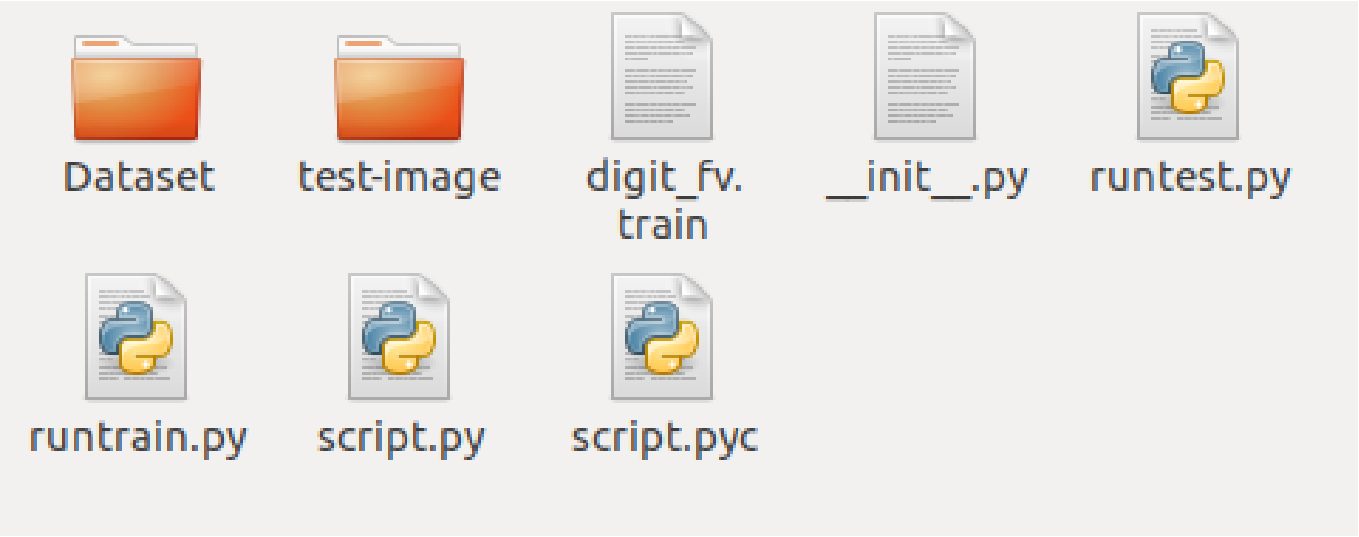
รายงานความคืบหน้าของโปรแกรม 2

แยกไฟล์

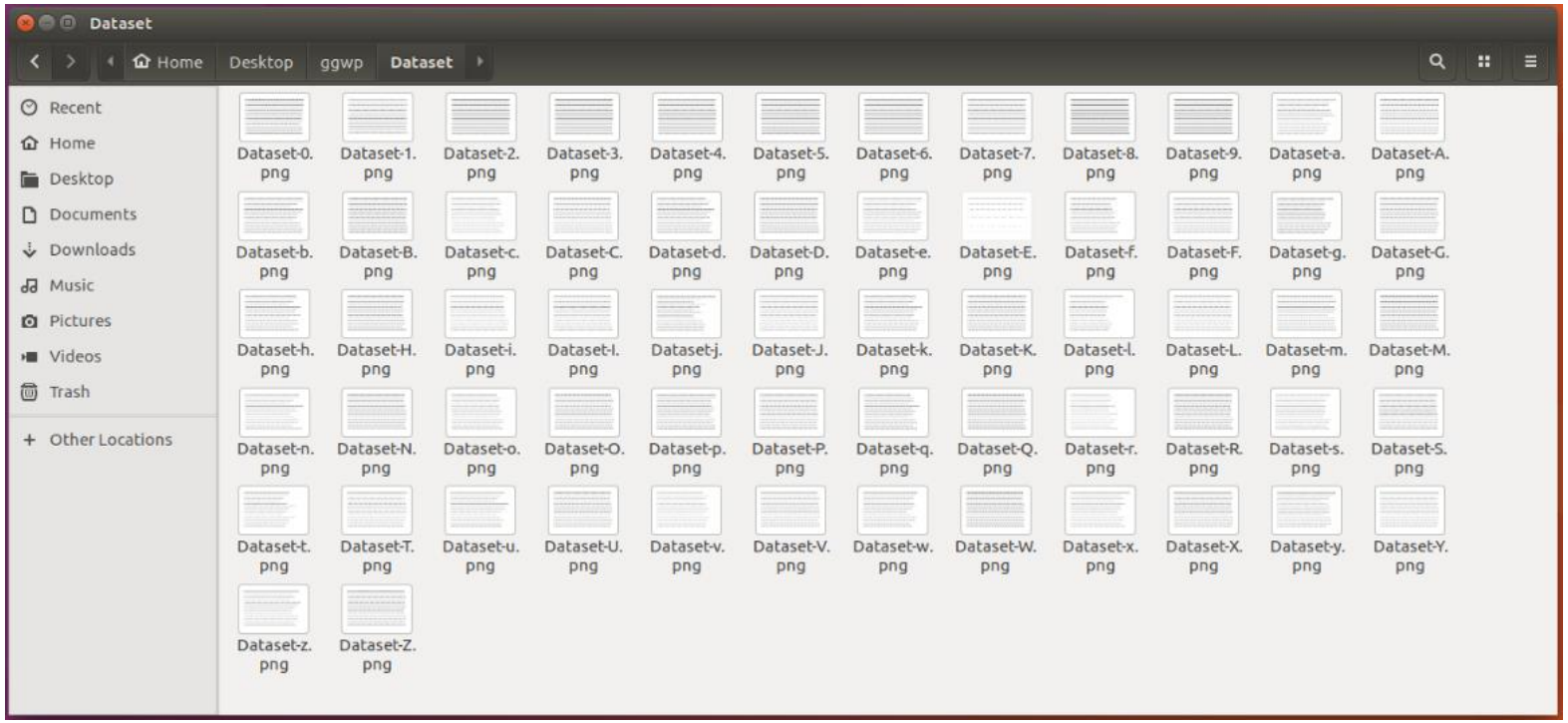

Dataset
test-image
digit_fv.
train
__init__.py
runtest.py
runtrain.py
script.py
script.pyc

เรียกไฟล์ Script

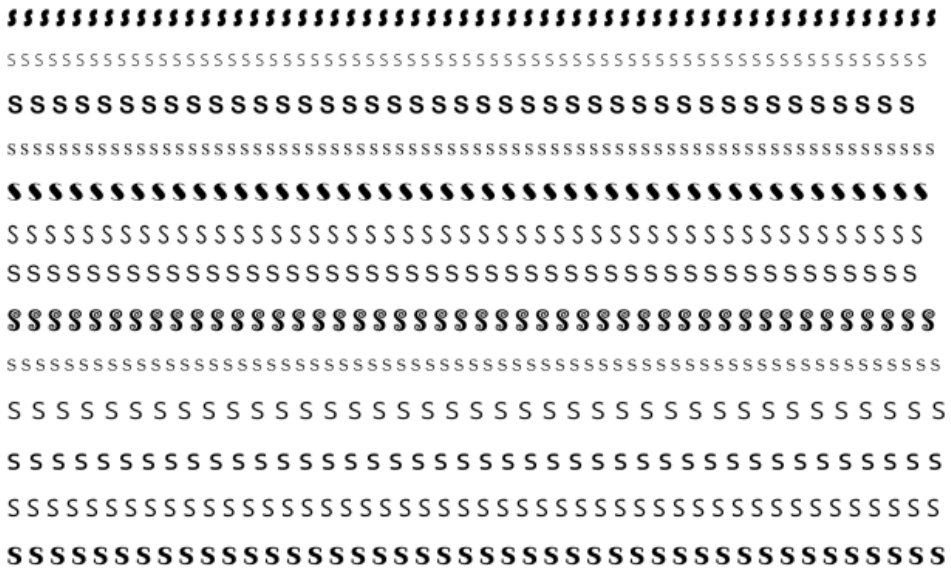
runtest.py × | script.py × | runtrain.py ×

```python
from skimage import io
from skimage import filters, color
from skimage import transform
import matplotlib.pyplot as plt
from scipy import ndimage as ndi
import numpy as np
import os
import fnmatch
from sklearn.neighbors.nearest_centroid import NearestCentroid
from sklearn.tree import DecisionTreeClassifier
from script import *

# define size of the digit
img_row = 28
img_col = 28

output_filename = 'digit_fv.train'

 #input directory
dirName = 'Dataset'
matches = dir2filename(dirName)
feature = np.zeros((1,(img_row*img_col)+1), dtype='float64')

for i in(range(0,len(matches))):
    print("#", i+1)
    # create feature vector
    digit_fv = img2fv(matches[i], img_row, img_col)
    feature = np.vstack((feature, digit_fv))
```

เพิ่ม Dataset


Dataset
Home
Desktop
ggwp
Dataset
Recent
Home
Desktop
Documents
Downloads
Music
Pictures
Videos
Trash
Other Locations
Dataset-0.png
Dataset-1.png
Dataset-2.png
Dataset-3.png
Dataset-4.png
Dataset-5.png
Dataset-6.png
Dataset-7.png
Dataset-8.png
Dataset-9.png
Dataset-a.png
Dataset-A.png
Dataset-b.png
Dataset-B.png
Dataset-c.png
Dataset-C.png
Dataset-d.png
Dataset-D.png
Dataset-e.png
Dataset-E.png
Dataset-f.png
Dataset-F.png
Dataset-g.png
Dataset-G.png
Dataset-h.png
Dataset-H.png
Dataset-i.png
Dataset-I.png
Dataset-j.png
Dataset-J.png
Dataset-k.png
Dataset-K.png
Dataset-l.png
Dataset-L.png
Dataset-m.png
Dataset-M.png
Dataset-n.png
Dataset-N.png
Dataset-o.png
Dataset-O.png
Dataset-p.png
Dataset-P.png
Dataset-q.png
Dataset-Q.png
Dataset-r.png
Dataset-R.png
Dataset-s.png
Dataset-S.png
Dataset-t.png
Dataset-T.png
Dataset-u.png
Dataset-U.png
Dataset-v.png
Dataset-V.png
Dataset-w.png
Dataset-W.png
Dataset-x.png
Dataset-X.png
Dataset-y.png
Dataset-Y.png
Dataset-z.png
Dataset-Z.png

ตัวอย่าง dataset



train

```
ter@ubuntu: ~/Desktop/project
(image-test/Dataset-b.png)
(image-test/Dataset-j.png)
(image-test/Dataset-y.png)
(image-test/Dataset-S.png)
(image-test/Dataset-v.png)
(image-test/Dataset-F.png)
(image-test/Dataset-f.png)
(image-test/Dataset-a.png)
(image-test/Dataset-Q.png)
(image-test/Dataset-c.png)
(image-test/Dataset-u.png)
(image-test/Dataset-W.png)
(image-test/Dataset-I.png)
(image-test/Dataset-4.png)
(image-test/Dataset-e.png)
(image-test/Dataset-N.png)
('Number of image files', 62)
('#', 1)
('#', 2)
('#', 3)
('#', 4)
('#', 5)
('#', 6)
```

รูปทดลอง

The quick brown fox jumps over the lazy dog

A B C D E F G H I J
K L M N O P Q R S
T S U V W X Y Z
1 2 3 4 5 6 7 8 9
a b c d e f g h i j k l
m n o p q r s t u v w
x y z

Print บรรทัดเดียวกัน

```
42 str1 = ""
43 cnt = 0
44 for i in(range(0, 8)):
45
46     for j in(range(0, 8)):
47         try:
48             tmp = X[cnt].reshape((img_row, img_col))
49             tmp = tmp.astype(float)
50             axes[i,j].imshow(tmp)
51             axes[i,j].set_axis_off()
52             pre_out = clf.predict([X[cnt]])
53             x = int(pre_out)
54             word =
   ['0','1','2','3','4','5','6','7','8','9','A','B','C','D','E','F','G','H','I',':
55             tmp_word = word[int(x)]
56             #print tmp_word
57             axes[i,j].set_title(str(tmp_word))
58             cnt = cnt+1
59             str1=str1+tmp_word
60         except Exception:
61             '''
62             print(Exception)
63
64             '''
65
66 #print tmp_word
67 print str1
```

ผลลัพท์

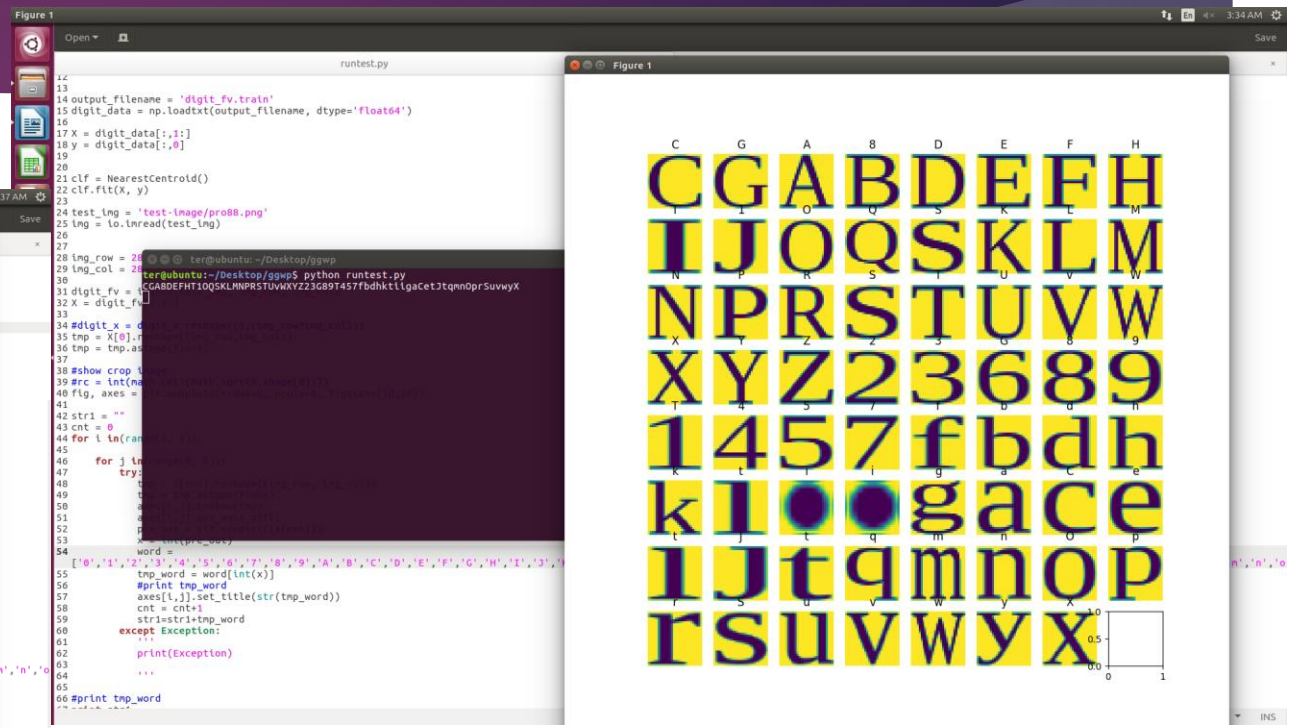


Figure 1
runtest.py
output_filename = 'digit_fv.train'
digit_data = np.loadtxt(output_filename, dtype='float64')
X = digit_data[:,1:]
y = digit_data[:,0]
clf = NearestCentroid()
clf.fit(X, y)
test_img = 'test-image/pro88.png'
img = io.imread(test_img)
ter@ubuntu:~/Desktop/ggwp$ python runtest.py
CGA8DEFHT1OQSKLMNPRSTUVWXYZ23G89T457fbdhktilgaCetJtqmnOprSuvwyX
#print tmp_word

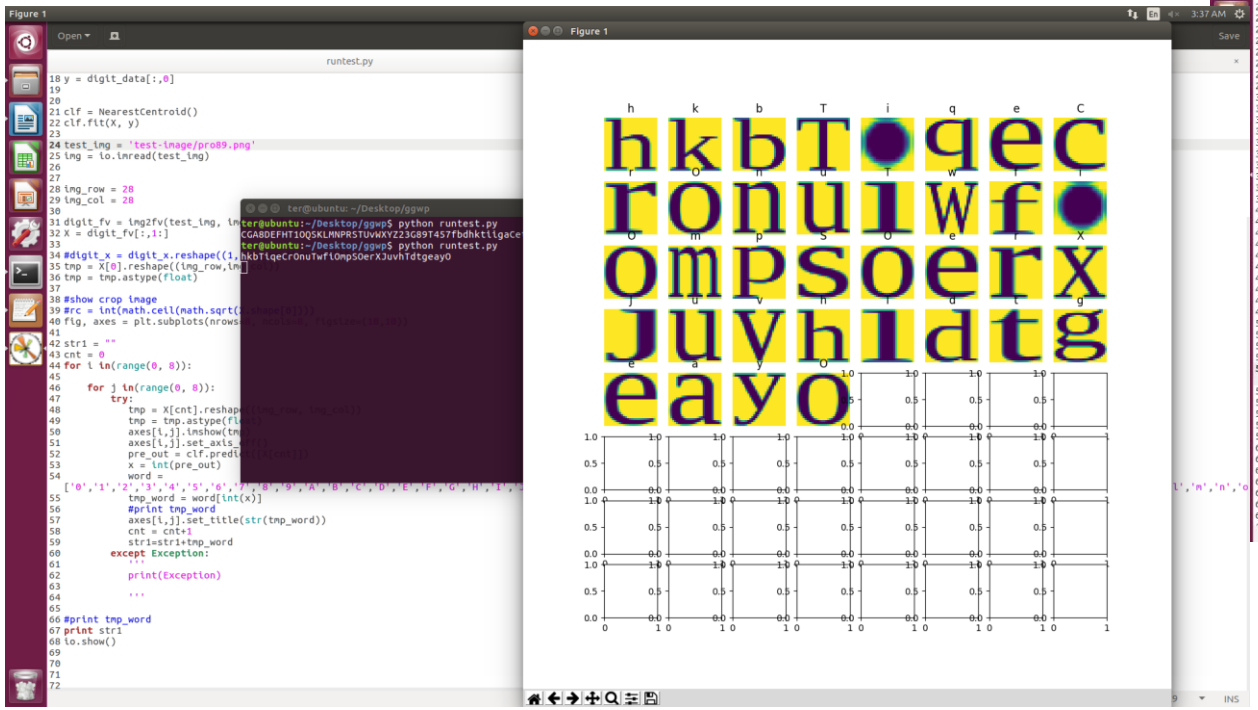
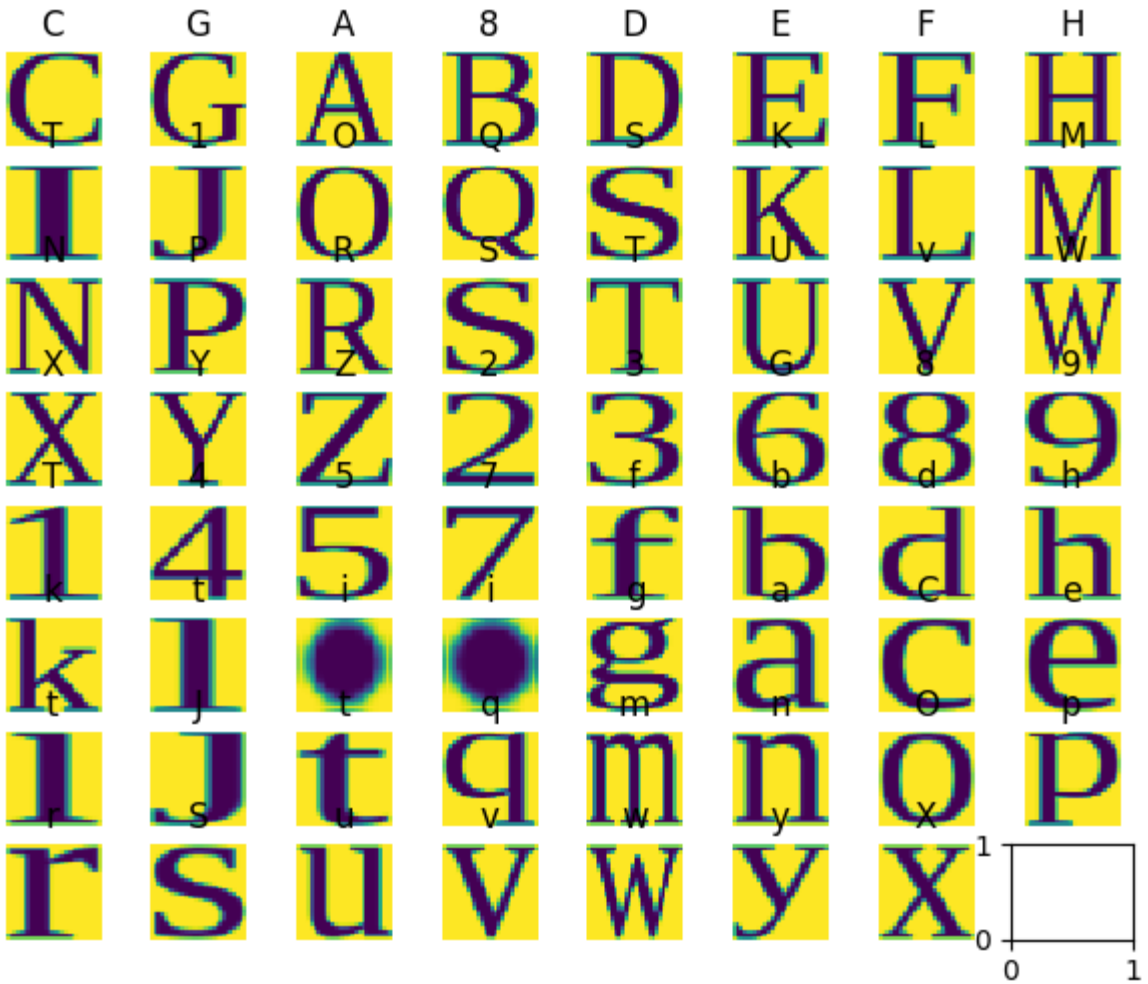


Figure 1
runtest.py
test_img = 'test-image/pro89.png'
img = io.imread(test_img)
img_row = 28
img_col = 28
digit_fv = img2fv(test_img, 1
X = digit_fv[:,1:]
#digit_x = digit_x.reshape((1,
tmp = X[0].reshape((img_row,
tmp = tmp.astype(float)
#show crop image
str1 = ""
cnt = 0
for i in(range(0, 8)):
for j in(range(0, 8)):
try:
except Exception:
print(Exception)
#print tmp_word
print str1
io.show()
ter@ubuntu:~/Desktop/ggwp$ python runtest.py
CGA8DEFHT1OQSKLMNPRSTUVWXYZ23G89T457fbdhktilgaCe
ter@ubuntu:~/Desktop/ggwp$ python runtest.py
h k b T i q e C
r o n u l W f
o m p S o e r X
J u v h l d t g
e a y O


C G A 8 D E F H
T 1 O Q S K L M
N P R S T U V W
X Y Z 2 3 6 8 9
T 4 5 7 f b d h
k t i i g a c e
t j t q m n o p
r s u v w y x
1
0
0
1

```
ter@ubuntu:~/Desktop/ggwp$ python runtest.py
CGA8DEFH
T1OQSKLM
NPRSTUvW
XYZ23G89
T457fbdh
ktiigaCe
tJtqmnOp
rSuvwyX
```

```
ter@ubuntu:~/Desktop/ggwp$ python runtest.py
hkbTiqeC
rOnuTwfi
OmpSOerX
JuvhTdtg
eayO
```

ปัญหาที่พบ

- 1.ตัว i กับ j แสดงไม่เต็มรูปตอนที่ predit
- 2.ยังทำให้มันเรียงไม่ได้
- 3.ยังไม่มีระบบ Histogram จึงทำให้ไม่สามารถคาดเดาตัวอักษรจากลายมือได้

END

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