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 08:46:22.513600: 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 08:46:22.515600: 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  - 101s - loss: 109.2802 - c1_loss: 15.6765 - c2_loss: 15.4043 -
   c3_loss: 15.6747 - c4_loss: 15.6571 - c5_loss: 15.5696 - c6_loss
   : 15.5850 - c7_loss: 15.7129 - c1_acc: 0.0272 - c2_acc: 0.0437 -
   c3_acc: 0.0272 - c4_acc: 0.0278 - c5_acc: 0.0334 - c6_acc: 0.0322
    - c7_acc: 0.0244 - val_loss: 108.6964 - val_c1_loss: 15.5137 -
   val_c2_loss: 15.1107 - val_c3_loss: 15.3626 - val_c4_loss: 15.
   6648 - val_c5_loss: 15.6144 - val_c6_loss: 15.8663 - val_c7_loss
   : 15.5640 - val_c1_acc: 0.0375 - val_c2_acc: 0.0625 - val_c3_acc
   : 0.0469 - val_c4_acc: 0.0281 - val_c5_acc: 0.0312 - val_c6_acc:
```

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0.0156 - val_c7_acc: 0.0344
Epoch 2/30
 - 100s - loss: 109.0691 - c1_loss: 15.4180 - c2_loss: 15.5137 - c3_loss: 15.6245 - c4_loss: 15.6648 - c5_loss: 15.6094 - c6_loss: 15.6194 - c7_loss: 15.6194 - c1_acc: 0.0434 - c2_acc: 0.0375 - c3_acc: 0.0306 - c4_acc: 0.0281 - c5_acc: 0.0316 - c6_acc: 0.0309 - c7_acc: 0.0309 - val_loss: 109.3512 - val_c1_loss: 15.7151 - val_c2_loss: 15.4633 - val_c3_loss: 15.3626 - val_c4_loss: 15.4633 - val_c5_loss: 15.8159 - val_c6_loss: 15.6648 - val_c7_loss: 15.8663 - val_c1_acc: 0.0250 - val_c2_acc: 0.0406 - val_c3_acc: 0.0469 - val_c4_acc: 0.0406 - val_c5_acc: 0.0187 - val_c6_acc: 0.0281 - val_c7_acc: 0.0156
Epoch 3/30
 - 98s - loss: 109.3411 - c1_loss: 15.5137 - c2_loss: 15.5288 - c3_loss: 15.7252 - c4_loss: 15.6396 - c5_loss: 15.6597 - c6_loss: 15.6094 - c7_loss: 15.6648 - c1_acc: 0.0375 - c2_acc: 0.0366 - c3_acc: 0.0244 - c4_acc: 0.0297 - c5_acc: 0.0284 - c6_acc: 0.0316 - c7_acc: 0.0281 - val_loss: 109.8045 - val_c1_loss: 15.4633 - val_c2_loss: 15.3626 - val_c3_loss: 15.9166 - val_c4_loss: 15.5640 - val_c5_loss: 15.8159 - val_c6_loss: 15.7655 - val_c7_loss: 15.9166 - val_c1_acc: 0.0406 - val_c2_acc: 0.0469 - val_c3_acc: 0.0125 - val_c4_acc: 0.0344 - val_c5_acc: 0.0187 - val_c6_acc: 0.0219 - val_c7_acc: 0.0125
Epoch 4/30
 - 98s - loss: 109.4419 - c1_loss: 15.6497 - c2_loss: 15.5288 - c3_loss: 15.5791 - c4_loss: 15.7051 - c5_loss: 15.7605 - c6_loss: 15.5691 - c7_loss: 15.6497 - c1_acc: 0.0291 - c2_acc: 0.0366 - c3_acc: 0.0334 - c4_acc: 0.0256 - c5_acc: 0.0222 - c6_acc: 0.0341 - c7_acc: 0.0291 - val_loss: 109.5527 - val_c1_loss: 15.7151 - val_c2_loss: 15.3122 - val_c3_loss: 15.4129 - val_c4_loss: 15.7151 - val_c5_loss: 15.6144 - val_c6_loss: 15.9670 - val_c7_loss: 15.8159 - val_c1_acc: 0.0250 - val_c2_acc: 0.0500 - val_c3_acc: 0.0437 - val_c4_acc: 0.0250 - val_c5_acc: 0.0312 - val_c6_acc: 0.0094 - val_c7_acc: 0.0187
Epoch 5/30
 - 97s - loss: 109.1195 - c1_loss: 15.5288 - c2_loss: 15.4532 - c3_loss: 15.5892 - c4_loss: 15.5993 - c5_loss: 15.5993 - c6_loss
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: 15.7000 - c7_loss: 15.6497 - c1_acc: 0.0366 - c2_acc: 0.0413 - c3_acc: 0.0328 - c4_acc: 0.0322 - c5_acc: 0.0322 - c6_acc: 0.0259 - c7_acc: 0.0291 - val_loss: 109.9556 - val_c1_loss: 15.6648 - val_c2_loss: 15.5640 - val_c3_loss: 15.8159 - val_c4_loss: 15.8663 - val_c5_loss: 15.9670 - val_c6_loss: 15.5640 - val_c7_loss: 15.5137 - val_c1_acc: 0.0281 - val_c2_acc: 0.0344 - val_c3_acc: 0.0187 - val_c4_acc: 0.0156 - val_c5_acc: 0.0094 - val_c6_acc: 0.0344 - val_c7_acc: 0.0375
Epoch 6/30
 - 98s - loss: 109.3059 - c1_loss: 15.5943 - c2_loss: 15.4633 - c3_loss: 15.6446 - c4_loss: 15.6597 - c5_loss: 15.6194 - c6_loss: 15.7101 - c7_loss: 15.6144 - c1_acc: 0.0325 - c2_acc: 0.0406 - c3_acc: 0.0294 - c4_acc: 0.0284 - c5_acc: 0.0309 - c6_acc: 0.0253 - c7_acc: 0.0312 - val_loss: 109.6030 - val_c1_loss: 15.7655 - val_c2_loss: 15.3626 - val_c3_loss: 15.8159 - val_c4_loss: 15.6648 - val_c5_loss: 15.7151 - val_c6_loss: 15.4129 - val_c7_loss: 15.8663 - val_c1_acc: 0.0219 - val_c2_acc: 0.0469 - val_c3_acc: 0.0187 - val_c4_acc: 0.0281 - val_c5_acc: 0.0250 - val_c6_acc: 0.0437 - val_c7_acc: 0.0156
Epoch 7/30
 - 101s - loss: 109.2656 - c1_loss: 15.6144 - c2_loss: 15.4583 - c3_loss: 15.6698 - c4_loss: 15.5691 - c5_loss: 15.7202 - c6_loss: 15.6698 - c7_loss: 15.5640 - c1_acc: 0.0312 - c2_acc: 0.0409 - c3_acc: 0.0278 - c4_acc: 0.0341 - c5_acc: 0.0247 - c6_acc: 0.0278 - c7_acc: 0.0344 - val_loss: 109.2505 - val_c1_loss: 15.6648 - val_c2_loss: 15.4633 - val_c3_loss: 15.6144 - val_c4_loss: 15.8159 - val_c5_loss: 15.5640 - val_c6_loss: 15.7151 - val_c7_loss: 15.4129 - val_c1_acc: 0.0281 - val_c2_acc: 0.0406 - val_c3_acc: 0.0312 - val_c4_acc: 0.0187 - val_c5_acc: 0.0344 - val_c6_acc: 0.0250 - val_c7_acc: 0.0437
Epoch 8/30
 - 98s - loss: 109.3109 - c1_loss: 15.6295 - c2_loss: 15.4331 - c3_loss: 15.6043 - c4_loss: 15.6547 - c5_loss: 15.6597 - c6_loss: 15.6547 - c7_loss: 15.6748 - c1_acc: 0.0303 - c2_acc: 0.0425 - c3_acc: 0.0319 - c4_acc: 0.0287 - c5_acc: 0.0284 - c6_acc: 0.0287 - c7_acc: 0.0275 - val_loss: 109.4519 - val_c1_loss: 15.5640 - val_c2_loss: 15.3626 - val_c3_loss: 15.5640 - val_c4_loss: 15.
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6648 - val_c5_loss: 15.8159 - val_c6_loss: 15.7655 - val_c7_loss: 15.7151 - val_c1_acc: 0.0344 - val_c2_acc: 0.0469 - val_c3_acc: 0.0344 - val_c4_acc: 0.0281 - val_c5_acc: 0.0187 - val_c6_acc: 0.0219 - val_c7_acc: 0.0250
Epoch 9/30
 - 99s - loss: 109.1850 - c1_loss: 15.6043 - c2_loss: 15.4230 - c3_loss: 15.6194 - c4_loss: 15.6950 - c5_loss: 15.5993 - c6_loss: 15.5993 - c7_loss: 15.6446 - c1_acc: 0.0319 - c2_acc: 0.0431 - c3_acc: 0.0309 - c4_acc: 0.0262 - c5_acc: 0.0322 - c6_acc: 0.0322 - c7_acc: 0.0294 - val_loss: 109.4016 - val_c1_loss: 15.5640 - val_c2_loss: 15.7151 - val_c3_loss: 15.6648 - val_c4_loss: 15.5640 - val_c5_loss: 15.6648 - val_c6_loss: 15.7151 - val_c7_loss: 15.5137 - val_c1_acc: 0.0344 - val_c2_acc: 0.0250 - val_c3_acc: 0.0281 - val_c4_acc: 0.0344 - val_c5_acc: 0.0281 - val_c6_acc: 0.0250 - val_c7_acc: 0.0375
Epoch 10/30
 - 101s - loss: 109.2857 - c1_loss: 15.7303 - c2_loss: 15.4280 - c3_loss: 15.5943 - c4_loss: 15.5640 - c5_loss: 15.7051 - c6_loss: 15.6194 - c7_loss: 15.6446 - c1_acc: 0.0241 - c2_acc: 0.0428 - c3_acc: 0.0325 - c4_acc: 0.0344 - c5_acc: 0.0256 - c6_acc: 0.0309 - c7_acc: 0.0294 - val_loss: 108.4446 - val_c1_loss: 15.5137 - val_c2_loss: 15.2618 - val_c3_loss: 15.1107 - val_c4_loss: 15.5137 - val_c5_loss: 15.6144 - val_c6_loss: 15.7151 - val_c7_loss: 15.7151 - val_c1_acc: 0.0375 - val_c2_acc: 0.0531 - val_c3_acc: 0.0625 - val_c4_acc: 0.0375 - val_c5_acc: 0.0312 - val_c6_acc: 0.0250 - val_c7_acc: 0.0250
Epoch 11/30
 - 98s - loss: 109.1044 - c1_loss: 15.5187 - c2_loss: 15.3726 - c3_loss: 15.6597 - c4_loss: 15.6698 - c5_loss: 15.7151 - c6_loss: 15.6194 - c7_loss: 15.5489 - c1_acc: 0.0372 - c2_acc: 0.0462 - c3_acc: 0.0284 - c4_acc: 0.0278 - c5_acc: 0.0250 - c6_acc: 0.0309 - c7_acc: 0.0353 - val_loss: 108.9986 - val_c1_loss: 15.6144 - val_c2_loss: 15.3122 - val_c3_loss: 15.6648 - val_c4_loss: 15.5137 - val_c5_loss: 15.6144 - val_c6_loss: 15.6648 - val_c7_loss: 15.6144 - val_c1_acc: 0.0312 - val_c2_acc: 0.0500 - val_c3_acc: 0.0281 - val_c4_acc: 0.0375 - val_c5_acc: 0.0312 - val_c6_acc: 0.0281 - val_c7_acc: 0.0312
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Epoch 12/30
 - 103s - loss: 109.3714 - c1_loss: 15.6547 - c2_loss: 15.4633 - c3_loss: 15.6396 - c4_loss: 15.6597 - c5_loss: 15.6950 - c6_loss: 15.6043 - c7_loss: 15.6547 - c1_acc: 0.0287 - c2_acc: 0.0406 - c3_acc: 0.0297 - c4_acc: 0.0284 - c5_acc: 0.0262 - c6_acc: 0.0319 - c7_acc: 0.0287 - val_loss: 108.5453 - val_c1_loss: 15.5137 - val_c2_loss: 15.1611 - val_c3_loss: 15.5640 - val_c4_loss: 15.6144 - val_c5_loss: 15.4633 - val_c6_loss: 15.5137 - val_c7_loss: 15.7151 - val_c1_acc: 0.0375 - val_c2_acc: 0.0594 - val_c3_acc: 0.0344 - val_c4_acc: 0.0312 - val_c5_acc: 0.0406 - val_c6_acc: 0.0375 - val_c7_acc: 0.0250
Epoch 13/30
 - 101s - loss: 109.4922 - c1_loss: 15.6597 - c2_loss: 15.5137 - c3_loss: 15.6648 - c4_loss: 15.6396 - c5_loss: 15.6597 - c6_loss: 15.6446 - c7_loss: 15.7101 - c1_acc: 0.0284 - c2_acc: 0.0375 - c3_acc: 0.0281 - c4_acc: 0.0297 - c5_acc: 0.0284 - c6_acc: 0.0294 - c7_acc: 0.0253 - val_loss: 109.3008 - val_c1_loss: 15.6648 - val_c2_loss: 15.4129 - val_c3_loss: 15.7151 - val_c4_loss: 15.7151 - val_c5_loss: 15.7655 - val_c6_loss: 15.4633 - val_c7_loss: 15.5640 - val_c1_acc: 0.0281 - val_c2_acc: 0.0437 - val_c3_acc: 0.0250 - val_c4_acc: 0.0250 - val_c5_acc: 0.0219 - val_c6_acc: 0.0406 - val_c7_acc: 0.0344
Epoch 14/30
 - 98s - loss: 109.1094 - c1_loss: 15.5842 - c2_loss: 15.2417 - c3_loss: 15.6547 - c4_loss: 15.6748 - c5_loss: 15.6748 - c6_loss: 15.6648 - c7_loss: 15.6144 - c1_acc: 0.0331 - c2_acc: 0.0544 - c3_acc: 0.0287 - c4_acc: 0.0275 - c5_acc: 0.0275 - c6_acc: 0.0281 - c7_acc: 0.0312 - val_loss: 109.0994 - val_c1_loss: 15.4129 - val_c2_loss: 15.3626 - val_c3_loss: 15.6648 - val_c4_loss: 15.7655 - val_c5_loss: 15.5137 - val_c6_loss: 15.7655 - val_c7_loss: 15.6144 - val_c1_acc: 0.0437 - val_c2_acc: 0.0469 - val_c3_acc: 0.0281 - val_c4_acc: 0.0219 - val_c5_acc: 0.0375 - val_c6_acc: 0.0219 - val_c7_acc: 0.0312
Epoch 15/30
 - 99s - loss: 109.2102 - c1_loss: 15.5791 - c2_loss: 15.4986 - c3_loss: 15.6849 - c4_loss: 15.5993 - c5_loss: 15.6245 - c6_loss: 15.6245 - c7_loss: 15.5993 - c1_acc: 0.0334 - c2_acc: 0.0384
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 - c3_acc: 0.0269 - c4_acc: 0.0322 - c5_acc: 0.0306 - c6_acc: 0.
0306 - c7_acc: 0.0322 - val_loss: 109.7038 - val_c1_loss: 15.
9166 - val_c2_loss: 15.4129 - val_c3_loss: 15.6648 - val_c4_loss
: 15.6144 - val_c5_loss: 15.5640 - val_c6_loss: 15.7151 -
val_c7_loss: 15.8159 - val_c1_acc: 0.0125 - val_c2_acc: 0.0437
 - val_c3_acc: 0.0281 - val_c4_acc: 0.0312 - val_c5_acc: 0.0344
 - val_c6_acc: 0.0250 - val_c7_acc: 0.0187
Epoch 16/30
 - 118s - loss: 109.2404 - c1_loss: 15.5590 - c2_loss: 15.4079
 - c3_loss: 15.5993 - c4_loss: 15.6446 - c5_loss: 15.7051 -
c6_loss: 15.6396 - c7_loss: 15.6849 - c1_acc: 0.0347 - c2_acc: 0
.0441 - c3_acc: 0.0322 - c4_acc: 0.0294 - c5_acc: 0.0256 -
c6_acc: 0.0297 - c7_acc: 0.0269 - val_loss: 108.9986 -
val_c1_loss: 15.9670 - val_c2_loss: 15.7151 - val_c3_loss: 15.
6144 - val_c4_loss: 15.6144 - val_c5_loss: 15.3626 - val_c6_loss
: 15.1611 - val_c7_loss: 15.5640 - val_c1_acc: 0.0094 -
val_c2_acc: 0.0250 - val_c3_acc: 0.0312 - val_c4_acc: 0.0312 -
val_c5_acc: 0.0469 - val_c6_acc: 0.0594 - val_c7_acc: 0.0344
Epoch 17/30
 - 131s - loss: 109.4519 - c1_loss: 15.5842 - c2_loss: 15.5489
 - c3_loss: 15.6849 - c4_loss: 15.6547 - c5_loss: 15.7000 -
c6_loss: 15.6396 - c7_loss: 15.6396 - c1_acc: 0.0331 - c2_acc: 0
.0353 - c3_acc: 0.0269 - c4_acc: 0.0287 - c5_acc: 0.0259 -
c6_acc: 0.0297 - c7_acc: 0.0297 - val_loss: 109.3008 -
val_c1_loss: 15.7655 - val_c2_loss: 15.2115 - val_c3_loss: 15.
6648 - val_c4_loss: 15.8159 - val_c5_loss: 15.6648 - val_c6_loss
: 15.6144 - val_c7_loss: 15.5640 - val_c1_acc: 0.0219 -
val_c2_acc: 0.0563 - val_c3_acc: 0.0281 - val_c4_acc: 0.0187 -
val_c5_acc: 0.0281 - val_c6_acc: 0.0312 - val_c7_acc: 0.0344
Epoch 18/30
 - 128s - loss: 109.0893 - c1_loss: 15.4885 - c2_loss: 15.3827
 - c3_loss: 15.6950 - c4_loss: 15.5842 - c5_loss: 15.6497 -
c6_loss: 15.7252 - c7_loss: 15.5640 - c1_acc: 0.0391 - c2_acc: 0
.0456 - c3_acc: 0.0262 - c4_acc: 0.0331 - c5_acc: 0.0291 -
c6_acc: 0.0244 - c7_acc: 0.0344 - val_loss: 109.6534 -
val_c1_loss: 15.7151 - val_c2_loss: 15.7151 - val_c3_loss: 15.
5640 - val_c4_loss: 15.7151 - val_c5_loss: 15.7655 - val_c6_loss
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: 15.6144 - val_c7_loss: 15.5640 - val_c1_acc: 0.0250 - val_c2_acc: 0.0250 - val_c3_acc: 0.0344 - val_c4_acc: 0.0250 - val_c5_acc: 0.0219 - val_c6_acc: 0.0312 - val_c7_acc: 0.0344
Epoch 19/30
 - 130s - loss: 109.2102 - c1_loss: 15.6698 - c2_loss: 15.4029 - c3_loss: 15.6446 - c4_loss: 15.6295 - c5_loss: 15.6547 - c6_loss: 15.5439 - c7_loss: 15.6648 - c1_acc: 0.0278 - c2_acc: 0.0444 - c3_acc: 0.0294 - c4_acc: 0.0303 - c5_acc: 0.0287 - c6_acc: 0.0356 - c7_acc: 0.0281 - val_loss: 109.3512 - val_c1_loss: 15.6144 - val_c2_loss: 15.3122 - val_c3_loss: 15.5640 - val_c4_loss: 15.6648 - val_c5_loss: 15.6144 - val_c6_loss: 15.7655 - val_c7_loss: 15.8159 - val_c1_acc: 0.0312 - val_c2_acc: 0.0500 - val_c3_acc: 0.0344 - val_c4_acc: 0.0281 - val_c5_acc: 0.0312 - val_c6_acc: 0.0219 - val_c7_acc: 0.0187
Epoch 20/30
 - 112s - loss: 109.2202 - c1_loss: 15.5389 - c2_loss: 15.4180 - c3_loss: 15.6849 - c4_loss: 15.6346 - c5_loss: 15.7101 - c6_loss: 15.6547 - c7_loss: 15.5791 - c1_acc: 0.0359 - c2_acc: 0.0434 - c3_acc: 0.0269 - c4_acc: 0.0300 - c5_acc: 0.0253 - c6_acc: 0.0287 - c7_acc: 0.0334 - val_loss: 109.4519 - val_c1_loss: 15.4129 - val_c2_loss: 15.5137 - val_c3_loss: 15.8663 - val_c4_loss: 15.5137 - val_c5_loss: 15.8663 - val_c6_loss: 15.4633 - val_c7_loss: 15.8159 - val_c1_acc: 0.0437 - val_c2_acc: 0.0375 - val_c3_acc: 0.0156 - val_c4_acc: 0.0375 - val_c5_acc: 0.0156 - val_c6_acc: 0.0406 - val_c7_acc: 0.0187
Epoch 21/30
 - 108s - loss: 109.2908 - c1_loss: 15.4986 - c2_loss: 15.5187 - c3_loss: 15.6497 - c4_loss: 15.6547 - c5_loss: 15.5842 - c6_loss: 15.6900 - c7_loss: 15.6950 - c1_acc: 0.0384 - c2_acc: 0.0372 - c3_acc: 0.0291 - c4_acc: 0.0287 - c5_acc: 0.0331 - c6_acc: 0.0266 - c7_acc: 0.0262 - val_loss: 109.4016 - val_c1_loss: 15.5640 - val_c2_loss: 15.8663 - val_c3_loss: 15.5137 - val_c4_loss: 15.6144 - val_c5_loss: 15.5137 - val_c6_loss: 15.8663 - val_c7_loss: 15.4633 - val_c1_acc: 0.0344 - val_c2_acc: 0.0156 - val_c3_acc: 0.0375 - val_c4_acc: 0.0312 - val_c5_acc: 0.0375 - val_c6_acc: 0.0156 - val_c7_acc: 0.0406
Epoch 22/30
```

```
 - 140s - loss: 109.3210 - c1_loss: 15.5791 - c2_loss: 15.4482
 - c3_loss: 15.7151 - c4_loss: 15.6748 - c5_loss: 15.6194 -
c6_loss: 15.6547 - c7_loss: 15.6295 - c1_acc: 0.0334 - c2_acc: 0
.0416 - c3_acc: 0.0250 - c4_acc: 0.0275 - c5_acc: 0.0309 -
c6_acc: 0.0287 - c7_acc: 0.0303 - val_loss: 109.3008 -
val_c1_loss: 15.4633 - val_c2_loss: 15.4633 - val_c3_loss: 15.
6144 - val_c4_loss: 15.7151 - val_c5_loss: 15.4129 - val_c6_loss
: 15.7151 - val_c7_loss: 15.9166 - val_c1_acc: 0.0406 -
val_c2_acc: 0.0406 - val_c3_acc: 0.0312 - val_c4_acc: 0.0250 -
val_c5_acc: 0.0437 - val_c6_acc: 0.0250 - val_c7_acc: 0.0125
Epoch 23/30
 - 120s - loss: 109.1094 - c1_loss: 15.6144 - c2_loss: 15.3676
 - c3_loss: 15.7000 - c4_loss: 15.6144 - c5_loss: 15.6748 -
c6_loss: 15.4986 - c7_loss: 15.6396 - c1_acc: 0.0312 - c2_acc: 0
.0466 - c3_acc: 0.0259 - c4_acc: 0.0312 - c5_acc: 0.0275 -
c6_acc: 0.0384 - c7_acc: 0.0297 - val_loss: 108.5957 -
val_c1_loss: 15.3122 - val_c2_loss: 15.3122 - val_c3_loss: 15.
3122 - val_c4_loss: 15.6144 - val_c5_loss: 15.6144 - val_c6_loss
: 15.8663 - val_c7_loss: 15.5640 - val_c1_acc: 0.0500 -
val_c2_acc: 0.0500 - val_c3_acc: 0.0500 - val_c4_acc: 0.0312 -
val_c5_acc: 0.0312 - val_c6_acc: 0.0156 - val_c7_acc: 0.0344
Epoch 24/30
 - 105s - loss: 109.3512 - c1_loss: 15.6245 - c2_loss: 15.4834
 - c3_loss: 15.6497 - c4_loss: 15.5489 - c5_loss: 15.7000 -
c6_loss: 15.6698 - c7_loss: 15.6748 - c1_acc: 0.0306 - c2_acc: 0
.0394 - c3_acc: 0.0291 - c4_acc: 0.0353 - c5_acc: 0.0259 -
c6_acc: 0.0278 - c7_acc: 0.0275 - val_loss: 109.0490 -
val_c1_loss: 15.6648 - val_c2_loss: 15.3626 - val_c3_loss: 15.
8159 - val_c4_loss: 15.0603 - val_c5_loss: 15.5137 - val_c6_loss
: 15.9670 - val_c7_loss: 15.6648 - val_c1_acc: 0.0281 -
val_c2_acc: 0.0469 - val_c3_acc: 0.0187 - val_c4_acc: 0.0656 -
val_c5_acc: 0.0375 - val_c6_acc: 0.0094 - val_c7_acc: 0.0281
Epoch 25/30
 - 107s - loss: 109.3059 - c1_loss: 15.6144 - c2_loss: 15.4784
 - c3_loss: 15.6094 - c4_loss: 15.6295 - c5_loss: 15.6547 -
c6_loss: 15.6245 - c7_loss: 15.6950 - c1_acc: 0.0312 - c2_acc: 0
.0397 - c3_acc: 0.0316 - c4_acc: 0.0303 - c5_acc: 0.0287 -
```

```
c6_acc: 0.0306 - c7_acc: 0.0262 - val_loss: 109.6534 -
val_c1_loss: 15.7655 - val_c2_loss: 15.3122 - val_c3_loss: 15.
6648 - val_c4_loss: 15.5137 - val_c5_loss: 15.8159 - val_c6_loss
: 15.8663 - val_c7_loss: 15.7151 - val_c1_acc: 0.0219 -
val_c2_acc: 0.0500 - val_c3_acc: 0.0281 - val_c4_acc: 0.0375 -
val_c5_acc: 0.0187 - val_c6_acc: 0.0156 - val_c7_acc: 0.0250
Epoch 26/30
 - 107s - loss: 109.3663 - c1_loss: 15.5338 - c2_loss: 15.4331
 - c3_loss: 15.7705 - c4_loss: 15.7101 - c5_loss: 15.6194 -
c6_loss: 15.6698 - c7_loss: 15.6295 - c1_acc: 0.0362 - c2_acc: 0
.0425 - c3_acc: 0.0216 - c4_acc: 0.0253 - c5_acc: 0.0309 -
c6_acc: 0.0278 - c7_acc: 0.0303 - val_loss: 108.8475 -
val_c1_loss: 15.8159 - val_c2_loss: 15.5137 - val_c3_loss: 15.
3626 - val_c4_loss: 15.5640 - val_c5_loss: 15.6144 - val_c6_loss
: 15.5137 - val_c7_loss: 15.4633 - val_c1_acc: 0.0187 -
val_c2_acc: 0.0375 - val_c3_acc: 0.0469 - val_c4_acc: 0.0344 -
val_c5_acc: 0.0312 - val_c6_acc: 0.0375 - val_c7_acc: 0.0406
Epoch 27/30
 - 154s - loss: 108.8525 - c1_loss: 15.5842 - c2_loss: 15.4583
 - c3_loss: 15.5640 - c4_loss: 15.5691 - c5_loss: 15.4784 -
c6_loss: 15.5943 - c7_loss: 15.6043 - c1_acc: 0.0331 - c2_acc: 0
.0409 - c3_acc: 0.0344 - c4_acc: 0.0341 - c5_acc: 0.0397 -
c6_acc: 0.0325 - c7_acc: 0.0319 - val_loss: 109.2505 -
val_c1_loss: 15.7151 - val_c2_loss: 15.4129 - val_c3_loss: 15.
6648 - val_c4_loss: 15.6648 - val_c5_loss: 15.5137 - val_c6_loss
: 15.7655 - val_c7_loss: 15.5137 - val_c1_acc: 0.0250 -
val_c2_acc: 0.0437 - val_c3_acc: 0.0281 - val_c4_acc: 0.0281 -
val_c5_acc: 0.0375 - val_c6_acc: 0.0219 - val_c7_acc: 0.0375
Epoch 28/30
 - 109s - loss: 109.1447 - c1_loss: 15.6396 - c2_loss: 15.4129
 - c3_loss: 15.6799 - c4_loss: 15.6043 - c5_loss: 15.5590 -
c6_loss: 15.5489 - c7_loss: 15.7000 - c1_acc: 0.0297 - c2_acc: 0
.0437 - c3_acc: 0.0272 - c4_acc: 0.0319 - c5_acc: 0.0347 -
c6_acc: 0.0353 - c7_acc: 0.0259 - val_loss: 109.6030 -
val_c1_loss: 15.6144 - val_c2_loss: 15.6648 - val_c3_loss: 15.
7151 - val_c4_loss: 15.4633 - val_c5_loss: 15.6144 - val_c6_loss
: 15.7655 - val_c7_loss: 15.7655 - val_c1_acc: 0.0312 -
```

```
val_c2_acc: 0.0281 - val_c3_acc: 0.0250 - val_c4_acc: 0.0406 - val_c5_acc: 0.0312 - val_c6_acc: 0.0219 - val_c7_acc: 0.0219
Epoch 29/30
 - 123s - loss: 109.4167 - c1_loss: 15.6900 - c2_loss: 15.5691 - c3_loss: 15.6295 - c4_loss: 15.6597 - c5_loss: 15.5892 - c6_loss: 15.6547 - c7_loss: 15.6245 - c1_acc: 0.0266 - c2_acc: 0.0341 - c3_acc: 0.0303 - c4_acc: 0.0284 - c5_acc: 0.0328 - c6_acc: 0.0287 - c7_acc: 0.0306 - val_loss: 109.5527 - val_c1_loss: 15.7655 - val_c2_loss: 15.5640 - val_c3_loss: 15.7655 - val_c4_loss: 15.7151 - val_c5_loss: 15.5137 - val_c6_loss: 15.6144 - val_c7_loss: 15.6144 - val_c1_acc: 0.0219 - val_c2_acc: 0.0344 - val_c3_acc: 0.0219 - val_c4_acc: 0.0250 - val_c5_acc: 0.0375 - val_c6_acc: 0.0312 - val_c7_acc: 0.0312
Epoch 30/30
 - 126s - loss: 109.1951 - c1_loss: 15.5842 - c2_loss: 15.3374 - c3_loss: 15.7000 - c4_loss: 15.6497 - c5_loss: 15.6245 - c6_loss: 15.6748 - c7_loss: 15.6245 - c1_acc: 0.0331 - c2_acc: 0.0484 - c3_acc: 0.0259 - c4_acc: 0.0291 - c5_acc: 0.0306 - c6_acc: 0.0275 - c7_acc: 0.0306 - val_loss: 108.9986 - val_c1_loss: 15.5640 - val_c2_loss: 15.5137 - val_c3_loss: 15.6144 - val_c4_loss: 15.5137 - val_c5_loss: 15.5640 - val_c6_loss: 15.6144 - val_c7_loss: 15.6144 - val_c1_acc: 0.0344 - val_c2_acc: 0.0375 - val_c3_acc: 0.0312 - val_c4_acc: 0.0375 - val_c5_acc: 0.0344 - val_c6_acc: 0.0312 - val_c7_acc: 0.0312
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
 [[29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]
 [29 55 48 60 58 59 56]]
key 宁
key Q
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key Q
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key U
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key Q
key H
key V
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key U
key R
key 宁
key Q
key H
key V
key T
key U
key R
predict_plate_str type : <class 'list'>
predict_plate_str
```

```
 [['宁', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T
', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q
', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R
'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V
', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁
', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U
', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H
', 'V', 'T', 'U', 'R'], ['宁', 'Q', 'H', 'V', 'T', 'U', 'R']]
################plt results################

Process finished with exit code 0

```