ML10

May 23, 2022

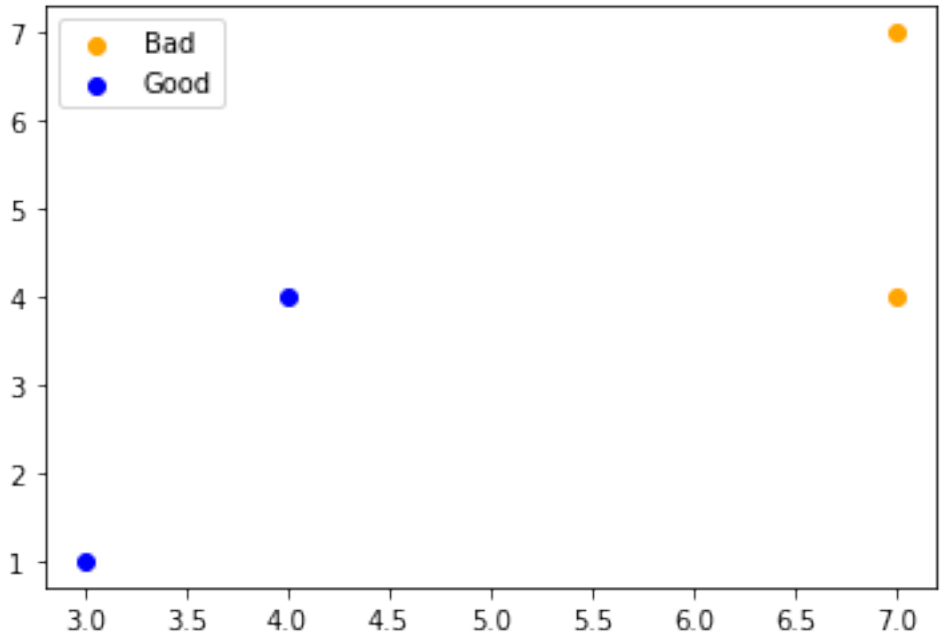
[1]:
```
# Consider tissue paper factory application.
# Apply KNN algorithm to find class of new tissue paper (X1= 3, X2=7). Assume␣
↪K=3
```

[2]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.neighbors import KNeighborsClassifier
```

[5]:
```
x = np.array([[7,7],[7,4],[3,4],[1,4]])
y = np.array(["Bad","Bad","Good","Good"])

Bad = np.array([[7,7],[7,4]])
Good = np.array([[3,1],[4,4]])
```

[6]:
```
plt.figure()
plt.scatter(Bad[:,0],Bad[:,1],label='Bad',c='orange')
plt.scatter(Good[:,0],Good[:,1],label='Good',c='blue')
plt.legend()
plt.show()
```



[7]:
```
clf = KNeighborsClassifier(n_neighbors=3)
clf.fit(x,y)
```

[7]:
```
KNeighborsClassifier(n_neighbors=3)
```

[9]:
```
x_test = np.array([3,7])
y_pred = clf.predict([x_test])
y_pred
```

[9]:
```
array(['Good'], dtype='<U4')
```

[ ]:
```

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