

EXPRERIMENT 7

IMPLEMENTATION OF NAÏVE BAYES CLASSIFIER

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CODE -

```
from sklearn import datasets
from sklearn import metrics
from sklearn.model_selection import train_test_split
import matplotlib.pyplot as plt
plt.style.use("ggplot")
from sklearn import naive_bayes
dataset = datasets.load_wine()
X = dataset.data; y = dataset.target
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.25)
model = naive_bayes.BernoulliNB()
model.fit(X_train, y_train)
print(model)
expected_y = y_test
predicted_y = model.predict(X_test)
print(metrics.classification_report(expected_y, predicted_y, target_names=dataset.target_names))
print(metrics.confusion_matrix(expected_y, predicted_y))
model = naive_bayes.GaussianNB()
model.fit(X_train, y_train)
print(model)
expected_y = y_test
predicted_y = model.predict(X_test)
print(metrics.classification_report(expected_y, predicted_y, target_names=dataset.target_names))
print(metrics.confusion_matrix(expected_y, predicted_y))
model = naive_bayes.MultinomialNB()
model.fit(X_train, y_train)
print();
print(model)
expected_y = y_test
predicted_y = model.predict(X_test)
print(metrics.classification_report(expected_y, predicted_y, target_names=dataset.target_names))
print(metrics.confusion_matrix(expected_y, predicted_y))
```


Naive Bayes.ipynb - Colaboratory

colab.research.google.com/drive/1lmySigBcEKamBwl-HVQaOTiaFmEDUv#scrollTo=0QJLowXVfjm

Naive Bayes.ipynb

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MultiNomialNB()

[20] expected_y = y_test
predicted_y = model.predict(X_test)

print(metrics.classification_report(expected_y, predicted_y, target_names=dataset.target_names))
print(metrics.confusion_matrix(expected_y, predicted_y))

	precision	recall	f1-score	support
class_0	0.94	0.83	0.88	18
class_1	0.85	0.55	0.67	20
class_2	0.31	0.71	0.43	7
accuracy			0.69	45
macro avg	0.70	0.70	0.66	45
weighted avg	0.80	0.69	0.72	45

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