KNN_ML_05

March 15, 2022

1 *K_nearest Neighbour*

[ ]:
```
#K-Nearest Neighbors
import pandas as pd
from sklearn.model_selection import train_test_split
df = pd.read_csv('mldata.csv')
df['gender'] = df['gender'].replace("Male",1)
df['gender'] = df['gender'].replace("Female",0)
df.head()
```

[ ]:

	age	weight	gender	likeness	height
0	27	76.0	1	Biryani	170.688
1	41	70.0	1	Biryani	165
2	29	80.0	1	Biryani	171
3	27	102.0	1	Biryani	173
4	29	67.0	1	Biryani	164

[ ]:
```
X = df[["weight",'gender']]
y = df['likeness']
X_train, X_test, y_train, y_test = train_test_split(X,y, test_size=0.2)
```

[ ]:
```
from sklearn.neighbors import KNeighborsClassifier
model = KNeighborsClassifier(n_neighbors= 7)
model.fit(X_train,y_train)
```

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```
KNeighborsClassifier(n_neighbors=7)
```

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```
prdct = model.predict(X_test)
prdct
```

[ ]:
```
array(['Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani',
       'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Biryani', 'Samosa',
```

```
       'Biryani'], dtype=object)
```

[ ]:
```
model.predict([[90,1]])
```

```
C:\Users\Sartaj\AppData\Local\Programs\Python\Python39\lib\site-
packages\sklearn\base.py:450: UserWarning: X does not have valid feature names,
but KNeighborsClassifier was fitted with feature names
  warnings.warn(
```

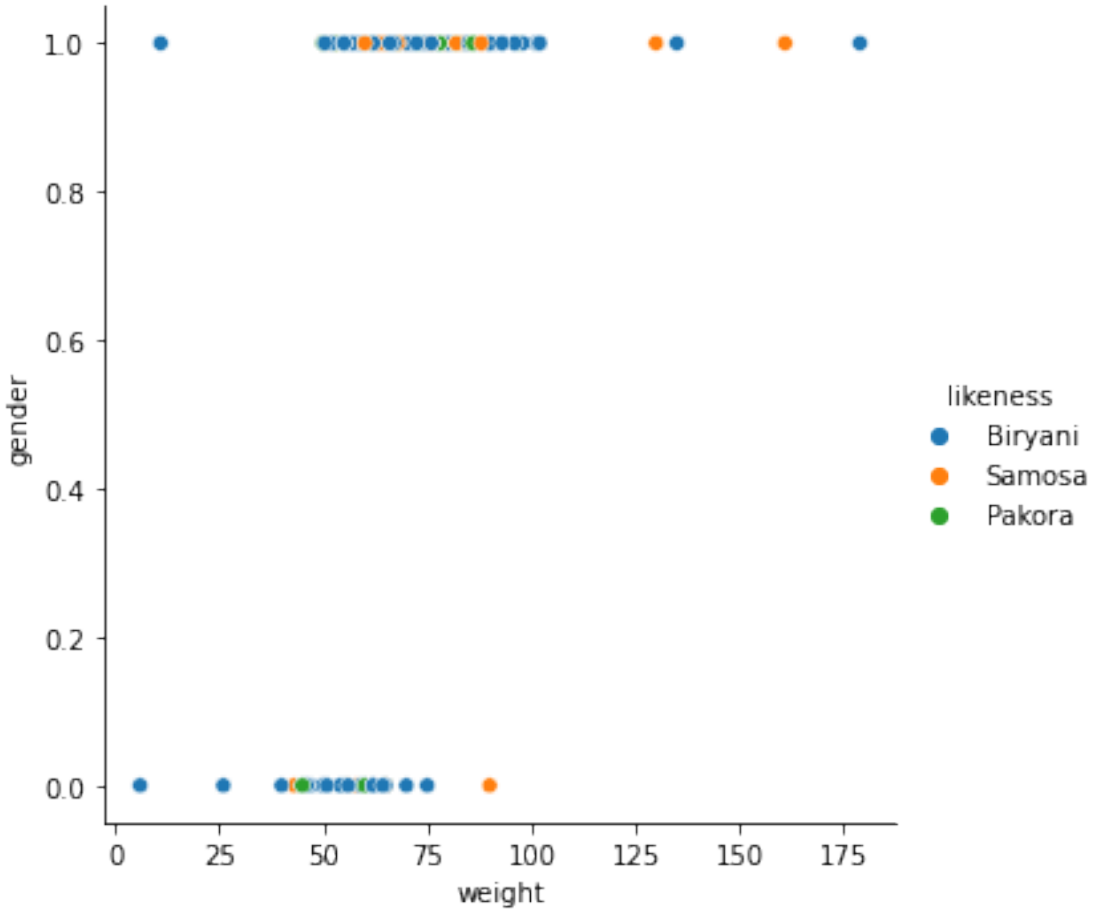
[ ]:
```
array(['Biryani'], dtype=object)
```

[ ]:
```
from sklearn.metrics import accuracy_score
score = accuracy_score(y_test, prdct)
print("Model Score is ", score)
```

```
Model Score is  0.7959183673469388
```

[ ]:
```
import seaborn as sns
sns.relplot(x =X_train['weight'], y=X_train["gender"],hue=y_train)
```

[ ]:
```
<seaborn.axisgrid.FacetGrid at 0x26036d4dc70>
```



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