File - keras_train_test

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"C:\Program Files\Anaconda3\python.exe" "D:/Program Files/JetBrains/localanacondapy3/Chinese_Vehicle_plate_recognition/keras_train_test.py"
Using TensorFlow backend.
building network ...
_________________________________________________________________
Layer (type)                 Output Shape              Param #
Connected to
=================================================================
input_1 (InputLayer)         (None, 72, 272, 3)        0

_________________________________________________________________
conv2d_1 (Conv2D)            (None, 70, 270, 32)       896
input_1[0][0]
_________________________________________________________________
conv2d_2 (Conv2D)            (None, 68, 268, 32)       9248
conv2d_1[0][0]
_________________________________________________________________
max_pooling2d_1 (MaxPooling2D)  (None, 34, 134, 32)    0
conv2d_2[0][0]
_________________________________________________________________
conv2d_3 (Conv2D)            (None, 32, 132, 64)       18496
max_pooling2d_1[0][0]
_________________________________________________________________
conv2d_4 (Conv2D)            (None, 30, 130, 64)       36928
conv2d_3[0][0]
_________________________________________________________________
max_pooling2d_2 (MaxPooling2D)  (None, 15, 65, 64)     0
conv2d_4[0][0]
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20 ____________________________________________________________________________________________
                                                                                                
21 conv2d_5 (Conv2D)               (None, 13, 63, 128)  73856                                   
   max_pooling2d_2[0][0]                                                                        
22 ____________________________________________________________________________________________
                                                                                                
23 conv2d_6 (Conv2D)               (None, 11, 61, 128)  147584                                  
   conv2d_5[0][0]                                                                               
24 ____________________________________________________________________________________________
                                                                                                
25 max_pooling2d_3 (MaxPooling2D)  (None, 5, 30, 128)   0                                       
   conv2d_6[0][0]                                                                               
26 ____________________________________________________________________________________________
                                                                                                
27 flatten_1 (Flatten)             (None, 19200)        0                                       
   max_pooling2d_3[0][0]                                                                        
28 ____________________________________________________________________________________________
                                                                                                
29 dropout_1 (Dropout)             (None, 19200)        0                                       
   flatten_1[0][0]                                                                              
30 ____________________________________________________________________________________________
                                                                                                
31 c1 (Dense)                      (None, 65)           1248065                                 
   dropout_1[0][0]                                                                              
32 ____________________________________________________________________________________________
                                                                                                
33 c2 (Dense)                      (None, 65)           1248065                                 
   dropout_1[0][0]                                                                              
34 ____________________________________________________________________________________________
                                                                                                
35 c3 (Dense)                      (None, 65)           1248065                                 
   dropout_1[0][0]                                                                              
36 ____________________________________________________________________________________________
                                                                                                
37 c4 (Dense)                      (None, 65)           1248065                                 
   dropout_1[0][0]                                                                              
38 ____________________________________________________________________________________________
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38 ____________________________________________________________________
   ____________________________
39 c5 (Dense)                    (None, 65)           1248065
   dropout_1[0][0]
40 ____________________________________________________________________
   ____________________________
41 c6 (Dense)                    (None, 65)           1248065
   dropout_1[0][0]
42 ____________________________________________________________________
   ____________________________
43 c7 (Dense)                    (None, 65)           1248065
   dropout_1[0][0]
44 ====================================================================
   ================================
45 Total params: 9,023,463
46 Trainable params: 9,023,463
47 Non-trainable params: 0
48 ____________________________________________________________________
   ____________________________
49 save network picture
50 training network ...
51 Epoch 1/30
52 2019-07-26 12:01:55.414701: I tensorflow/core/platform/
   cpu_feature_guard.cc:141] Your CPU supports instructions that
   this TensorFlow binary was not compiled to use: AVX AVX2
53 2019-07-26 12:01:55.416701: I tensorflow/core/common_runtime/
   process_util.cc:69] Creating new thread pool with default inter
   op setting: 8. Tune using inter_op_parallelism_threads for best
   performance.
54  - 114s - loss: 109.2786 - c1_loss: 15.4957 - c2_loss: 15.4979 -
   c3_loss: 15.5992 - c4_loss: 15.6860 - c5_loss: 15.6642 - c6_loss
   : 15.6206 - c7_loss: 15.7150 - c1_acc: 0.0384 - c2_acc: 0.0378 -
   c3_acc: 0.0322 - c4_acc: 0.0262 - c5_acc: 0.0278 - c6_acc: 0.0300
    - c7_acc: 0.0247 - val_loss: 109.4519 - val_c1_loss: 15.4129 -
   val_c2_loss: 15.3122 - val_c3_loss: 15.6144 - val_c4_loss: 15.
   8663 - val_c5_loss: 15.6648 - val_c6_loss: 15.8159 - val_c7_loss
   : 15.7655 - val_c1_acc: 0.0437 - val_c2_acc: 0.0500 - val_c3_acc
   : 0.0312 - val_c4_acc: 0.0156 - val_c5_acc: 0.0281 - val_c6_acc:
```

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0.0187 - val_c7_acc: 0.0219
Epoch 2/30
 - 100s - loss: 109.2807 - c1_loss: 15.6194 - c2_loss: 15.3978 - c3_loss: 15.5892 - c4_loss: 15.6849 - c5_loss: 15.6648 - c6_loss: 15.6849 - c7_loss: 15.6396 - c1_acc: 0.0309 - c2_acc: 0.0447 - c3_acc: 0.0328 - c4_acc: 0.0269 - c5_acc: 0.0281 - c6_acc: 0.0269 - c7_acc: 0.0297 - val_loss: 109.6534 - val_c1_loss: 15.6144 - val_c2_loss: 15.6144 - val_c3_loss: 15.7151 - val_c4_loss: 15.6144 - val_c5_loss: 15.6144 - val_c6_loss: 15.7151 - val_c7_loss: 15.7655 - val_c1_acc: 0.0312 - val_c2_acc: 0.0312 - val_c3_acc: 0.0250 - val_c4_acc: 0.0312 - val_c5_acc: 0.0312 - val_c6_acc: 0.0250 - val_c7_acc: 0.0219
Epoch 3/30
 - 97s - loss: 109.2253 - c1_loss: 15.6144 - c2_loss: 15.4885 - c3_loss: 15.5791 - c4_loss: 15.6094 - c5_loss: 15.6698 - c6_loss: 15.5892 - c7_loss: 15.6748 - c1_acc: 0.0312 - c2_acc: 0.0391 - c3_acc: 0.0334 - c4_acc: 0.0316 - c5_acc: 0.0278 - c6_acc: 0.0328 - c7_acc: 0.0275 - val_loss: 109.2505 - val_c1_loss: 15.5137 - val_c2_loss: 15.2115 - val_c3_loss: 15.6144 - val_c4_loss: 15.6648 - val_c5_loss: 15.7151 - val_c6_loss: 15.7655 - val_c7_loss: 15.7655 - val_c1_acc: 0.0375 - val_c2_acc: 0.0563 - val_c3_acc: 0.0312 - val_c4_acc: 0.0281 - val_c5_acc: 0.0250 - val_c6_acc: 0.0219 - val_c7_acc: 0.0219
Epoch 4/30
 - 97s - loss: 109.0137 - c1_loss: 15.5590 - c2_loss: 15.4331 - c3_loss: 15.6144 - c4_loss: 15.6497 - c5_loss: 15.5540 - c6_loss: 15.6900 - c7_loss: 15.5137 - c1_acc: 0.0347 - c2_acc: 0.0425 - c3_acc: 0.0312 - c4_acc: 0.0291 - c5_acc: 0.0350 - c6_acc: 0.0266 - c7_acc: 0.0375 - val_loss: 109.9053 - val_c1_loss: 15.8663 - val_c2_loss: 15.6648 - val_c3_loss: 15.6144 - val_c4_loss: 15.6648 - val_c5_loss: 15.7655 - val_c6_loss: 15.7151 - val_c7_loss: 15.6144 - val_c1_acc: 0.0156 - val_c2_acc: 0.0281 - val_c3_acc: 0.0312 - val_c4_acc: 0.0281 - val_c5_acc: 0.0219 - val_c6_acc: 0.0250 - val_c7_acc: 0.0312
Epoch 5/30
 - 97s - loss: 109.1447 - c1_loss: 15.5187 - c2_loss: 15.5086 - c3_loss: 15.5741 - c4_loss: 15.6648 - c5_loss: 15.6547 - c6_loss
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: 15.7000 - c7_loss: 15.5237 - c1_acc: 0.0372 - c2_acc: 0.0378 - c3_acc: 0.0338 - c4_acc: 0.0281 - c5_acc: 0.0287 - c6_acc: 0.0259 - c7_acc: 0.0369 - val_loss: 108.8979 - val_c1_loss: 15.6648 - val_c2_loss: 15.5640 - val_c3_loss: 15.3122 - val_c4_loss: 15.7151 - val_c5_loss: 15.7655 - val_c6_loss: 15.3626 - val_c7_loss: 15.5137 - val_c1_acc: 0.0281 - val_c2_acc: 0.0344 - val_c3_acc: 0.0500 - val_c4_acc: 0.0250 - val_c5_acc: 0.0219 - val_c6_acc: 0.0469 - val_c7_acc: 0.0375
Epoch 6/30
 - 98s - loss: 109.3159 - c1_loss: 15.4583 - c2_loss: 15.4986 - c3_loss: 15.6446 - c4_loss: 15.7353 - c5_loss: 15.6849 - c6_loss: 15.6597 - c7_loss: 15.6346 - c1_acc: 0.0409 - c2_acc: 0.0384 - c3_acc: 0.0294 - c4_acc: 0.0238 - c5_acc: 0.0269 - c6_acc: 0.0284 - c7_acc: 0.0300 - val_loss: 109.2001 - val_c1_loss: 15.5640 - val_c2_loss: 15.5137 - val_c3_loss: 15.5640 - val_c4_loss: 15.7655 - val_c5_loss: 15.6144 - val_c6_loss: 15.4129 - val_c7_loss: 15.7655 - val_c1_acc: 0.0344 - val_c2_acc: 0.0375 - val_c3_acc: 0.0344 - val_c4_acc: 0.0219 - val_c5_acc: 0.0312 - val_c6_acc: 0.0437 - val_c7_acc: 0.0219
Epoch 7/30
 - 98s - loss: 109.2958 - c1_loss: 15.5036 - c2_loss: 15.5389 - c3_loss: 15.6346 - c4_loss: 15.6597 - c5_loss: 15.5842 - c6_loss: 15.6748 - c7_loss: 15.7000 - c1_acc: 0.0381 - c2_acc: 0.0359 - c3_acc: 0.0300 - c4_acc: 0.0284 - c5_acc: 0.0331 - c6_acc: 0.0275 - c7_acc: 0.0259 - val_loss: 108.4949 - val_c1_loss: 15.6144 - val_c2_loss: 15.3626 - val_c3_loss: 15.4633 - val_c4_loss: 15.2618 - val_c5_loss: 15.6648 - val_c6_loss: 15.7151 - val_c7_loss: 15.4129 - val_c1_acc: 0.0312 - val_c2_acc: 0.0469 - val_c3_acc: 0.0406 - val_c4_acc: 0.0531 - val_c5_acc: 0.0281 - val_c6_acc: 0.0250 - val_c7_acc: 0.0437
Epoch 8/30
 - 97s - loss: 109.2051 - c1_loss: 15.5288 - c2_loss: 15.5036 - c3_loss: 15.7303 - c4_loss: 15.6597 - c5_loss: 15.5691 - c6_loss: 15.6245 - c7_loss: 15.5892 - c1_acc: 0.0366 - c2_acc: 0.0381 - c3_acc: 0.0241 - c4_acc: 0.0284 - c5_acc: 0.0341 - c6_acc: 0.0306 - c7_acc: 0.0328 - val_loss: 109.6534 - val_c1_loss: 15.6144 - val_c2_loss: 15.3122 - val_c3_loss: 15.7151 - val_c4_loss: 15.
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7151 - val_c5_loss: 15.7151 - val_c6_loss: 15.9166 - val_c7_loss: 15.6648 - val_c1_acc: 0.0312 - val_c2_acc: 0.0500 - val_c3_acc: 0.0250 - val_c4_acc: 0.0250 - val_c5_acc: 0.0250 - val_c6_acc: 0.0125 - val_c7_acc: 0.0281
Epoch 9/30
 - 98s - loss: 109.3059 - c1_loss: 15.6094 - c2_loss: 15.3827 - c3_loss: 15.6698 - c4_loss: 15.6144 - c5_loss: 15.6194 - c6_loss: 15.7101 - c7_loss: 15.7000 - c1_acc: 0.0316 - c2_acc: 0.0456 - c3_acc: 0.0278 - c4_acc: 0.0312 - c5_acc: 0.0309 - c6_acc: 0.0253 - c7_acc: 0.0259 - val_loss: 109.4519 - val_c1_loss: 15.3626 - val_c2_loss: 15.4129 - val_c3_loss: 15.6648 - val_c4_loss: 15.7151 - val_c5_loss: 15.8159 - val_c6_loss: 15.7655 - val_c7_loss: 15.7151 - val_c1_acc: 0.0469 - val_c2_acc: 0.0437 - val_c3_acc: 0.0281 - val_c4_acc: 0.0250 - val_c5_acc: 0.0187 - val_c6_acc: 0.0219 - val_c7_acc: 0.0250
Epoch 10/30
 - 98s - loss: 109.1951 - c1_loss: 15.5590 - c2_loss: 15.4129 - c3_loss: 15.6698 - c4_loss: 15.7202 - c5_loss: 15.5993 - c6_loss: 15.7000 - c7_loss: 15.5338 - c1_acc: 0.0347 - c2_acc: 0.0437 - c3_acc: 0.0278 - c4_acc: 0.0247 - c5_acc: 0.0322 - c6_acc: 0.0259 - c7_acc: 0.0362 - val_loss: 109.2505 - val_c1_loss: 15.5640 - val_c2_loss: 15.2618 - val_c3_loss: 15.4129 - val_c4_loss: 15.8159 - val_c5_loss: 15.3626 - val_c6_loss: 15.9166 - val_c7_loss: 15.9166 - val_c1_acc: 0.0344 - val_c2_acc: 0.0531 - val_c3_acc: 0.0437 - val_c4_acc: 0.0187 - val_c5_acc: 0.0469 - val_c6_acc: 0.0125 - val_c7_acc: 0.0125
Epoch 11/30
 - 98s - loss: 109.3311 - c1_loss: 15.5943 - c2_loss: 15.4633 - c3_loss: 15.5389 - c4_loss: 15.6194 - c5_loss: 15.6900 - c6_loss: 15.6799 - c7_loss: 15.7454 - c1_acc: 0.0325 - c2_acc: 0.0406 - c3_acc: 0.0359 - c4_acc: 0.0309 - c5_acc: 0.0266 - c6_acc: 0.0272 - c7_acc: 0.0231 - val_loss: 108.8979 - val_c1_loss: 15.3122 - val_c2_loss: 15.6648 - val_c3_loss: 15.6144 - val_c4_loss: 15.4633 - val_c5_loss: 15.8159 - val_c6_loss: 15.5137 - val_c7_loss: 15.5137 - val_c1_acc: 0.0500 - val_c2_acc: 0.0281 - val_c3_acc: 0.0312 - val_c4_acc: 0.0406 - val_c5_acc: 0.0187 - val_c6_acc: 0.0375 - val_c7_acc: 0.0375
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Epoch 12/30
 - 96s - loss: 109.1699 - c1_loss: 15.5640 - c2_loss: 15.4885 - c3_loss: 15.6396 - c4_loss: 15.5489 - c5_loss: 15.5791 - c6_loss: 15.7000 - c7_loss: 15.6497 - c1_acc: 0.0344 - c2_acc: 0.0391 - c3_acc: 0.0297 - c4_acc: 0.0353 - c5_acc: 0.0334 - c6_acc: 0.0259 - c7_acc: 0.0291 - val_loss: 109.5023 - val_c1_loss: 15.5137 - val_c2_loss: 15.7655 - val_c3_loss: 15.5640 - val_c4_loss: 15.7151 - val_c5_loss: 15.6648 - val_c6_loss: 15.5640 - val_c7_loss: 15.7151 - val_c1_acc: 0.0375 - val_c2_acc: 0.0219 - val_c3_acc: 0.0344 - val_c4_acc: 0.0250 - val_c5_acc: 0.0281 - val_c6_acc: 0.0344 - val_c7_acc: 0.0250
Epoch 13/30
 - 97s - loss: 109.0893 - c1_loss: 15.5943 - c2_loss: 15.4029 - c3_loss: 15.5590 - c4_loss: 15.5993 - c5_loss: 15.6698 - c6_loss: 15.6094 - c7_loss: 15.6547 - c1_acc: 0.0325 - c2_acc: 0.0444 - c3_acc: 0.0347 - c4_acc: 0.0322 - c5_acc: 0.0278 - c6_acc: 0.0316 - c7_acc: 0.0287 - val_loss: 109.2001 - val_c1_loss: 15.6144 - val_c2_loss: 15.6648 - val_c3_loss: 15.6648 - val_c4_loss: 15.6648 - val_c5_loss: 15.5137 - val_c6_loss: 15.7151 - val_c7_loss: 15.3626 - val_c1_acc: 0.0312 - val_c2_acc: 0.0281 - val_c3_acc: 0.0281 - val_c4_acc: 0.0281 - val_c5_acc: 0.0375 - val_c6_acc: 0.0250 - val_c7_acc: 0.0469
Epoch 14/30
 - 97s - loss: 109.5225 - c1_loss: 15.6094 - c2_loss: 15.4532 - c3_loss: 15.6849 - c4_loss: 15.6748 - c5_loss: 15.7151 - c6_loss: 15.7101 - c7_loss: 15.6748 - c1_acc: 0.0316 - c2_acc: 0.0413 - c3_acc: 0.0269 - c4_acc: 0.0275 - c5_acc: 0.0250 - c6_acc: 0.0253 - c7_acc: 0.0275 - val_loss: 109.1497 - val_c1_loss: 15.8159 - val_c2_loss: 15.2618 - val_c3_loss: 15.4633 - val_c4_loss: 15.4633 - val_c5_loss: 15.7655 - val_c6_loss: 15.6648 - val_c7_loss: 15.7151 - val_c1_acc: 0.0187 - val_c2_acc: 0.0531 - val_c3_acc: 0.0406 - val_c4_acc: 0.0406 - val_c5_acc: 0.0219 - val_c6_acc: 0.0281 - val_c7_acc: 0.0250
Epoch 15/30
 - 98s - loss: 109.2756 - c1_loss: 15.5892 - c2_loss: 15.4381 - c3_loss: 15.5892 - c4_loss: 15.6698 - c5_loss: 15.6446 - c6_loss: 15.6799 - c7_loss: 15.6648 - c1_acc: 0.0328 - c2_acc: 0.0422
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 - c3_acc: 0.0328 - c4_acc: 0.0278 - c5_acc: 0.0294 - c6_acc: 0.
0272 - c7_acc: 0.0281 - val_loss: 108.9483 - val_c1_loss: 15.
6144 - val_c2_loss: 15.0603 - val_c3_loss: 15.4633 - val_c4_loss
: 15.4129 - val_c5_loss: 15.9670 - val_c6_loss: 15.7151 -
val_c7_loss: 15.7151 - val_c1_acc: 0.0312 - val_c2_acc: 0.0656
 - val_c3_acc: 0.0406 - val_c4_acc: 0.0437 - val_c5_acc: 0.0094
 - val_c6_acc: 0.0250 - val_c7_acc: 0.0250
Epoch 16/30
 - 97s - loss: 109.2656 - c1_loss: 15.6396 - c2_loss: 15.4381 -
c3_loss: 15.6446 - c4_loss: 15.6547 - c5_loss: 15.7202 - c6_loss
: 15.6043 - c7_loss: 15.5640 - c1_acc: 0.0297 - c2_acc: 0.0422
 - c3_acc: 0.0294 - c4_acc: 0.0287 - c5_acc: 0.0247 - c6_acc: 0.
0319 - c7_acc: 0.0344 - val_loss: 109.4519 - val_c1_loss: 15.
7151 - val_c2_loss: 15.2618 - val_c3_loss: 15.8159 - val_c4_loss
: 15.7655 - val_c5_loss: 15.8159 - val_c6_loss: 15.5640 -
val_c7_loss: 15.5137 - val_c1_acc: 0.0250 - val_c2_acc: 0.0531
 - val_c3_acc: 0.0187 - val_c4_acc: 0.0219 - val_c5_acc: 0.0187
 - val_c6_acc: 0.0344 - val_c7_acc: 0.0375
Epoch 17/30
 - 96s - loss: 109.1094 - c1_loss: 15.5892 - c2_loss: 15.4734 -
c3_loss: 15.6295 - c4_loss: 15.5489 - c5_loss: 15.6547 - c6_loss
: 15.5540 - c7_loss: 15.6597 - c1_acc: 0.0328 - c2_acc: 0.0400
 - c3_acc: 0.0303 - c4_acc: 0.0353 - c5_acc: 0.0287 - c6_acc: 0.
0350 - c7_acc: 0.0284 - val_loss: 109.7542 - val_c1_loss: 15.
6648 - val_c2_loss: 15.5640 - val_c3_loss: 15.8663 - val_c4_loss
: 15.6144 - val_c5_loss: 15.7151 - val_c6_loss: 15.5640 -
val_c7_loss: 15.7655 - val_c1_acc: 0.0281 - val_c2_acc: 0.0344
 - val_c3_acc: 0.0156 - val_c4_acc: 0.0312 - val_c5_acc: 0.0250
 - val_c6_acc: 0.0344 - val_c7_acc: 0.0219
Epoch 18/30
 - 98s - loss: 109.2001 - c1_loss: 15.5892 - c2_loss: 15.4381 -
c3_loss: 15.6295 - c4_loss: 15.7101 - c5_loss: 15.6547 - c6_loss
: 15.5540 - c7_loss: 15.6245 - c1_acc: 0.0328 - c2_acc: 0.0422
 - c3_acc: 0.0303 - c4_acc: 0.0253 - c5_acc: 0.0287 - c6_acc: 0.
0350 - c7_acc: 0.0306 - val_loss: 109.2001 - val_c1_loss: 15.
6144 - val_c2_loss: 15.8663 - val_c3_loss: 15.6144 - val_c4_loss
: 15.4633 - val_c5_loss: 15.5137 - val_c6_loss: 15.5640 -
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val_c7_loss: 15.5640 - val_c1_acc: 0.0312 - val_c2_acc: 0.0156
 - val_c3_acc: 0.0312 - val_c4_acc: 0.0406 - val_c5_acc: 0.0375
 - val_c6_acc: 0.0344 - val_c7_acc: 0.0344
Epoch 19/30
 - 98s - loss: 109.1245 - c1_loss: 15.5439 - c2_loss: 15.3626 -
c3_loss: 15.6144 - c4_loss: 15.6648 - c5_loss: 15.6396 - c6_loss
: 15.6698 - c7_loss: 15.6295 - c1_acc: 0.0356 - c2_acc: 0.0469
 - c3_acc: 0.0312 - c4_acc: 0.0281 - c5_acc: 0.0297 - c6_acc: 0.
0278 - c7_acc: 0.0303 - val_loss: 109.0490 - val_c1_loss: 15.
5137 - val_c2_loss: 15.4633 - val_c3_loss: 15.5640 - val_c4_loss
: 15.3626 - val_c5_loss: 15.7151 - val_c6_loss: 15.7655 -
val_c7_loss: 15.6648 - val_c1_acc: 0.0375 - val_c2_acc: 0.0406
 - val_c3_acc: 0.0344 - val_c4_acc: 0.0469 - val_c5_acc: 0.0250
 - val_c6_acc: 0.0219 - val_c7_acc: 0.0281
Epoch 20/30
 - 97s - loss: 109.4268 - c1_loss: 15.6396 - c2_loss: 15.4180 -
c3_loss: 15.7252 - c4_loss: 15.6295 - c5_loss: 15.6547 - c6_loss
: 15.7252 - c7_loss: 15.6346 - c1_acc: 0.0297 - c2_acc: 0.0434
 - c3_acc: 0.0244 - c4_acc: 0.0303 - c5_acc: 0.0287 - c6_acc: 0.
0244 - c7_acc: 0.0300 - val_loss: 109.6534 - val_c1_loss: 15.
4633 - val_c2_loss: 15.5640 - val_c3_loss: 15.7655 - val_c4_loss
: 15.5640 - val_c5_loss: 15.7655 - val_c6_loss: 15.8663 -
val_c7_loss: 15.6648 - val_c1_acc: 0.0406 - val_c2_acc: 0.0344
 - val_c3_acc: 0.0219 - val_c4_acc: 0.0344 - val_c5_acc: 0.0219
 - val_c6_acc: 0.0156 - val_c7_acc: 0.0281
Epoch 21/30
 - 97s - loss: 109.1548 - c1_loss: 15.6346 - c2_loss: 15.4079 -
c3_loss: 15.5338 - c4_loss: 15.6245 - c5_loss: 15.6497 - c6_loss
: 15.6497 - c7_loss: 15.6547 - c1_acc: 0.0300 - c2_acc: 0.0441
 - c3_acc: 0.0362 - c4_acc: 0.0306 - c5_acc: 0.0291 - c6_acc: 0.
0291 - c7_acc: 0.0287 - val_loss: 109.9053 - val_c1_loss: 15.
7151 - val_c2_loss: 15.4633 - val_c3_loss: 15.8663 - val_c4_loss
: 15.6144 - val_c5_loss: 15.6648 - val_c6_loss: 15.7151 -
val_c7_loss: 15.8663 - val_c1_acc: 0.0250 - val_c2_acc: 0.0406
 - val_c3_acc: 0.0156 - val_c4_acc: 0.0312 - val_c5_acc: 0.0281
 - val_c6_acc: 0.0250 - val_c7_acc: 0.0156
Epoch 22/30
```

```
 - 97s - loss: 109.3562 - c1_loss: 15.5943 - c2_loss: 15.5590 - c3_loss: 15.6799 - c4_loss: 15.6194 - c5_loss: 15.6295 - c6_loss: 15.6648 - c7_loss: 15.6094 - c1_acc: 0.0325 - c2_acc: 0.0347 - c3_acc: 0.0272 - c4_acc: 0.0309 - c5_acc: 0.0303 - c6_acc: 0.0281 - c7_acc: 0.0316 - val_loss: 109.4016 - val_c1_loss: 15.5640 - val_c2_loss: 15.6648 - val_c3_loss: 15.3626 - val_c4_loss: 15.9166 - val_c5_loss: 15.6144 - val_c6_loss: 15.6144 - val_c7_loss: 15.6648 - val_c1_acc: 0.0344 - val_c2_acc: 0.0281 - val_c3_acc: 0.0469 - val_c4_acc: 0.0125 - val_c5_acc: 0.0312 - val_c6_acc: 0.0312 - val_c7_acc: 0.0281
Epoch 23/30
 - 97s - loss: 109.2857 - c1_loss: 15.6245 - c2_loss: 15.4532 - c3_loss: 15.5741 - c4_loss: 15.6245 - c5_loss: 15.6950 - c6_loss: 15.7353 - c7_loss: 15.5791 - c1_acc: 0.0306 - c2_acc: 0.0413 - c3_acc: 0.0338 - c4_acc: 0.0306 - c5_acc: 0.0262 - c6_acc: 0.0238 - c7_acc: 0.0334 - val_loss: 109.6031 - val_c1_loss: 15.8663 - val_c2_loss: 15.4129 - val_c3_loss: 15.3626 - val_c4_loss: 15.9166 - val_c5_loss: 15.7655 - val_c6_loss: 15.7151 - val_c7_loss: 15.5640 - val_c1_acc: 0.0156 - val_c2_acc: 0.0437 - val_c3_acc: 0.0469 - val_c4_acc: 0.0125 - val_c5_acc: 0.0219 - val_c6_acc: 0.0250 - val_c7_acc: 0.0344
Epoch 24/30
 - 98s - loss: 109.4268 - c1_loss: 15.5489 - c2_loss: 15.4482 - c3_loss: 15.7051 - c4_loss: 15.6194 - c5_loss: 15.7202 - c6_loss: 15.7353 - c7_loss: 15.6497 - c1_acc: 0.0353 - c2_acc: 0.0416 - c3_acc: 0.0256 - c4_acc: 0.0309 - c5_acc: 0.0247 - c6_acc: 0.0238 - c7_acc: 0.0291 - val_loss: 110.1571 - val_c1_loss: 15.7655 - val_c2_loss: 15.7655 - val_c3_loss: 15.9166 - val_c4_loss: 15.6648 - val_c5_loss: 15.8159 - val_c6_loss: 15.6144 - val_c7_loss: 15.6144 - val_c1_acc: 0.0219 - val_c2_acc: 0.0219 - val_c3_acc: 0.0125 - val_c4_acc: 0.0281 - val_c5_acc: 0.0187 - val_c6_acc: 0.0312 - val_c7_acc: 0.0312
Epoch 25/30
 - 98s - loss: 109.4167 - c1_loss: 15.5842 - c2_loss: 15.5137 - c3_loss: 15.6900 - c4_loss: 15.6245 - c5_loss: 15.6849 - c6_loss: 15.6295 - c7_loss: 15.6900 - c1_acc: 0.0331 - c2_acc: 0.0375 - c3_acc: 0.0266 - c4_acc: 0.0306 - c5_acc: 0.0269 - c6_acc: 0.
```

```
0303 - c7_acc: 0.0266 - val_loss: 109.3512 - val_c1_loss: 15.6144 - val_c2_loss: 15.7151 - val_c3_loss: 15.5137 - val_c4_loss: 15.5640 - val_c5_loss: 15.6144 - val_c6_loss: 15.7655 - val_c7_loss: 15.5640 - val_c1_acc: 0.0312 - val_c2_acc: 0.0250 - val_c3_acc: 0.0375 - val_c4_acc: 0.0344 - val_c5_acc: 0.0312 - val_c6_acc: 0.0219 - val_c7_acc: 0.0344
Epoch 26/30
 - 98s - loss: 109.0842 - c1_loss: 15.6144 - c2_loss: 15.3726 - c3_loss: 15.5691 - c4_loss: 15.6094 - c5_loss: 15.6698 - c6_loss: 15.6245 - c7_loss: 15.6245 - c1_acc: 0.0312 - c2_acc: 0.0462 - c3_acc: 0.0341 - c4_acc: 0.0316 - c5_acc: 0.0278 - c6_acc: 0.0306 - c7_acc: 0.0306 - val_loss: 109.5023 - val_c1_loss: 15.6648 - val_c2_loss: 15.5137 - val_c3_loss: 15.7655 - val_c4_loss: 15.6648 - val_c5_loss: 15.4129 - val_c6_loss: 15.7151 - val_c7_loss: 15.7655 - val_c1_acc: 0.0281 - val_c2_acc: 0.0375 - val_c3_acc: 0.0219 - val_c4_acc: 0.0281 - val_c5_acc: 0.0437 - val_c6_acc: 0.0250 - val_c7_acc: 0.0219
Epoch 27/30
 - 97s - loss: 109.0641 - c1_loss: 15.5993 - c2_loss: 15.4482 - c3_loss: 15.5338 - c4_loss: 15.6295 - c5_loss: 15.5237 - c6_loss: 15.6648 - c7_loss: 15.6648 - c1_acc: 0.0322 - c2_acc: 0.0416 - c3_acc: 0.0362 - c4_acc: 0.0303 - c5_acc: 0.0369 - c6_acc: 0.0281 - c7_acc: 0.0281 - val_loss: 108.3942 - val_c1_loss: 15.5137 - val_c2_loss: 15.5640 - val_c3_loss: 15.6144 - val_c4_loss: 15.2115 - val_c5_loss: 15.3626 - val_c6_loss: 15.6648 - val_c7_loss: 15.4633 - val_c1_acc: 0.0375 - val_c2_acc: 0.0344 - val_c3_acc: 0.0312 - val_c4_acc: 0.0563 - val_c5_acc: 0.0469 - val_c6_acc: 0.0281 - val_c7_acc: 0.0406
Epoch 28/30
 - 97s - loss: 109.3260 - c1_loss: 15.6849 - c2_loss: 15.4381 - c3_loss: 15.7101 - c4_loss: 15.6295 - c5_loss: 15.7000 - c6_loss: 15.5237 - c7_loss: 15.6396 - c1_acc: 0.0269 - c2_acc: 0.0422 - c3_acc: 0.0253 - c4_acc: 0.0303 - c5_acc: 0.0259 - c6_acc: 0.0369 - c7_acc: 0.0297 - val_loss: 109.5023 - val_c1_loss: 15.6144 - val_c2_loss: 15.4633 - val_c3_loss: 16.0174 - val_c4_loss: 15.6144 - val_c5_loss: 15.6648 - val_c6_loss: 15.6144 - val_c7_loss: 15.5137 - val_c1_acc: 0.0312 - val_c2_acc: 0.0406
```

```
 - val_c3_acc: 0.0063 - val_c4_acc: 0.0312 - val_c5_acc: 0.0281
 - val_c6_acc: 0.0312 - val_c7_acc: 0.0375
Epoch 29/30
 - 117s - loss: 109.2756 - c1_loss: 15.6094 - c2_loss: 15.4029
 - c3_loss: 15.6396 - c4_loss: 15.5892 - c5_loss: 15.6748 -
c6_loss: 15.6849 - c7_loss: 15.6748 - c1_acc: 0.0316 - c2_acc: 0
.0444 - c3_acc: 0.0297 - c4_acc: 0.0328 - c5_acc: 0.0275 -
c6_acc: 0.0269 - c7_acc: 0.0275 - val_loss: 109.3008 -
val_c1_loss: 15.7151 - val_c2_loss: 15.3122 - val_c3_loss: 15.
5137 - val_c4_loss: 15.7655 - val_c5_loss: 15.4129 - val_c6_loss
: 15.8159 - val_c7_loss: 15.7655 - val_c1_acc: 0.0250 -
val_c2_acc: 0.0500 - val_c3_acc: 0.0375 - val_c4_acc: 0.0219 -
val_c5_acc: 0.0437 - val_c6_acc: 0.0187 - val_c7_acc: 0.0219
Epoch 30/30
 - 132s - loss: 109.3965 - c1_loss: 15.6900 - c2_loss: 15.4029
 - c3_loss: 15.6849 - c4_loss: 15.6396 - c5_loss: 15.6396 -
c6_loss: 15.6194 - c7_loss: 15.7202 - c1_acc: 0.0266 - c2_acc: 0
.0444 - c3_acc: 0.0269 - c4_acc: 0.0297 - c5_acc: 0.0297 -
c6_acc: 0.0309 - c7_acc: 0.0247 - val_loss: 109.2505 -
val_c1_loss: 15.6144 - val_c2_loss: 15.4129 - val_c3_loss: 15.
4633 - val_c4_loss: 15.7655 - val_c5_loss: 15.6144 - val_c6_loss
: 16.0174 - val_c7_loss: 15.3626 - val_c1_acc: 0.0312 -
val_c2_acc: 0.0437 - val_c3_acc: 0.0406 - val_c4_acc: 0.0219 -
val_c5_acc: 0.0312 - val_c6_acc: 0.0063 - val_c7_acc: 0.0469
loading plate data ...
picture Screen Shot 2016-08-07 at 12.51.56 AM.png size error,
maybe resize before load !
picture Screen Shot 2016-08-07 at 12.53.41 AM.png size error,
maybe resize before load !
picture Screen Shot 2016-08-07 at 12.55.45 AM.png size error,
maybe resize before load !
test_name ['00', '01', '02', '03', '04', '05', '06', '07', '08
', '09', '10', '11', '12']
load the trained model
#################model predict################
results type : <class 'list'>
results type : <class 'numpy.ndarray'>
```

```
results.dtype : float32
results.shape : (7, 13, 65)
results.dtype : int64
results.shape : (13, 7)
results
 [[ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]
 [ 7 61 63 48 60 57 37]]
key 辽
key W
key Y
key H
key V
key S
key 6
key 辽
key W
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key H
key V
key S
key 6
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key Y
key H
key V
```

```
key S
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key 6
key 辽
key W
key Y
key H
key V
key S
key 6
key 辽
key W
key Y
key H
key V
key S
key 6
predict_plate_str type : <class 'list'>
predict_plate_str
```

```
[['辽', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V
', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W
', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6
'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H
', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽
', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S
', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y
', 'H', 'V', 'S', '6'], ['辽', 'W', 'Y', 'H', 'V', 'S', '6']]
################plt results################

Process finished with exit code 0

```