



8_DigitRecognition_RANDOMFO...

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[1] import pandas as pd
import numpy as np

Access Google Drive contents

from google.colab import drive
drive.mount('/content/gdrive')

Mounted at /content/gdrive

Load Dataset

[] fileName = "/content/gdrive/My Drive/MachineLearningMasterClass/digit.csv"
dataset = pd.read_csv(fileName)

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```
fileName = "/content/garive/My Drive/MachineLearningMasterClass/digit.csv"
[3] dataset = pd.read_csv(fileName)
```

Summarize Dataset

```
print(dataset.shape)
print(dataset.head(5))
```

(42000, 785)

	label	pixel0	pixel1	pixel2	...	pixel780	pixel781	pixel782	pixel783
0	1	0	0	0	...	0	0	0	0
1	0	0	0	0	...	0	0	0	0
2	1	0	0	0	...	0	0	0	0
3	4	0	0	0	...	0	0	0	0
4	0	0	0	0	...	0	0	0	0

[5 rows x 785 columns]

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[5 rows x 785 columns]

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▼ Segregate Dataset into X(Input/IndependentVariable) & Y(Output/DependentVariable)

X = dataset.iloc[:,1:]
print(X)
print(X.shape)

[] Y = dataset.iloc[:,0]
print(Y)
print(Y.shape)

▼ Splitting Dataset into Test & Train

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Splitting Dataset into Test & Train

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, Y, test_size = 0.25, random_state = 0)
```

Training

```
[ ] from sklearn.ensemble import RandomForestClassifier
model = RandomForestClassifier()
model.fit(X_train, y_train)

[ ] y_pred = model.predict(X_test)
```

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```
n_jobs=None, oob_score=False, random_state=None,
verbose=0, warm_start=False)
```

```
[9] y_pred = model.predict(X_test)
```

Model Accuracy

```
from sklearn.metrics import accuracy_score
print("Accuracy of the Model: {}%".format(accuracy_score(y_test, y_pred)*100))
```

Accuracy of the Model: 96.3047619047619%

```
[ ] import matplotlib.pyplot as plt
index=10
print("Predicted " + str(model.predict(X_test)[index]))
plt.axis('off')
```

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```
print('Predicted ' + str(model.predict(X_test)[index]))
plt.axis('off')
plt.imshow(X_test.iloc[index].values.reshape((28,28)), cmap='gray')
```

Predicted 7
<matplotlib.image.AxesImage at 0x7fd77e952a10>

