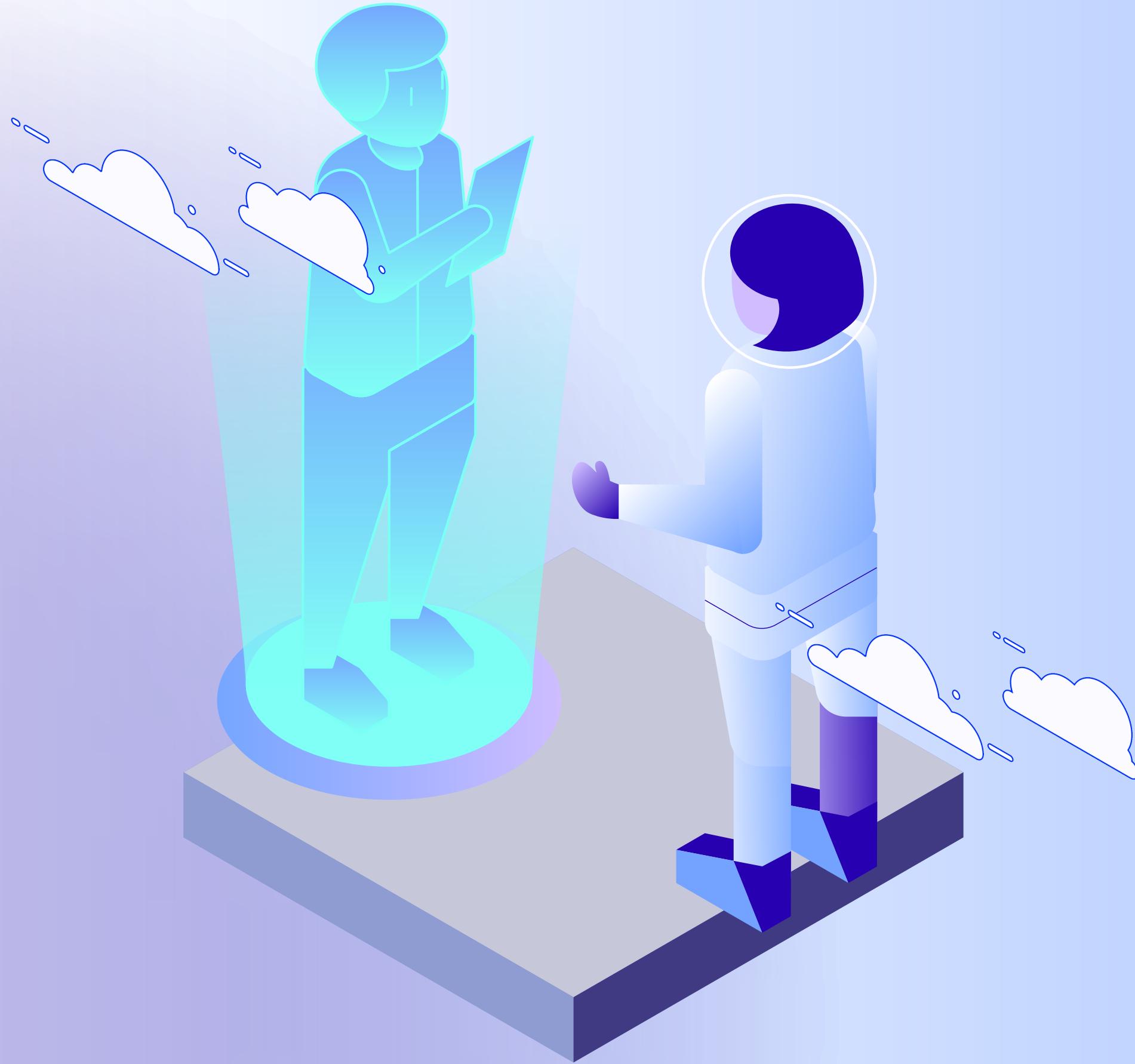
```
→ x_train:  
[[158  64]  
 [170  86]  
 [183  84]  
 [191  80]  
 [151  49]  
 [163  59]  
 [180  67]  
 [158  54]  
 [178  67]]  
  
y_train: ['pria' 'pria' 'pria' 'pria' 'wanita' 'wanita' 'wanita' 'wanita' 'wanita']
```

```
→ y_train_bin:  
[[0]  
 [0]  
 [0]  
 [0]  
 [0]  
 [1]  
 [1]  
 [1]  
 [1]  
 [1]]  
  
: ['pria' 'pria' 'pria' 'pria' 'wanita' 'wanita' 'wanita' 'wanita'  
  'wanita']
```



VISUALISASI NEAREST NEIGHBOURS





KALKULASI DISTANCE

→	tinggi	berat	jk	jarak
0	158	64	pria	6.708204
5	163	59	wanita	13.601471
7	158	54	wanita	16.278821
4	151	49	wanita	21.377558
1	170	86	pria	21.931712
8	178	67	wanita	23.194827
6	180	67	wanita	25.179357
2	183	84	pria	31.304952
3	191	80	pria	37.363083



CLASSIFICATION REPORT

→ Classification Report:

	precision	recall	f1-score	support
0	1.00	0.50	0.67	2
1	0.67	1.00	0.80	2
accuracy			0.75	4
macro avg	0.83	0.75	0.73	4
weighted avg	0.83	0.75	0.73	4





THANK YOU!



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