

alpha_version_notebook

May 8, 2018

```
In [1]: import keras
import numpy as np
import os
import tensorflow as tf
import matplotlib.pyplot as plt
from keras.layers import Activation, Dense, Dropout, Flatten, Conv2D, UpSampling2D, In
from keras.models import Sequential
from keras.preprocessing.image import img_to_array, load_img
from keras.callbacks import ModelCheckpoint
from skimage.color import rgb2lab, lab2rgb, rgb2gray
from skimage.io import imsave
keras.__version__
```

```
c:\anaconda3\envs\tensorflow\lib\site-packages\h5py\__init__.py:36: FutureWarning: Conversion of
from ._conv import register_converters as _register_converters
Using TensorFlow backend.
```

```
Out[1]: '2.1.4'
```

```
In [2]: # Get images
image = img_to_array(load_img('golf.jpg'))
image = np.array(image, dtype=float)
```

```
In [3]: X = rgb2lab(1.0/255*image)[:,:,0]
Y = rgb2lab(1.0/255*image)[:,:,1:]
Y /= 128
X = X.reshape(1, 400, 400, 1)
Y = Y.reshape(1, 400, 400, 2)
```

```
In [4]: # Building the neural network
model = Sequential()
model.add(InputLayer(input_shape=(None, None, 1)))
model.add(Conv2D(8, (3, 3), activation='relu', padding='same', strides=2))
model.add(Conv2D(8, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(16, (3, 3), activation='relu', padding='same'))
model.add(Conv2D(16, (3, 3), activation='relu', padding='same', strides=2))
model.add(Conv2D(32, (3, 3), activation='relu', padding='same'))
```

```

model.add(Conv2D(32, (3, 3), activation='relu', padding='same', strides=2))
model.add(UpSampling2D((2, 2)))
model.add(Conv2D(32, (3, 3), activation='relu', padding='same'))
model.add(UpSampling2D((2, 2)))
model.add(Conv2D(16, (3, 3), activation='relu', padding='same'))
model.add(UpSampling2D((2, 2)))
model.add(Conv2D(2, (3, 3), activation='tanh', padding='same'))

```

In [5]: # Finish model

```

filepath="model_v1.h5"
checkpoint = ModelCheckpoint(filepath, monitor='acc', verbose=1, save_best_only=True, mo
model.compile(optimizer='rmsprop', loss='mse', metrics=['acc'])

```

In [6]: history = model.fit(x=X,y=Y,batch_size=1,epochs=1000,callbacks=[checkpoint], verbose=2)

Epoch 1/1000

- 3s - loss: 0.3261 - acc: 0.0940

Epoch 00001: acc improved from -inf to 0.09402, saving model to model_v1.h5

Epoch 2/1000

- 0s - loss: 0.0101 - acc: 0.8950

Epoch 00002: acc improved from 0.09402 to 0.89499, saving model to model_v1.h5

Epoch 3/1000

- 0s - loss: 0.0290 - acc: 0.9022

Epoch 00003: acc improved from 0.89499 to 0.90218, saving model to model_v1.h5

Epoch 4/1000

- 0s - loss: 0.0202 - acc: 0.8957

Epoch 00004: acc did not improve

Epoch 5/1000

- 0s - loss: 0.0099 - acc: 0.9040

Epoch 00005: acc improved from 0.90218 to 0.90403, saving model to model_v1.h5

Epoch 6/1000

- 0s - loss: 0.0066 - acc: 0.9039

Epoch 00006: acc did not improve

Epoch 7/1000

- 0s - loss: 0.0068 - acc: 0.9040

Epoch 00007: acc did not improve

Epoch 8/1000

- 0s - loss: 0.0090 - acc: 0.9040

Epoch 00008: acc improved from 0.90403 to 0.90405, saving model to model_v1.h5

Epoch 9/1000

- 0s - loss: 0.0115 - acc: 0.9050

Epoch 00009: acc improved from 0.90405 to 0.90505, saving model to model_v1.h5
Epoch 10/1000
- 0s - loss: 0.0061 - acc: 0.9044

Epoch 00010: acc did not improve
Epoch 11/1000
- 0s - loss: 0.0059 - acc: 0.9060

Epoch 00011: acc improved from 0.90505 to 0.90602, saving model to model_v1.h5
Epoch 12/1000
- 0s - loss: 0.0056 - acc: 0.9057

Epoch 00012: acc did not improve
Epoch 13/1000
- 0s - loss: 0.0057 - acc: 0.9093

Epoch 00013: acc improved from 0.90602 to 0.90932, saving model to model_v1.h5
Epoch 14/1000
- 0s - loss: 0.0059 - acc: 0.9064

Epoch 00014: acc did not improve
Epoch 15/1000
- 0s - loss: 0.0069 - acc: 0.9100

Epoch 00015: acc improved from 0.90932 to 0.91002, saving model to model_v1.h5
Epoch 16/1000
- 0s - loss: 0.0068 - acc: 0.9057

Epoch 00016: acc did not improve
Epoch 17/1000
- 0s - loss: 0.0085 - acc: 0.9091

Epoch 00017: acc did not improve
Epoch 18/1000
- 0s - loss: 0.0058 - acc: 0.9053

Epoch 00018: acc did not improve
Epoch 19/1000
- 0s - loss: 0.0064 - acc: 0.9101

Epoch 00019: acc improved from 0.91002 to 0.91008, saving model to model_v1.h5
Epoch 20/1000
- 0s - loss: 0.0056 - acc: 0.9060

Epoch 00020: acc did not improve
Epoch 21/1000

- 0s - loss: 0.0067 - acc: 0.9113

Epoch 00021: acc improved from 0.91008 to 0.91128, saving model to model_v1.h5
Epoch 22/1000
- 0s - loss: 0.0060 - acc: 0.9054

Epoch 00022: acc did not improve
Epoch 23/1000
- 0s - loss: 0.0076 - acc: 0.9111

Epoch 00023: acc did not improve
Epoch 24/1000
- 0s - loss: 0.0055 - acc: 0.9057

Epoch 00024: acc did not improve
Epoch 25/1000
- 0s - loss: 0.0067 - acc: 0.9115

Epoch 00025: acc improved from 0.91128 to 0.91154, saving model to model_v1.h5
Epoch 26/1000
- 0s - loss: 0.0055 - acc: 0.9055

Epoch 00026: acc did not improve
Epoch 27/1000
- 0s - loss: 0.0071 - acc: 0.9117

Epoch 00027: acc improved from 0.91154 to 0.91171, saving model to model_v1.h5
Epoch 28/1000
- 0s - loss: 0.0054 - acc: 0.9057

Epoch 00028: acc did not improve
Epoch 29/1000
- 0s - loss: 0.0071 - acc: 0.9117

Epoch 00029: acc did not improve
Epoch 30/1000
- 0s - loss: 0.0054 - acc: 0.9053

Epoch 00030: acc did not improve
Epoch 31/1000
- 0s - loss: 0.0069 - acc: 0.9109

Epoch 00031: acc did not improve
Epoch 32/1000
- 0s - loss: 0.0050 - acc: 0.9056

Epoch 00032: acc did not improve
Epoch 33/1000

- 0s - loss: 0.0068 - acc: 0.9116

Epoch 00033: acc did not improve
Epoch 34/1000
- 0s - loss: 0.0055 - acc: 0.9050

Epoch 00034: acc did not improve
Epoch 35/1000
- 0s - loss: 0.0074 - acc: 0.9098

Epoch 00035: acc did not improve
Epoch 36/1000
- 0s - loss: 0.0046 - acc: 0.9054

Epoch 00036: acc did not improve
Epoch 37/1000
- 0s - loss: 0.0059 - acc: 0.9111

Epoch 00037: acc did not improve
Epoch 38/1000
- 0s - loss: 0.0051 - acc: 0.9053

Epoch 00038: acc did not improve
Epoch 39/1000
- 0s - loss: 0.0074 - acc: 0.9086

Epoch 00039: acc did not improve
Epoch 40/1000
- 0s - loss: 0.0045 - acc: 0.9053

Epoch 00040: acc did not improve
Epoch 41/1000
- 0s - loss: 0.0060 - acc: 0.9089

Epoch 00041: acc did not improve
Epoch 42/1000
- 0s - loss: 0.0047 - acc: 0.9060

Epoch 00042: acc did not improve
Epoch 43/1000
- 0s - loss: 0.0069 - acc: 0.9073

Epoch 00043: acc did not improve
Epoch 44/1000
- 0s - loss: 0.0046 - acc: 0.9058

Epoch 00044: acc did not improve
Epoch 45/1000

- 0s - loss: 0.0064 - acc: 0.9068

Epoch 00045: acc did not improve
Epoch 46/1000
- 0s - loss: 0.0045 - acc: 0.9061

Epoch 00046: acc did not improve
Epoch 47/1000
- 0s - loss: 0.0065 - acc: 0.9070

Epoch 00047: acc did not improve
Epoch 48/1000
- 0s - loss: 0.0045 - acc: 0.9059

Epoch 00048: acc did not improve
Epoch 49/1000
- 0s - loss: 0.0065 - acc: 0.9061

Epoch 00049: acc did not improve
Epoch 50/1000
- 0s - loss: 0.0043 - acc: 0.9065

Epoch 00050: acc did not improve
Epoch 51/1000
- 0s - loss: 0.0062 - acc: 0.9068

Epoch 00051: acc did not improve
Epoch 52/1000
- 0s - loss: 0.0045 - acc: 0.9060

Epoch 00052: acc did not improve
Epoch 53/1000
- 0s - loss: 0.0066 - acc: 0.9066

Epoch 00053: acc did not improve
Epoch 54/1000
- 0s - loss: 0.0040 - acc: 0.9068

Epoch 00054: acc did not improve
Epoch 55/1000
- 0s - loss: 0.0057 - acc: 0.9073

Epoch 00055: acc did not improve
Epoch 56/1000
- 0s - loss: 0.0044 - acc: 0.9065

Epoch 00056: acc did not improve
Epoch 57/1000

- 0s - loss: 0.0067 - acc: 0.9076

Epoch 00057: acc did not improve
Epoch 58/1000
- 0s - loss: 0.0038 - acc: 0.9070

Epoch 00058: acc did not improve
Epoch 59/1000
- 0s - loss: 0.0053 - acc: 0.9084

Epoch 00059: acc did not improve
Epoch 60/1000
- 0s - loss: 0.0044 - acc: 0.9068

Epoch 00060: acc did not improve
Epoch 61/1000
- 0s - loss: 0.0069 - acc: 0.9100

Epoch 00061: acc did not improve
Epoch 62/1000
- 0s - loss: 0.0036 - acc: 0.9071

Epoch 00062: acc did not improve
Epoch 63/1000
- 0s - loss: 0.0047 - acc: 0.9083

Epoch 00063: acc did not improve
Epoch 64/1000
- 0s - loss: 0.0042 - acc: 0.9079

Epoch 00064: acc did not improve
Epoch 65/1000
- 0s - loss: 0.0064 - acc: 0.9166

Epoch 00065: acc improved from 0.91171 to 0.91659, saving model to model_v1.h5
Epoch 66/1000
- 0s - loss: 0.0038 - acc: 0.9070

Epoch 00066: acc did not improve
Epoch 67/1000
- 0s - loss: 0.0051 - acc: 0.9102

Epoch 00067: acc did not improve
Epoch 68/1000
- 0s - loss: 0.0038 - acc: 0.9085

Epoch 00068: acc did not improve
Epoch 69/1000

- 0s - loss: 0.0057 - acc: 0.9200

Epoch 00069: acc improved from 0.91659 to 0.92000, saving model to model_v1.h5
Epoch 70/1000
- 0s - loss: 0.0038 - acc: 0.9070

Epoch 00070: acc did not improve
Epoch 71/1000
- 0s - loss: 0.0055 - acc: 0.9152

Epoch 00071: acc did not improve
Epoch 72/1000
- 0s - loss: 0.0037 - acc: 0.9089

Epoch 00072: acc did not improve
Epoch 73/1000
- 0s - loss: 0.0054 - acc: 0.9214

Epoch 00073: acc improved from 0.92000 to 0.92137, saving model to model_v1.h5
Epoch 74/1000
- 0s - loss: 0.0039 - acc: 0.9072

Epoch 00074: acc did not improve
Epoch 75/1000
- 0s - loss: 0.0057 - acc: 0.9187

Epoch 00075: acc did not improve
Epoch 76/1000
- 0s - loss: 0.0034 - acc: 0.9089

Epoch 00076: acc did not improve
Epoch 77/1000
- 0s - loss: 0.0046 - acc: 0.9232

Epoch 00077: acc improved from 0.92137 to 0.92322, saving model to model_v1.h5
Epoch 78/1000
- 0s - loss: 0.0038 - acc: 0.9085

Epoch 00078: acc did not improve
Epoch 79/1000
- 0s - loss: 0.0057 - acc: 0.9258

Epoch 00079: acc improved from 0.92322 to 0.92582, saving model to model_v1.h5
Epoch 80/1000
- 0s - loss: 0.0033 - acc: 0.9072

Epoch 00080: acc did not improve
Epoch 81/1000

- 0s - loss: 0.0042 - acc: 0.9158

Epoch 00081: acc did not improve
Epoch 82/1000
- 0s - loss: 0.0035 - acc: 0.9138

Epoch 00082: acc did not improve
Epoch 83/1000
- 0s - loss: 0.0051 - acc: 0.9301

Epoch 00083: acc improved from 0.92582 to 0.93014, saving model to model_v1.h5
Epoch 84/1000
- 0s - loss: 0.0034 - acc: 0.9077

Epoch 00084: acc did not improve
Epoch 85/1000
- 0s - loss: 0.0048 - acc: 0.9205

Epoch 00085: acc did not improve
Epoch 86/1000
- 0s - loss: 0.0034 - acc: 0.9124

Epoch 00086: acc did not improve
Epoch 87/1000
- 0s - loss: 0.0047 - acc: 0.9296

Epoch 00087: acc did not improve
Epoch 88/1000
- 0s - loss: 0.0033 - acc: 0.9093

Epoch 00088: acc did not improve
Epoch 89/1000
- 0s - loss: 0.0046 - acc: 0.9277

Epoch 00089: acc did not improve
Epoch 90/1000
- 0s - loss: 0.0033 - acc: 0.9134

Epoch 00090: acc did not improve
Epoch 91/1000
- 0s - loss: 0.0046 - acc: 0.9290

Epoch 00091: acc did not improve
Epoch 92/1000
- 0s - loss: 0.0034 - acc: 0.9090

Epoch 00092: acc did not improve
Epoch 93/1000

- 0s - loss: 0.0048 - acc: 0.9306

Epoch 00093: acc improved from 0.93014 to 0.93062, saving model to model_v1.h5
Epoch 94/1000
- 0s - loss: 0.0031 - acc: 0.9108

Epoch 00094: acc did not improve
Epoch 95/1000
- 0s - loss: 0.0041 - acc: 0.9314

Epoch 00095: acc improved from 0.93062 to 0.93143, saving model to model_v1.h5
Epoch 96/1000
- 0s - loss: 0.0031 - acc: 0.9146

Epoch 00096: acc did not improve
Epoch 97/1000
- 0s - loss: 0.0042 - acc: 0.9330

Epoch 00097: acc improved from 0.93143 to 0.93299, saving model to model_v1.h5
Epoch 98/1000
- 0s - loss: 0.0033 - acc: 0.9099

Epoch 00098: acc did not improve
Epoch 99/1000
- 0s - loss: 0.0046 - acc: 0.9312

Epoch 00099: acc did not improve
Epoch 100/1000
- 0s - loss: 0.0031 - acc: 0.9117

Epoch 00100: acc did not improve
Epoch 101/1000
- 0s - loss: 0.0041 - acc: 0.9363

Epoch 00101: acc improved from 0.93299 to 0.93632, saving model to model_v1.h5
Epoch 102/1000
- 0s - loss: 0.0032 - acc: 0.9117

Epoch 00102: acc did not improve
Epoch 103/1000
- 0s - loss: 0.0044 - acc: 0.9301

Epoch 00103: acc did not improve
Epoch 104/1000
- 0s - loss: 0.0034 - acc: 0.9118

Epoch 00104: acc did not improve
Epoch 105/1000

- 0s - loss: 0.0047 - acc: 0.9368

Epoch 00105: acc improved from 0.93632 to 0.93678, saving model to model_v1.h5
Epoch 106/1000
- 0s - loss: 0.0028 - acc: 0.9076

Epoch 00106: acc did not improve
Epoch 107/1000
- 0s - loss: 0.0033 - acc: 0.9229

Epoch 00107: acc did not improve
Epoch 108/1000
- 0s - loss: 0.0028 - acc: 0.9240

Epoch 00108: acc did not improve
Epoch 109/1000
- 0s - loss: 0.0037 - acc: 0.9391

Epoch 00109: acc improved from 0.93678 to 0.93912, saving model to model_v1.h5
Epoch 110/1000
- 0s - loss: 0.0029 - acc: 0.9179

Epoch 00110: acc did not improve
Epoch 111/1000
- 0s - loss: 0.0039 - acc: 0.9375

Epoch 00111: acc did not improve
Epoch 112/1000
- 0s - loss: 0.0029 - acc: 0.9152

Epoch 00112: acc did not improve
Epoch 113/1000
- 0s - loss: 0.0039 - acc: 0.9396

Epoch 00113: acc improved from 0.93912 to 0.93963, saving model to model_v1.h5
Epoch 114/1000
- 0s - loss: 0.0031 - acc: 0.9115

Epoch 00114: acc did not improve
Epoch 115/1000
- 0s - loss: 0.0040 - acc: 0.9402

Epoch 00115: acc improved from 0.93963 to 0.94016, saving model to model_v1.h5
Epoch 116/1000
- 0s - loss: 0.0028 - acc: 0.9119

Epoch 00116: acc did not improve
Epoch 117/1000

- 0s - loss: 0.0035 - acc: 0.9352

Epoch 00117: acc did not improve
Epoch 118/1000
- 0s - loss: 0.0027 - acc: 0.9312

Epoch 00118: acc did not improve
Epoch 119/1000
- 0s - loss: 0.0036 - acc: 0.9387

Epoch 00119: acc did not improve
Epoch 120/1000
- 0s - loss: 0.0028 - acc: 0.9201

Epoch 00120: acc did not improve
Epoch 121/1000
- 0s - loss: 0.0038 - acc: 0.9403

Epoch 00121: acc improved from 0.94016 to 0.94034, saving model to model_v1.h5
Epoch 122/1000
- 0s - loss: 0.0034 - acc: 0.9141

Epoch 00122: acc did not improve
Epoch 123/1000
- 0s - loss: 0.0046 - acc: 0.9459

Epoch 00123: acc improved from 0.94034 to 0.94594, saving model to model_v1.h5
Epoch 124/1000
- 0s - loss: 0.0027 - acc: 0.9035

Epoch 00124: acc did not improve
Epoch 125/1000
- 0s - loss: 0.0030 - acc: 0.9231

Epoch 00125: acc did not improve
Epoch 126/1000
- 0s - loss: 0.0024 - acc: 0.9285

Epoch 00126: acc did not improve
Epoch 127/1000
- 0s - loss: 0.0029 - acc: 0.9419

Epoch 00127: acc did not improve
Epoch 128/1000
- 0s - loss: 0.0025 - acc: 0.9317

Epoch 00128: acc did not improve
Epoch 129/1000

- 0s - loss: 0.0032 - acc: 0.9437

Epoch 00129: acc did not improve
Epoch 130/1000
- 0s - loss: 0.0027 - acc: 0.9247

Epoch 00130: acc did not improve
Epoch 131/1000
- 0s - loss: 0.0036 - acc: 0.9470

Epoch 00131: acc improved from 0.94594 to 0.94700, saving model to model_v1.h5
Epoch 132/1000
- 0s - loss: 0.0025 - acc: 0.9220

Epoch 00132: acc did not improve
Epoch 133/1000
- 0s - loss: 0.0031 - acc: 0.9476

Epoch 00133: acc improved from 0.94700 to 0.94760, saving model to model_v1.h5
Epoch 134/1000
- 0s - loss: 0.0025 - acc: 0.9232

Epoch 00134: acc did not improve
Epoch 135/1000
- 0s - loss: 0.0032 - acc: 0.9488

Epoch 00135: acc improved from 0.94760 to 0.94877, saving model to model_v1.h5
Epoch 136/1000
- 0s - loss: 0.0025 - acc: 0.9256

Epoch 00136: acc did not improve
Epoch 137/1000
- 0s - loss: 0.0033 - acc: 0.9431

Epoch 00137: acc did not improve
Epoch 138/1000
- 0s - loss: 0.0025 - acc: 0.9297

Epoch 00138: acc did not improve
Epoch 139/1000
- 0s - loss: 0.0032 - acc: 0.9451

Epoch 00139: acc did not improve
Epoch 140/1000
- 0s - loss: 0.0025 - acc: 0.9262

Epoch 00140: acc did not improve
Epoch 141/1000

- 0s - loss: 0.0031 - acc: 0.9500

Epoch 00141: acc improved from 0.94877 to 0.95001, saving model to model_v1.h5
Epoch 142/1000
- 0s - loss: 0.0026 - acc: 0.9163

Epoch 00142: acc did not improve
Epoch 143/1000
- 0s - loss: 0.0033 - acc: 0.9508

Epoch 00143: acc improved from 0.95001 to 0.95079, saving model to model_v1.h5
Epoch 144/1000
- 0s - loss: 0.0025 - acc: 0.9210

Epoch 00144: acc did not improve
Epoch 145/1000
- 0s - loss: 0.0031 - acc: 0.9478

Epoch 00145: acc did not improve
Epoch 146/1000
- 0s - loss: 0.0025 - acc: 0.9327

Epoch 00146: acc did not improve
Epoch 147/1000
- 0s - loss: 0.0031 - acc: 0.9452

Epoch 00147: acc did not improve
Epoch 148/1000
- 0s - loss: 0.0025 - acc: 0.9265

Epoch 00148: acc did not improve
Epoch 149/1000
- 0s - loss: 0.0032 - acc: 0.9519

Epoch 00149: acc improved from 0.95079 to 0.95188, saving model to model_v1.h5
Epoch 150/1000
- 0s - loss: 0.0024 - acc: 0.9259

Epoch 00150: acc did not improve
Epoch 151/1000
- 0s - loss: 0.0030 - acc: 0.9519

Epoch 00151: acc improved from 0.95188 to 0.95192, saving model to model_v1.h5
Epoch 152/1000
- 0s - loss: 0.0023 - acc: 0.9175

Epoch 00152: acc did not improve
Epoch 153/1000

- 0s - loss: 0.0028 - acc: 0.9503

Epoch 00153: acc did not improve
Epoch 154/1000
- 0s - loss: 0.0023 - acc: 0.9401

Epoch 00154: acc did not improve
Epoch 155/1000
- 0s - loss: 0.0028 - acc: 0.9490

Epoch 00155: acc did not improve
Epoch 156/1000
- 0s - loss: 0.0023 - acc: 0.9352

Epoch 00156: acc did not improve
Epoch 157/1000
- 0s - loss: 0.0030 - acc: 0.9516

Epoch 00157: acc did not improve
Epoch 158/1000
- 0s - loss: 0.0023 - acc: 0.9314

Epoch 00158: acc did not improve
Epoch 159/1000
- 0s - loss: 0.0029 - acc: 0.9503

Epoch 00159: acc did not improve
Epoch 160/1000
- 0s - loss: 0.0023 - acc: 0.9271

Epoch 00160: acc did not improve
Epoch 161/1000
- 0s - loss: 0.0030 - acc: 0.9532

Epoch 00161: acc improved from 0.95192 to 0.95321, saving model to model_v1.h5
Epoch 162/1000
- 0s - loss: 0.0026 - acc: 0.9093

Epoch 00162: acc did not improve
Epoch 163/1000
- 0s - loss: 0.0033 - acc: 0.9521

Epoch 00163: acc did not improve
Epoch 164/1000
- 0s - loss: 0.0021 - acc: 0.9371

Epoch 00164: acc did not improve
Epoch 165/1000

- 0s - loss: 0.0024 - acc: 0.9519

Epoch 00165: acc did not improve
Epoch 166/1000
- 0s - loss: 0.0022 - acc: 0.9426

Epoch 00166: acc did not improve
Epoch 167/1000
- 0s - loss: 0.0027 - acc: 0.9486

Epoch 00167: acc did not improve
Epoch 168/1000
- 0s - loss: 0.0023 - acc: 0.9418

Epoch 00168: acc did not improve
Epoch 169/1000
- 0s - loss: 0.0029 - acc: 0.9505

Epoch 00169: acc did not improve
Epoch 170/1000
- 0s - loss: 0.0022 - acc: 0.9319

Epoch 00170: acc did not improve
Epoch 171/1000
- 0s - loss: 0.0028 - acc: 0.9537

Epoch 00171: acc improved from 0.95321 to 0.95372, saving model to model_v1.h5
Epoch 172/1000
- 0s - loss: 0.0024 - acc: 0.9172

Epoch 00172: acc did not improve
Epoch 173/1000
- 0s - loss: 0.0031 - acc: 0.9542

Epoch 00173: acc improved from 0.95372 to 0.95425, saving model to model_v1.h5
Epoch 174/1000
- 0s - loss: 0.0021 - acc: 0.9241

Epoch 00174: acc did not improve
Epoch 175/1000
- 0s - loss: 0.0025 - acc: 0.9525

Epoch 00175: acc did not improve
Epoch 176/1000
- 0s - loss: 0.0021 - acc: 0.9427

Epoch 00176: acc did not improve
Epoch 177/1000

- 0s - loss: 0.0027 - acc: 0.9485

Epoch 00177: acc did not improve
Epoch 178/1000
- 0s - loss: 0.0022 - acc: 0.9422

Epoch 00178: acc did not improve
Epoch 179/1000
- 0s - loss: 0.0029 - acc: 0.9521

Epoch 00179: acc did not improve
Epoch 180/1000
- 0s - loss: 0.0022 - acc: 0.9327

Epoch 00180: acc did not improve
Epoch 181/1000
- 0s - loss: 0.0029 - acc: 0.9550

Epoch 00181: acc improved from 0.95425 to 0.95496, saving model to model_v1.h5
Epoch 182/1000
- 0s - loss: 0.0024 - acc: 0.9123

Epoch 00182: acc did not improve
Epoch 183/1000
- 0s - loss: 0.0028 - acc: 0.9541

Epoch 00183: acc did not improve
Epoch 184/1000
- 0s - loss: 0.0020 - acc: 0.9327

Epoch 00184: acc did not improve
Epoch 185/1000
- 0s - loss: 0.0024 - acc: 0.9544

Epoch 00185: acc did not improve
Epoch 186/1000
- 0s - loss: 0.0020 - acc: 0.9460

Epoch 00186: acc did not improve
Epoch 187/1000
- 0s - loss: 0.0024 - acc: 0.9508

Epoch 00187: acc did not improve
Epoch 188/1000
- 0s - loss: 0.0021 - acc: 0.9507

Epoch 00188: acc did not improve
Epoch 189/1000

- 0s - loss: 0.0026 - acc: 0.9475

Epoch 00189: acc did not improve
Epoch 190/1000
- 0s - loss: 0.0022 - acc: 0.9385

Epoch 00190: acc did not improve
Epoch 191/1000
- 0s - loss: 0.0029 - acc: 0.9554

Epoch 00191: acc improved from 0.95496 to 0.95543, saving model to model_v1.h5
Epoch 192/1000
- 0s - loss: 0.0024 - acc: 0.9112

Epoch 00192: acc did not improve
Epoch 193/1000
- 0s - loss: 0.0031 - acc: 0.9543

Epoch 00193: acc did not improve
Epoch 194/1000
- 0s - loss: 0.0019 - acc: 0.9329

Epoch 00194: acc did not improve
Epoch 195/1000
- 0s - loss: 0.0021 - acc: 0.9519

Epoch 00195: acc did not improve
Epoch 196/1000
- 0s - loss: 0.0019 - acc: 0.9488

Epoch 00196: acc did not improve
Epoch 197/1000
- 0s - loss: 0.0023 - acc: 0.9513

Epoch 00197: acc did not improve
Epoch 198/1000
- 0s - loss: 0.0020 - acc: 0.9507

Epoch 00198: acc did not improve
Epoch 199/1000
- 0s - loss: 0.0026 - acc: 0.9558

Epoch 00199: acc improved from 0.95543 to 0.95583, saving model to model_v1.h5
Epoch 200/1000
- 0s - loss: 0.0021 - acc: 0.9298

Epoch 00200: acc did not improve
Epoch 201/1000

- 0s - loss: 0.0027 - acc: 0.9558

Epoch 00201: acc did not improve
Epoch 202/1000
- 0s - loss: 0.0021 - acc: 0.9213

Epoch 00202: acc did not improve
Epoch 203/1000
- 0s - loss: 0.0025 - acc: 0.9548

Epoch 00203: acc did not improve
Epoch 204/1000
- 0s - loss: 0.0020 - acc: 0.9390

Epoch 00204: acc did not improve
Epoch 205/1000
- 0s - loss: 0.0024 - acc: 0.9530

Epoch 00205: acc did not improve
Epoch 206/1000
- 0s - loss: 0.0020 - acc: 0.9358

Epoch 00206: acc did not improve
Epoch 207/1000
- 0s - loss: 0.0025 - acc: 0.9556

Epoch 00207: acc did not improve
Epoch 208/1000
- 0s - loss: 0.0021 - acc: 0.9301

Epoch 00208: acc did not improve
Epoch 209/1000
- 0s - loss: 0.0027 - acc: 0.9499

Epoch 00209: acc did not improve
Epoch 210/1000
- 0s - loss: 0.0022 - acc: 0.9389

Epoch 00210: acc did not improve
Epoch 211/1000
- 0s - loss: 0.0029 - acc: 0.9561

Epoch 00211: acc improved from 0.95583 to 0.95611, saving model to model_v1.h5
Epoch 212/1000
- 0s - loss: 0.0020 - acc: 0.9229

Epoch 00212: acc did not improve
Epoch 213/1000

- 0s - loss: 0.0022 - acc: 0.9561

Epoch 00213: acc did not improve
Epoch 214/1000
- 0s - loss: 0.0018 - acc: 0.9443

Epoch 00214: acc did not improve
Epoch 215/1000
- 0s - loss: 0.0021 - acc: 0.9571

Epoch 00215: acc improved from 0.95611 to 0.95713, saving model to model_v1.h5
Epoch 216/1000
- 0s - loss: 0.0019 - acc: 0.9440

Epoch 00216: acc did not improve
Epoch 217/1000
- 0s - loss: 0.0023 - acc: 0.9552

Epoch 00217: acc did not improve
Epoch 218/1000
- 0s - loss: 0.0020 - acc: 0.9498

Epoch 00218: acc did not improve
Epoch 219/1000
- 0s - loss: 0.0025 - acc: 0.9508

Epoch 00219: acc did not improve
Epoch 220/1000
- 0s - loss: 0.0020 - acc: 0.9450

Epoch 00220: acc did not improve
Epoch 221/1000
- 0s - loss: 0.0024 - acc: 0.9583

Epoch 00221: acc improved from 0.95713 to 0.95831, saving model to model_v1.h5
Epoch 222/1000
- 0s - loss: 0.0020 - acc: 0.9192

Epoch 00222: acc did not improve
Epoch 223/1000
- 0s - loss: 0.0025 - acc: 0.9567

Epoch 00223: acc did not improve
Epoch 224/1000
- 0s - loss: 0.0020 - acc: 0.9214

Epoch 00224: acc did not improve
Epoch 225/1000

- 0s - loss: 0.0023 - acc: 0.9556

Epoch 00225: acc did not improve
Epoch 226/1000
- 0s - loss: 0.0019 - acc: 0.9391

Epoch 00226: acc did not improve
Epoch 227/1000
- 0s - loss: 0.0023 - acc: 0.9552

Epoch 00227: acc did not improve
Epoch 228/1000
- 0s - loss: 0.0019 - acc: 0.9500

Epoch 00228: acc did not improve
Epoch 229/1000
- 0s - loss: 0.0024 - acc: 0.9530

Epoch 00229: acc did not improve
Epoch 230/1000
- 0s - loss: 0.0020 - acc: 0.9495

Epoch 00230: acc did not improve
Epoch 231/1000
- 0s - loss: 0.0025 - acc: 0.9573

Epoch 00231: acc did not improve
Epoch 232/1000
- 0s - loss: 0.0021 - acc: 0.9213

Epoch 00232: acc did not improve
Epoch 233/1000
- 0s - loss: 0.0027 - acc: 0.9561

Epoch 00233: acc did not improve
Epoch 234/1000
- 0s - loss: 0.0020 - acc: 0.9208

Epoch 00234: acc did not improve
Epoch 235/1000
- 0s - loss: 0.0022 - acc: 0.9561

Epoch 00235: acc did not improve
Epoch 236/1000
- 0s - loss: 0.0017 - acc: 0.9472

Epoch 00236: acc did not improve
Epoch 237/1000

- 0s - loss: 0.0019 - acc: 0.9575

Epoch 00237: acc did not improve
Epoch 238/1000
- 0s - loss: 0.0017 - acc: 0.9512

Epoch 00238: acc did not improve
Epoch 239/1000
- 0s - loss: 0.0021 - acc: 0.9546

Epoch 00239: acc did not improve
Epoch 240/1000
- 0s - loss: 0.0020 - acc: 0.9487

Epoch 00240: acc did not improve
Epoch 241/1000
- 0s - loss: 0.0025 - acc: 0.9538

Epoch 00241: acc did not improve
Epoch 242/1000
- 0s - loss: 0.0018 - acc: 0.9367

Epoch 00242: acc did not improve
Epoch 243/1000
- 0s - loss: 0.0020 - acc: 0.9572

Epoch 00243: acc did not improve
Epoch 244/1000
- 0s - loss: 0.0018 - acc: 0.9279

Epoch 00244: acc did not improve
Epoch 245/1000
- 0s - loss: 0.0023 - acc: 0.9569

Epoch 00245: acc did not improve
Epoch 246/1000
- 0s - loss: 0.0022 - acc: 0.9146

Epoch 00246: acc did not improve
Epoch 247/1000
- 0s - loss: 0.0026 - acc: 0.9557

Epoch 00247: acc did not improve
Epoch 248/1000
- 0s - loss: 0.0018 - acc: 0.9393

Epoch 00248: acc did not improve
Epoch 249/1000

- 0s - loss: 0.0020 - acc: 0.9561

Epoch 00249: acc did not improve
Epoch 250/1000
- 0s - loss: 0.0018 - acc: 0.9506

Epoch 00250: acc did not improve
Epoch 251/1000
- 0s - loss: 0.0022 - acc: 0.9536

Epoch 00251: acc did not improve
Epoch 252/1000
- 0s - loss: 0.0019 - acc: 0.9546

Epoch 00252: acc did not improve
Epoch 253/1000
- 0s - loss: 0.0023 - acc: 0.9505

Epoch 00253: acc did not improve
Epoch 254/1000
- 0s - loss: 0.0019 - acc: 0.9392

Epoch 00254: acc did not improve
Epoch 255/1000
- 0s - loss: 0.0024 - acc: 0.9566

Epoch 00255: acc did not improve
Epoch 256/1000
- 0s - loss: 0.0018 - acc: 0.9206

Epoch 00256: acc did not improve
Epoch 257/1000
- 0s - loss: 0.0021 - acc: 0.9569

Epoch 00257: acc did not improve
Epoch 258/1000
- 0s - loss: 0.0016 - acc: 0.9519

Epoch 00258: acc did not improve
Epoch 259/1000
- 0s - loss: 0.0018 - acc: 0.9560

Epoch 00259: acc did not improve
Epoch 260/1000
- 0s - loss: 0.0017 - acc: 0.9508

Epoch 00260: acc did not improve
Epoch 261/1000

- 0s - loss: 0.0020 - acc: 0.9551

Epoch 00261: acc did not improve
Epoch 262/1000
- 0s - loss: 0.0019 - acc: 0.9532

Epoch 00262: acc did not improve
Epoch 263/1000
- 0s - loss: 0.0025 - acc: 0.9564

Epoch 00263: acc did not improve
Epoch 264/1000
- 0s - loss: 0.0027 - acc: 0.9128

Epoch 00264: acc did not improve
Epoch 265/1000
- 0s - loss: 0.0029 - acc: 0.9554

Epoch 00265: acc did not improve
Epoch 266/1000
- 0s - loss: 0.0018 - acc: 0.9150

Epoch 00266: acc did not improve
Epoch 267/1000
- 0s - loss: 0.0019 - acc: 0.9506

Epoch 00267: acc did not improve
Epoch 268/1000
- 0s - loss: 0.0016 - acc: 0.9523

Epoch 00268: acc did not improve
Epoch 269/1000
- 0s - loss: 0.0018 - acc: 0.9573

Epoch 00269: acc did not improve
Epoch 270/1000
- 0s - loss: 0.0016 - acc: 0.9485

Epoch 00270: acc did not improve
Epoch 271/1000
- 0s - loss: 0.0019 - acc: 0.9591

Epoch 00271: acc improved from 0.95831 to 0.95907, saving model to model_v1.h5
Epoch 272/1000
- 0s - loss: 0.0017 - acc: 0.9509

Epoch 00272: acc did not improve
Epoch 273/1000

- 0s - loss: 0.0021 - acc: 0.9585

Epoch 00273: acc did not improve
Epoch 274/1000
- 0s - loss: 0.0017 - acc: 0.9424

Epoch 00274: acc did not improve
Epoch 275/1000
- 0s - loss: 0.0020 - acc: 0.9563

Epoch 00275: acc did not improve
Epoch 276/1000
- 0s - loss: 0.0018 - acc: 0.9393

Epoch 00276: acc did not improve
Epoch 277/1000
- 0s - loss: 0.0023 - acc: 0.9598

Epoch 00277: acc improved from 0.95907 to 0.95977, saving model to model_v1.h5
Epoch 278/1000
- 0s - loss: 0.0020 - acc: 0.9141

Epoch 00278: acc did not improve
Epoch 279/1000
- 0s - loss: 0.0022 - acc: 0.9548

Epoch 00279: acc did not improve
Epoch 280/1000
- 0s - loss: 0.0018 - acc: 0.9488

Epoch 00280: acc did not improve
Epoch 281/1000
- 0s - loss: 0.0020 - acc: 0.9556

Epoch 00281: acc did not improve
Epoch 282/1000
- 0s - loss: 0.0017 - acc: 0.9487

Epoch 00282: acc did not improve
Epoch 283/1000
- 0s - loss: 0.0020 - acc: 0.9554

Epoch 00283: acc did not improve
Epoch 284/1000
- 0s - loss: 0.0016 - acc: 0.9536

Epoch 00284: acc did not improve
Epoch 285/1000

- 0s - loss: 0.0018 - acc: 0.9549

Epoch 00285: acc did not improve
Epoch 286/1000
- 0s - loss: 0.0016 - acc: 0.9489

Epoch 00286: acc did not improve
Epoch 287/1000
- 0s - loss: 0.0019 - acc: 0.9590

Epoch 00287: acc did not improve
Epoch 288/1000
- 0s - loss: 0.0017 - acc: 0.9464

Epoch 00288: acc did not improve
Epoch 289/1000
- 0s - loss: 0.0020 - acc: 0.9555

Epoch 00289: acc did not improve
Epoch 290/1000
- 0s - loss: 0.0017 - acc: 0.9323

Epoch 00290: acc did not improve
Epoch 291/1000
- 0s - loss: 0.0022 - acc: 0.9548

Epoch 00291: acc did not improve
Epoch 292/1000
- 0s - loss: 0.0021 - acc: 0.9125

Epoch 00292: acc did not improve
Epoch 293/1000
- 0s - loss: 0.0025 - acc: 0.9591

Epoch 00293: acc did not improve
Epoch 294/1000
- 0s - loss: 0.0016 - acc: 0.9310

Epoch 00294: acc did not improve
Epoch 295/1000
- 0s - loss: 0.0016 - acc: 0.9595

Epoch 00295: acc did not improve
Epoch 296/1000
- 0s - loss: 0.0014 - acc: 0.9526

Epoch 00296: acc did not improve
Epoch 297/1000

- 0s - loss: 0.0017 - acc: 0.9572

Epoch 00297: acc did not improve
Epoch 298/1000
- 0s - loss: 0.0019 - acc: 0.9516

Epoch 00298: acc did not improve
Epoch 299/1000
- 0s - loss: 0.0025 - acc: 0.9566

Epoch 00299: acc did not improve
Epoch 300/1000
- 0s - loss: 0.0021 - acc: 0.9394

Epoch 00300: acc did not improve
Epoch 301/1000
- 0s - loss: 0.0022 - acc: 0.9564

Epoch 00301: acc did not improve
Epoch 302/1000
- 0s - loss: 0.0020 - acc: 0.9088

Epoch 00302: acc did not improve
Epoch 303/1000
- 0s - loss: 0.0022 - acc: 0.9532

Epoch 00303: acc did not improve
Epoch 304/1000
- 0s - loss: 0.0016 - acc: 0.9513

Epoch 00304: acc did not improve
Epoch 305/1000
- 0s - loss: 0.0018 - acc: 0.9589

Epoch 00305: acc did not improve
Epoch 306/1000
- 0s - loss: 0.0016 - acc: 0.9482

Epoch 00306: acc did not improve
Epoch 307/1000
- 0s - loss: 0.0018 - acc: 0.9592

Epoch 00307: acc did not improve
Epoch 308/1000
- 0s - loss: 0.0015 - acc: 0.9501

Epoch 00308: acc did not improve
Epoch 309/1000

- 0s - loss: 0.0017 - acc: 0.9597

Epoch 00309: acc did not improve
Epoch 310/1000
- 0s - loss: 0.0015 - acc: 0.9477

Epoch 00310: acc did not improve
Epoch 311/1000
- 0s - loss: 0.0018 - acc: 0.9597

Epoch 00311: acc did not improve
Epoch 312/1000
- 0s - loss: 0.0016 - acc: 0.9464

Epoch 00312: acc did not improve
Epoch 313/1000
- 0s - loss: 0.0020 - acc: 0.9584

Epoch 00313: acc did not improve
Epoch 314/1000
- 0s - loss: 0.0016 - acc: 0.9490

Epoch 00314: acc did not improve
Epoch 315/1000
- 0s - loss: 0.0018 - acc: 0.9582

Epoch 00315: acc did not improve
Epoch 316/1000
- 0s - loss: 0.0016 - acc: 0.9389

Epoch 00316: acc did not improve
Epoch 317/1000
- 0s - loss: 0.0019 - acc: 0.9581

Epoch 00317: acc did not improve
Epoch 318/1000
- 0s - loss: 0.0019 - acc: 0.9226

Epoch 00318: acc did not improve
Epoch 319/1000
- 0s - loss: 0.0025 - acc: 0.9562

Epoch 00319: acc did not improve
Epoch 320/1000
- 0s - loss: 0.0019 - acc: 0.9218

Epoch 00320: acc did not improve
Epoch 321/1000

- 0s - loss: 0.0020 - acc: 0.9591

Epoch 00321: acc did not improve
Epoch 322/1000
- 0s - loss: 0.0018 - acc: 0.9491

Epoch 00322: acc did not improve
Epoch 323/1000
- 0s - loss: 0.0020 - acc: 0.9564

Epoch 00323: acc did not improve
Epoch 324/1000
- 0s - loss: 0.0018 - acc: 0.9231

Epoch 00324: acc did not improve
Epoch 325/1000
- 0s - loss: 0.0019 - acc: 0.9591

Epoch 00325: acc did not improve
Epoch 326/1000
- 0s - loss: 0.0015 - acc: 0.9433

Epoch 00326: acc did not improve
Epoch 327/1000
- 0s - loss: 0.0016 - acc: 0.9594

Epoch 00327: acc did not improve
Epoch 328/1000
- 0s - loss: 0.0014 - acc: 0.9436

Epoch 00328: acc did not improve
Epoch 329/1000
- 0s - loss: 0.0016 - acc: 0.9612

Epoch 00329: acc improved from 0.95977 to 0.96120, saving model to model_v1.h5
Epoch 330/1000
- 0s - loss: 0.0015 - acc: 0.9455

Epoch 00330: acc did not improve
Epoch 331/1000
- 0s - loss: 0.0018 - acc: 0.9610

Epoch 00331: acc did not improve
Epoch 332/1000
- 0s - loss: 0.0015 - acc: 0.9455

Epoch 00332: acc did not improve
Epoch 333/1000

- 0s - loss: 0.0017 - acc: 0.9584

Epoch 00333: acc did not improve
Epoch 334/1000
- 0s - loss: 0.0015 - acc: 0.9404

Epoch 00334: acc did not improve
Epoch 335/1000
- 0s - loss: 0.0017 - acc: 0.9558

Epoch 00335: acc did not improve
Epoch 336/1000
- 0s - loss: 0.0016 - acc: 0.9220

Epoch 00336: acc did not improve
Epoch 337/1000
- 0s - loss: 0.0018 - acc: 0.9602

Epoch 00337: acc did not improve
Epoch 338/1000
- 0s - loss: 0.0015 - acc: 0.9292

Epoch 00338: acc did not improve
Epoch 339/1000
- 0s - loss: 0.0019 - acc: 0.9602

Epoch 00339: acc did not improve
Epoch 340/1000
- 0s - loss: 0.0021 - acc: 0.9330

Epoch 00340: acc did not improve
Epoch 341/1000
- 0s - loss: 0.0024 - acc: 0.9469

Epoch 00341: acc did not improve
Epoch 342/1000
- 0s - loss: 0.0016 - acc: 0.9579

Epoch 00342: acc did not improve
Epoch 343/1000
- 0s - loss: 0.0019 - acc: 0.9565

Epoch 00343: acc did not improve
Epoch 344/1000
- 0s - loss: 0.0019 - acc: 0.9416

Epoch 00344: acc did not improve
Epoch 345/1000

- 0s - loss: 0.0024 - acc: 0.9587

Epoch 00345: acc did not improve
Epoch 346/1000
- 0s - loss: 0.0015 - acc: 0.9348

Epoch 00346: acc did not improve
Epoch 347/1000
- 0s - loss: 0.0015 - acc: 0.9577

Epoch 00347: acc did not improve
Epoch 348/1000
- 0s - loss: 0.0012 - acc: 0.9489

Epoch 00348: acc did not improve
Epoch 349/1000
- 0s - loss: 0.0013 - acc: 0.9595

Epoch 00349: acc did not improve
Epoch 350/1000
- 0s - loss: 0.0013 - acc: 0.9497

Epoch 00350: acc did not improve
Epoch 351/1000
- 0s - loss: 0.0015 - acc: 0.9610

Epoch 00351: acc did not improve
Epoch 352/1000
- 0s - loss: 0.0016 - acc: 0.9469

Epoch 00352: acc did not improve
Epoch 353/1000
- 0s - loss: 0.0018 - acc: 0.9615

Epoch 00353: acc improved from 0.96120 to 0.96153, saving model to model_v1.h5
Epoch 354/1000
- 0s - loss: 0.0015 - acc: 0.9431

Epoch 00354: acc did not improve
Epoch 355/1000
- 0s - loss: 0.0016 - acc: 0.9593

Epoch 00355: acc did not improve
Epoch 356/1000
- 0s - loss: 0.0015 - acc: 0.9314

Epoch 00356: acc did not improve
Epoch 357/1000

- 0s - loss: 0.0017 - acc: 0.9594

Epoch 00357: acc did not improve
Epoch 358/1000
- 0s - loss: 0.0014 - acc: 0.9412

Epoch 00358: acc did not improve
Epoch 359/1000
- 0s - loss: 0.0016 - acc: 0.9601

Epoch 00359: acc did not improve
Epoch 360/1000
- 0s - loss: 0.0017 - acc: 0.9397

Epoch 00360: acc did not improve
Epoch 361/1000
- 0s - loss: 0.0019 - acc: 0.9578

Epoch 00361: acc did not improve
Epoch 362/1000
- 0s - loss: 0.0018 - acc: 0.9136

Epoch 00362: acc did not improve
Epoch 363/1000
- 0s - loss: 0.0019 - acc: 0.9540

Epoch 00363: acc did not improve
Epoch 364/1000
- 0s - loss: 0.0017 - acc: 0.9140

Epoch 00364: acc did not improve
Epoch 365/1000
- 0s - loss: 0.0016 - acc: 0.9574

Epoch 00365: acc did not improve
Epoch 366/1000
- 0s - loss: 0.0013 - acc: 0.9566

Epoch 00366: acc did not improve
Epoch 367/1000
- 0s - loss: 0.0015 - acc: 0.9549

Epoch 00367: acc did not improve
Epoch 368/1000
- 0s - loss: 0.0016 - acc: 0.9522

Epoch 00368: acc did not improve
Epoch 369/1000

- 0s - loss: 0.0019 - acc: 0.9596

Epoch 00369: acc did not improve
Epoch 370/1000
- 0s - loss: 0.0014 - acc: 0.9549

Epoch 00370: acc did not improve
Epoch 371/1000
- 0s - loss: 0.0014 - acc: 0.9593

Epoch 00371: acc did not improve
Epoch 372/1000
- 0s - loss: 0.0013 - acc: 0.9481

Epoch 00372: acc did not improve
Epoch 373/1000
- 0s - loss: 0.0014 - acc: 0.9621

Epoch 00373: acc improved from 0.96153 to 0.96206, saving model to model_v1.h5
Epoch 374/1000
- 0s - loss: 0.0014 - acc: 0.9459

Epoch 00374: acc did not improve
Epoch 375/1000
- 0s - loss: 0.0017 - acc: 0.9623

Epoch 00375: acc improved from 0.96206 to 0.96226, saving model to model_v1.h5
Epoch 376/1000
- 0s - loss: 0.0018 - acc: 0.9501

Epoch 00376: acc did not improve
Epoch 377/1000
- 0s - loss: 0.0024 - acc: 0.9554

Epoch 00377: acc did not improve
Epoch 378/1000
- 0s - loss: 0.0016 - acc: 0.9525

Epoch 00378: acc did not improve
Epoch 379/1000
- 0s - loss: 0.0021 - acc: 0.9585

Epoch 00379: acc did not improve
Epoch 380/1000
- 0s - loss: 0.0024 - acc: 0.9059

Epoch 00380: acc did not improve
Epoch 381/1000

- 0s - loss: 0.0027 - acc: 0.9529

Epoch 00381: acc did not improve
Epoch 382/1000
- 0s - loss: 0.0015 - acc: 0.9389

Epoch 00382: acc did not improve
Epoch 383/1000
- 0s - loss: 0.0013 - acc: 0.9545

Epoch 00383: acc did not improve
Epoch 384/1000
- 0s - loss: 0.0011 - acc: 0.9576

Epoch 00384: acc did not improve
Epoch 385/1000
- 0s - loss: 0.0011 - acc: 0.9588

Epoch 00385: acc did not improve
Epoch 386/1000
- 0s - loss: 0.0010 - acc: 0.9560

Epoch 00386: acc did not improve
Epoch 387/1000
- 0s - loss: 0.0011 - acc: 0.9594

Epoch 00387: acc did not improve
Epoch 388/1000
- 0s - loss: 0.0011 - acc: 0.9553

Epoch 00388: acc did not improve
Epoch 389/1000
- 0s - loss: 0.0013 - acc: 0.9609

Epoch 00389: acc did not improve
Epoch 390/1000
- 0s - loss: 0.0016 - acc: 0.9481

Epoch 00390: acc did not improve
Epoch 391/1000
- 0s - loss: 0.0021 - acc: 0.9624

Epoch 00391: acc improved from 0.96226 to 0.96236, saving model to model_v1.h5
Epoch 392/1000
- 0s - loss: 0.0014 - acc: 0.9433

Epoch 00392: acc did not improve
Epoch 393/1000

- 0s - loss: 0.0016 - acc: 0.9591

Epoch 00393: acc did not improve
Epoch 394/1000
- 0s - loss: 0.0013 - acc: 0.9396

Epoch 00394: acc did not improve
Epoch 395/1000
- 0s - loss: 0.0015 - acc: 0.9573

Epoch 00395: acc did not improve
Epoch 396/1000
- 0s - loss: 0.0014 - acc: 0.9385

Epoch 00396: acc did not improve
Epoch 397/1000
- 0s - loss: 0.0016 - acc: 0.9618

Epoch 00397: acc did not improve
Epoch 398/1000
- 0s - loss: 0.0015 - acc: 0.9403

Epoch 00398: acc did not improve
Epoch 399/1000
- 0s - loss: 0.0018 - acc: 0.9616

Epoch 00399: acc did not improve
Epoch 400/1000
- 0s - loss: 0.0016 - acc: 0.9326

Epoch 00400: acc did not improve
Epoch 401/1000
- 0s - loss: 0.0020 - acc: 0.9591

Epoch 00401: acc did not improve
Epoch 402/1000
- 0s - loss: 0.0014 - acc: 0.9401

Epoch 00402: acc did not improve
Epoch 403/1000
- 0s - loss: 0.0014 - acc: 0.9599

Epoch 00403: acc did not improve
Epoch 404/1000
- 0s - loss: 0.0013 - acc: 0.9362

Epoch 00404: acc did not improve
Epoch 405/1000

- 0s - loss: 0.0015 - acc: 0.9600

Epoch 00405: acc did not improve
Epoch 406/1000
- 0s - loss: 0.0014 - acc: 0.9402

Epoch 00406: acc did not improve
Epoch 407/1000
- 0s - loss: 0.0015 - acc: 0.9582

Epoch 00407: acc did not improve
Epoch 408/1000
- 0s - loss: 0.0013 - acc: 0.9511

Epoch 00408: acc did not improve
Epoch 409/1000
- 0s - loss: 0.0015 - acc: 0.9583

Epoch 00409: acc did not improve
Epoch 410/1000
- 0s - loss: 0.0014 - acc: 0.9452

Epoch 00410: acc did not improve
Epoch 411/1000
- 0s - loss: 0.0016 - acc: 0.9619

Epoch 00411: acc did not improve
Epoch 412/1000
- 0s - loss: 0.0015 - acc: 0.9238

Epoch 00412: acc did not improve
Epoch 413/1000
- 0s - loss: 0.0018 - acc: 0.9569

Epoch 00413: acc did not improve
Epoch 414/1000
- 0s - loss: 0.0018 - acc: 0.9260

Epoch 00414: acc did not improve
Epoch 415/1000
- 0s - loss: 0.0020 - acc: 0.9611

Epoch 00415: acc did not improve
Epoch 416/1000
- 0s - loss: 0.0012 - acc: 0.9538

Epoch 00416: acc did not improve
Epoch 417/1000

- 0s - loss: 0.0012 - acc: 0.9559

Epoch 00417: acc did not improve
Epoch 418/1000
- 0s - loss: 0.0011 - acc: 0.9544

Epoch 00418: acc did not improve
Epoch 419/1000
- 0s - loss: 0.0012 - acc: 0.9578

Epoch 00419: acc did not improve
Epoch 420/1000
- 0s - loss: 0.0013 - acc: 0.9506

Epoch 00420: acc did not improve
Epoch 421/1000
- 0s - loss: 0.0014 - acc: 0.9598

Epoch 00421: acc did not improve
Epoch 422/1000
- 0s - loss: 0.0013 - acc: 0.9453

Epoch 00422: acc did not improve
Epoch 423/1000
- 0s - loss: 0.0015 - acc: 0.9620

Epoch 00423: acc did not improve
Epoch 424/1000
- 0s - loss: 0.0014 - acc: 0.9300

Epoch 00424: acc did not improve
Epoch 425/1000
- 0s - loss: 0.0017 - acc: 0.9601

Epoch 00425: acc did not improve
Epoch 426/1000
- 0s - loss: 0.0014 - acc: 0.9294

Epoch 00426: acc did not improve
Epoch 427/1000
- 0s - loss: 0.0015 - acc: 0.9578

Epoch 00427: acc did not improve
Epoch 428/1000
- 0s - loss: 0.0013 - acc: 0.9428

Epoch 00428: acc did not improve
Epoch 429/1000

- 0s - loss: 0.0013 - acc: 0.9609

Epoch 00429: acc did not improve
Epoch 430/1000
- 0s - loss: 0.0013 - acc: 0.9479

Epoch 00430: acc did not improve
Epoch 431/1000
- 0s - loss: 0.0014 - acc: 0.9624

Epoch 00431: acc did not improve
Epoch 432/1000
- 0s - loss: 0.0013 - acc: 0.9523

Epoch 00432: acc did not improve
Epoch 433/1000
- 0s - loss: 0.0018 - acc: 0.9621

Epoch 00433: acc did not improve
Epoch 434/1000
- 0s - loss: 0.0020 - acc: 0.9404

Epoch 00434: acc did not improve
Epoch 435/1000
- 0s - loss: 0.0023 - acc: 0.9575

Epoch 00435: acc did not improve
Epoch 436/1000
- 0s - loss: 0.0016 - acc: 0.9275

Epoch 00436: acc did not improve
Epoch 437/1000
- 0s - loss: 0.0016 - acc: 0.9564

Epoch 00437: acc did not improve
Epoch 438/1000
- 0s - loss: 0.0014 - acc: 0.9315

Epoch 00438: acc did not improve
Epoch 439/1000
- 0s - loss: 0.0013 - acc: 0.9602

Epoch 00439: acc did not improve
Epoch 440/1000
- 0s - loss: 0.0010 - acc: 0.9570

Epoch 00440: acc did not improve
Epoch 441/1000

- 0s - loss: 0.0010 - acc: 0.9580

Epoch 00441: acc did not improve
Epoch 442/1000
- 0s - loss: 9.8874e-04 - acc: 0.9586

Epoch 00442: acc did not improve
Epoch 443/1000
- 0s - loss: 0.0010 - acc: 0.9593

Epoch 00443: acc did not improve
Epoch 444/1000
- 0s - loss: 0.0011 - acc: 0.9557

Epoch 00444: acc did not improve
Epoch 445/1000
- 0s - loss: 0.0013 - acc: 0.9573

Epoch 00445: acc did not improve
Epoch 446/1000
- 0s - loss: 0.0014 - acc: 0.9530

Epoch 00446: acc did not improve
Epoch 447/1000
- 0s - loss: 0.0017 - acc: 0.9478

Epoch 00447: acc did not improve
Epoch 448/1000
- 0s - loss: 0.0011 - acc: 0.9607

Epoch 00448: acc did not improve
Epoch 449/1000
- 0s - loss: 0.0012 - acc: 0.9347

Epoch 00449: acc did not improve
Epoch 450/1000
- 0s - loss: 0.0011 - acc: 0.9584

Epoch 00450: acc did not improve
Epoch 451/1000
- 0s - loss: 0.0013 - acc: 0.9490

Epoch 00451: acc did not improve
Epoch 452/1000
- 0s - loss: 0.0013 - acc: 0.9598

Epoch 00452: acc did not improve
Epoch 453/1000

- 0s - loss: 0.0017 - acc: 0.9544

Epoch 00453: acc did not improve
Epoch 454/1000
- 0s - loss: 0.0020 - acc: 0.9347

Epoch 00454: acc did not improve
Epoch 455/1000
- 0s - loss: 0.0018 - acc: 0.9608

Epoch 00455: acc did not improve
Epoch 456/1000
- 0s - loss: 0.0015 - acc: 0.9162

Epoch 00456: acc did not improve
Epoch 457/1000
- 0s - loss: 0.0015 - acc: 0.9547

Epoch 00457: acc did not improve
Epoch 458/1000
- 0s - loss: 0.0013 - acc: 0.9449

Epoch 00458: acc did not improve
Epoch 459/1000
- 0s - loss: 0.0014 - acc: 0.9604

Epoch 00459: acc did not improve
Epoch 460/1000
- 0s - loss: 0.0011 - acc: 0.9530

Epoch 00460: acc did not improve
Epoch 461/1000
- 0s - loss: 0.0011 - acc: 0.9639

Epoch 00461: acc improved from 0.96236 to 0.96390, saving model to model_v1.h5
Epoch 462/1000
- 0s - loss: 0.0010 - acc: 0.9574

Epoch 00462: acc did not improve
Epoch 463/1000
- 0s - loss: 0.0011 - acc: 0.9629

Epoch 00463: acc did not improve
Epoch 464/1000
- 0s - loss: 0.0011 - acc: 0.9535

Epoch 00464: acc did not improve
Epoch 465/1000

- 0s - loss: 0.0013 - acc: 0.9637

Epoch 00465: acc did not improve
Epoch 466/1000
- 0s - loss: 0.0013 - acc: 0.9512

Epoch 00466: acc did not improve
Epoch 467/1000
- 0s - loss: 0.0015 - acc: 0.9611

Epoch 00467: acc did not improve
Epoch 468/1000
- 0s - loss: 0.0013 - acc: 0.9369

Epoch 00468: acc did not improve
Epoch 469/1000
- 0s - loss: 0.0014 - acc: 0.9528

Epoch 00469: acc did not improve
Epoch 470/1000
- 0s - loss: 0.0013 - acc: 0.9302

Epoch 00470: acc did not improve
Epoch 471/1000
- 0s - loss: 0.0015 - acc: 0.9623

Epoch 00471: acc did not improve
Epoch 472/1000
- 0s - loss: 0.0012 - acc: 0.9312

Epoch 00472: acc did not improve
Epoch 473/1000
- 0s - loss: 0.0013 - acc: 0.9601

Epoch 00473: acc did not improve
Epoch 474/1000
- 0s - loss: 0.0014 - acc: 0.9475

Epoch 00474: acc did not improve
Epoch 475/1000
- 0s - loss: 0.0014 - acc: 0.9587

Epoch 00475: acc did not improve
Epoch 476/1000
- 0s - loss: 0.0014 - acc: 0.9443

Epoch 00476: acc did not improve
Epoch 477/1000

- 0s - loss: 0.0014 - acc: 0.9611

Epoch 00477: acc did not improve
Epoch 478/1000
- 0s - loss: 0.0013 - acc: 0.9417

Epoch 00478: acc did not improve
Epoch 479/1000
- 0s - loss: 0.0016 - acc: 0.9618

Epoch 00479: acc did not improve
Epoch 480/1000
- 0s - loss: 0.0015 - acc: 0.9340

Epoch 00480: acc did not improve
Epoch 481/1000
- 0s - loss: 0.0016 - acc: 0.9630

Epoch 00481: acc did not improve
Epoch 482/1000
- 0s - loss: 0.0011 - acc: 0.9527

Epoch 00482: acc did not improve
Epoch 483/1000
- 0s - loss: 0.0011 - acc: 0.9612

Epoch 00483: acc did not improve
Epoch 484/1000
- 0s - loss: 0.0011 - acc: 0.9506

Epoch 00484: acc did not improve
Epoch 485/1000
- 0s - loss: 0.0011 - acc: 0.9583

Epoch 00485: acc did not improve
Epoch 486/1000
- 0s - loss: 0.0010 - acc: 0.9484

Epoch 00486: acc did not improve
Epoch 487/1000
- 0s - loss: 0.0011 - acc: 0.9589

Epoch 00487: acc did not improve
Epoch 488/1000
- 0s - loss: 0.0011 - acc: 0.9469

Epoch 00488: acc did not improve
Epoch 489/1000

- 0s - loss: 0.0012 - acc: 0.9604

Epoch 00489: acc did not improve
Epoch 490/1000
- 0s - loss: 0.0012 - acc: 0.9445

Epoch 00490: acc did not improve
Epoch 491/1000
- 0s - loss: 0.0015 - acc: 0.9608

Epoch 00491: acc did not improve
Epoch 492/1000
- 0s - loss: 0.0013 - acc: 0.9411

Epoch 00492: acc did not improve
Epoch 493/1000
- 0s - loss: 0.0015 - acc: 0.9581

Epoch 00493: acc did not improve
Epoch 494/1000
- 0s - loss: 0.0010 - acc: 0.9384

Epoch 00494: acc did not improve
Epoch 495/1000
- 0s - loss: 9.9149e-04 - acc: 0.9612

Epoch 00495: acc did not improve
Epoch 496/1000
- 0s - loss: 9.4096e-04 - acc: 0.9484

Epoch 00496: acc did not improve
Epoch 497/1000
- 0s - loss: 9.8160e-04 - acc: 0.9636

Epoch 00497: acc did not improve
Epoch 498/1000
- 0s - loss: 0.0011 - acc: 0.9532

Epoch 00498: acc did not improve
Epoch 499/1000
- 0s - loss: 0.0012 - acc: 0.9600

Epoch 00499: acc did not improve
Epoch 500/1000
- 0s - loss: 0.0013 - acc: 0.9571

Epoch 00500: acc did not improve
Epoch 501/1000

- 0s - loss: 0.0016 - acc: 0.9589

Epoch 00501: acc did not improve
Epoch 502/1000
- 0s - loss: 0.0015 - acc: 0.9438

Epoch 00502: acc did not improve
Epoch 503/1000
- 0s - loss: 0.0021 - acc: 0.9521

Epoch 00503: acc did not improve
Epoch 504/1000
- 0s - loss: 0.0023 - acc: 0.9161

Epoch 00504: acc did not improve
Epoch 505/1000
- 0s - loss: 0.0035 - acc: 0.9549

Epoch 00505: acc did not improve
Epoch 506/1000
- 0s - loss: 0.0012 - acc: 0.9344

Epoch 00506: acc did not improve
Epoch 507/1000
- 0s - loss: 9.8269e-04 - acc: 0.9614

Epoch 00507: acc did not improve
Epoch 508/1000
- 0s - loss: 8.7607e-04 - acc: 0.9578

Epoch 00508: acc did not improve
Epoch 509/1000
- 0s - loss: 8.4210e-04 - acc: 0.9592

Epoch 00509: acc did not improve
Epoch 510/1000
- 0s - loss: 8.2460e-04 - acc: 0.9615

Epoch 00510: acc did not improve
Epoch 511/1000
- 0s - loss: 8.1423e-04 - acc: 0.9579

Epoch 00511: acc did not improve
Epoch 512/1000
- 0s - loss: 8.0959e-04 - acc: 0.9619

Epoch 00512: acc did not improve
Epoch 513/1000

- 0s - loss: 8.1974e-04 - acc: 0.9570

Epoch 00513: acc did not improve
Epoch 514/1000
- 0s - loss: 8.4787e-04 - acc: 0.9616

Epoch 00514: acc did not improve
Epoch 515/1000
- 0s - loss: 9.9165e-04 - acc: 0.9558

Epoch 00515: acc did not improve
Epoch 516/1000
- 0s - loss: 0.0011 - acc: 0.9617

Epoch 00516: acc did not improve
Epoch 517/1000
- 0s - loss: 0.0015 - acc: 0.9524

Epoch 00517: acc did not improve
Epoch 518/1000
- 0s - loss: 0.0018 - acc: 0.9617

Epoch 00518: acc did not improve
Epoch 519/1000
- 0s - loss: 0.0011 - acc: 0.9433

Epoch 00519: acc did not improve
Epoch 520/1000
- 0s - loss: 0.0012 - acc: 0.9570

Epoch 00520: acc did not improve
Epoch 521/1000
- 0s - loss: 9.8706e-04 - acc: 0.9312

Epoch 00521: acc did not improve
Epoch 522/1000
- 0s - loss: 0.0010 - acc: 0.9564

Epoch 00522: acc did not improve
Epoch 523/1000
- 0s - loss: 0.0011 - acc: 0.9450

Epoch 00523: acc did not improve
Epoch 524/1000
- 0s - loss: 0.0010 - acc: 0.9597

Epoch 00524: acc did not improve
Epoch 525/1000

- 0s - loss: 9.9302e-04 - acc: 0.9564

Epoch 00525: acc did not improve
Epoch 526/1000
- 0s - loss: 0.0011 - acc: 0.9611

Epoch 00526: acc did not improve
Epoch 527/1000
- 0s - loss: 0.0011 - acc: 0.9543

Epoch 00527: acc did not improve
Epoch 528/1000
- 0s - loss: 0.0015 - acc: 0.9627

Epoch 00528: acc did not improve
Epoch 529/1000
- 0s - loss: 0.0015 - acc: 0.9372

Epoch 00529: acc did not improve
Epoch 530/1000
- 0s - loss: 0.0015 - acc: 0.9581

Epoch 00530: acc did not improve
Epoch 531/1000
- 0s - loss: 0.0012 - acc: 0.9122

Epoch 00531: acc did not improve
Epoch 532/1000
- 0s - loss: 0.0010 - acc: 0.9572

Epoch 00532: acc did not improve
Epoch 533/1000
- 0s - loss: 9.1506e-04 - acc: 0.9449

Epoch 00533: acc did not improve
Epoch 534/1000
- 0s - loss: 9.2482e-04 - acc: 0.9583

Epoch 00534: acc did not improve
Epoch 535/1000
- 0s - loss: 9.3662e-04 - acc: 0.9582

Epoch 00535: acc did not improve
Epoch 536/1000
- 0s - loss: 9.8355e-04 - acc: 0.9578

Epoch 00536: acc did not improve
Epoch 537/1000

- 0s - loss: 0.0010 - acc: 0.9585

Epoch 00537: acc did not improve
Epoch 538/1000
- 0s - loss: 0.0011 - acc: 0.9599

Epoch 00538: acc did not improve
Epoch 539/1000
- 0s - loss: 0.0012 - acc: 0.9548

Epoch 00539: acc did not improve
Epoch 540/1000
- 0s - loss: 0.0017 - acc: 0.9602

Epoch 00540: acc did not improve
Epoch 541/1000
- 0s - loss: 0.0011 - acc: 0.9532

Epoch 00541: acc did not improve
Epoch 542/1000
- 0s - loss: 0.0011 - acc: 0.9594

Epoch 00542: acc did not improve
Epoch 543/1000
- 0s - loss: 0.0011 - acc: 0.9508

Epoch 00543: acc did not improve
Epoch 544/1000
- 0s - loss: 0.0013 - acc: 0.9589

Epoch 00544: acc did not improve
Epoch 545/1000
- 0s - loss: 0.0016 - acc: 0.9256

Epoch 00545: acc did not improve
Epoch 546/1000
- 0s - loss: 0.0016 - acc: 0.9578

Epoch 00546: acc did not improve
Epoch 547/1000
- 0s - loss: 0.0012 - acc: 0.9310

Epoch 00547: acc did not improve
Epoch 548/1000
- 0s - loss: 0.0013 - acc: 0.9555

Epoch 00548: acc did not improve
Epoch 549/1000

- 0s - loss: 0.0014 - acc: 0.9381

Epoch 00549: acc did not improve
Epoch 550/1000
- 0s - loss: 0.0011 - acc: 0.9594

Epoch 00550: acc did not improve
Epoch 551/1000
- 0s - loss: 9.1247e-04 - acc: 0.9552

Epoch 00551: acc did not improve
Epoch 552/1000
- 0s - loss: 8.5982e-04 - acc: 0.9594

Epoch 00552: acc did not improve
Epoch 553/1000
- 0s - loss: 8.1715e-04 - acc: 0.9608

Epoch 00553: acc did not improve
Epoch 554/1000
- 0s - loss: 8.2857e-04 - acc: 0.9582

Epoch 00554: acc did not improve
Epoch 555/1000
- 0s - loss: 8.4537e-04 - acc: 0.9633

Epoch 00555: acc did not improve
Epoch 556/1000
- 0s - loss: 8.9084e-04 - acc: 0.9522

Epoch 00556: acc did not improve
Epoch 557/1000
- 0s - loss: 8.9370e-04 - acc: 0.9638

Epoch 00557: acc did not improve
Epoch 558/1000
- 0s - loss: 9.1801e-04 - acc: 0.9520

Epoch 00558: acc did not improve
Epoch 559/1000
- 0s - loss: 0.0010 - acc: 0.9589

Epoch 00559: acc did not improve
Epoch 560/1000
- 0s - loss: 0.0013 - acc: 0.9582

Epoch 00560: acc did not improve
Epoch 561/1000

- 0s - loss: 0.0018 - acc: 0.9485

Epoch 00561: acc did not improve
Epoch 562/1000
- 0s - loss: 0.0023 - acc: 0.9616

Epoch 00562: acc did not improve
Epoch 563/1000
- 0s - loss: 0.0012 - acc: 0.9157

Epoch 00563: acc did not improve
Epoch 564/1000
- 0s - loss: 0.0010 - acc: 0.9538

Epoch 00564: acc did not improve
Epoch 565/1000
- 0s - loss: 9.7660e-04 - acc: 0.9315

Epoch 00565: acc did not improve
Epoch 566/1000
- 0s - loss: 9.0397e-04 - acc: 0.9610

Epoch 00566: acc did not improve
Epoch 567/1000
- 0s - loss: 8.3218e-04 - acc: 0.9559

Epoch 00567: acc did not improve
Epoch 568/1000
- 0s - loss: 8.3924e-04 - acc: 0.9592

Epoch 00568: acc did not improve
Epoch 569/1000
- 0s - loss: 8.4876e-04 - acc: 0.9599

Epoch 00569: acc did not improve
Epoch 570/1000
- 0s - loss: 9.5265e-04 - acc: 0.9587

Epoch 00570: acc did not improve
Epoch 571/1000
- 0s - loss: 0.0011 - acc: 0.9586

Epoch 00571: acc did not improve
Epoch 572/1000
- 0s - loss: 0.0013 - acc: 0.9591

Epoch 00572: acc did not improve
Epoch 573/1000

- 0s - loss: 0.0013 - acc: 0.9509

Epoch 00573: acc did not improve
Epoch 574/1000
- 0s - loss: 0.0014 - acc: 0.9622

Epoch 00574: acc did not improve
Epoch 575/1000
- 0s - loss: 0.0010 - acc: 0.9449

Epoch 00575: acc did not improve
Epoch 576/1000
- 0s - loss: 0.0011 - acc: 0.9569

Epoch 00576: acc did not improve
Epoch 577/1000
- 0s - loss: 0.0011 - acc: 0.9461

Epoch 00577: acc did not improve
Epoch 578/1000
- 0s - loss: 0.0015 - acc: 0.9606

Epoch 00578: acc did not improve
Epoch 579/1000
- 0s - loss: 0.0016 - acc: 0.9275

Epoch 00579: acc did not improve
Epoch 580/1000
- 0s - loss: 0.0014 - acc: 0.9563

Epoch 00580: acc did not improve
Epoch 581/1000
- 0s - loss: 0.0012 - acc: 0.9163

Epoch 00581: acc did not improve
Epoch 582/1000
- 0s - loss: 8.3818e-04 - acc: 0.9573

Epoch 00582: acc did not improve
Epoch 583/1000
- 0s - loss: 7.8640e-04 - acc: 0.9535

Epoch 00583: acc did not improve
Epoch 584/1000
- 0s - loss: 7.7889e-04 - acc: 0.9587

Epoch 00584: acc did not improve
Epoch 585/1000

- 0s - loss: 7.8981e-04 - acc: 0.9584

Epoch 00585: acc did not improve
Epoch 586/1000
- 0s - loss: 8.3629e-04 - acc: 0.9579

Epoch 00586: acc did not improve
Epoch 587/1000
- 0s - loss: 8.4281e-04 - acc: 0.9599

Epoch 00587: acc did not improve
Epoch 588/1000
- 0s - loss: 9.3266e-04 - acc: 0.9580

Epoch 00588: acc did not improve
Epoch 589/1000
- 0s - loss: 9.6902e-04 - acc: 0.9579

Epoch 00589: acc did not improve
Epoch 590/1000
- 0s - loss: 0.0012 - acc: 0.9616

Epoch 00590: acc did not improve
Epoch 591/1000
- 0s - loss: 0.0015 - acc: 0.9394

Epoch 00591: acc did not improve
Epoch 592/1000
- 0s - loss: 0.0015 - acc: 0.9613

Epoch 00592: acc did not improve
Epoch 593/1000
- 0s - loss: 9.7484e-04 - acc: 0.9268

Epoch 00593: acc did not improve
Epoch 594/1000
- 0s - loss: 8.9993e-04 - acc: 0.9608

Epoch 00594: acc did not improve
Epoch 595/1000
- 0s - loss: 9.7335e-04 - acc: 0.9422

Epoch 00595: acc did not improve
Epoch 596/1000
- 0s - loss: 0.0011 - acc: 0.9590

Epoch 00596: acc did not improve
Epoch 597/1000

- 0s - loss: 0.0011 - acc: 0.9449

Epoch 00597: acc did not improve
Epoch 598/1000
- 0s - loss: 0.0011 - acc: 0.9614

Epoch 00598: acc did not improve
Epoch 599/1000
- 0s - loss: 0.0011 - acc: 0.9363

Epoch 00599: acc did not improve
Epoch 600/1000
- 0s - loss: 0.0012 - acc: 0.9614

Epoch 00600: acc did not improve
Epoch 601/1000
- 0s - loss: 0.0010 - acc: 0.9525

Epoch 00601: acc did not improve
Epoch 602/1000
- 0s - loss: 0.0011 - acc: 0.9618

Epoch 00602: acc did not improve
Epoch 603/1000
- 0s - loss: 0.0011 - acc: 0.9470

Epoch 00603: acc did not improve
Epoch 604/1000
- 0s - loss: 0.0011 - acc: 0.9630

Epoch 00604: acc did not improve
Epoch 605/1000
- 0s - loss: 9.3093e-04 - acc: 0.9575

Epoch 00605: acc did not improve
Epoch 606/1000
- 0s - loss: 9.9441e-04 - acc: 0.9599

Epoch 00606: acc did not improve
Epoch 607/1000
- 0s - loss: 8.1188e-04 - acc: 0.9590

Epoch 00607: acc did not improve
Epoch 608/1000
- 0s - loss: 8.0596e-04 - acc: 0.9605

Epoch 00608: acc did not improve
Epoch 609/1000

- 0s - loss: 8.1874e-04 - acc: 0.9565

Epoch 00609: acc did not improve
Epoch 610/1000
- 0s - loss: 8.6371e-04 - acc: 0.9557

Epoch 00610: acc did not improve
Epoch 611/1000
- 0s - loss: 9.7125e-04 - acc: 0.9401

Epoch 00611: acc did not improve
Epoch 612/1000
- 0s - loss: 0.0011 - acc: 0.9572

Epoch 00612: acc did not improve
Epoch 613/1000
- 0s - loss: 0.0012 - acc: 0.9309

Epoch 00613: acc did not improve
Epoch 614/1000
- 0s - loss: 0.0011 - acc: 0.9599

Epoch 00614: acc did not improve
Epoch 615/1000
- 0s - loss: 0.0012 - acc: 0.9356

Epoch 00615: acc did not improve
Epoch 616/1000
- 0s - loss: 0.0014 - acc: 0.9604

Epoch 00616: acc did not improve
Epoch 617/1000
- 0s - loss: 0.0012 - acc: 0.9272

Epoch 00617: acc did not improve
Epoch 618/1000
- 0s - loss: 0.0013 - acc: 0.9607

Epoch 00618: acc did not improve
Epoch 619/1000
- 0s - loss: 0.0013 - acc: 0.9436

Epoch 00619: acc did not improve
Epoch 620/1000
- 0s - loss: 0.0011 - acc: 0.9639

Epoch 00620: acc improved from 0.96390 to 0.96393, saving model to model_v1.h5
Epoch 621/1000

- 0s - loss: 8.7967e-04 - acc: 0.9591

Epoch 00621: acc did not improve
Epoch 622/1000
- 0s - loss: 8.5347e-04 - acc: 0.9596

Epoch 00622: acc did not improve
Epoch 623/1000
- 0s - loss: 8.1475e-04 - acc: 0.9629

Epoch 00623: acc did not improve
Epoch 624/1000
- 0s - loss: 8.3475e-04 - acc: 0.9574

Epoch 00624: acc did not improve
Epoch 625/1000
- 0s - loss: 8.5138e-04 - acc: 0.9621

Epoch 00625: acc did not improve
Epoch 626/1000
- 0s - loss: 9.0679e-04 - acc: 0.9594

Epoch 00626: acc did not improve
Epoch 627/1000
- 0s - loss: 9.0251e-04 - acc: 0.9528

Epoch 00627: acc did not improve
Epoch 628/1000
- 0s - loss: 9.3845e-04 - acc: 0.9585

Epoch 00628: acc did not improve
Epoch 629/1000
- 0s - loss: 9.4714e-04 - acc: 0.9290

Epoch 00629: acc did not improve
Epoch 630/1000
- 0s - loss: 0.0011 - acc: 0.9595

Epoch 00630: acc did not improve
Epoch 631/1000
- 0s - loss: 0.0012 - acc: 0.9193

Epoch 00631: acc did not improve
Epoch 632/1000
- 0s - loss: 0.0015 - acc: 0.9604

Epoch 00632: acc did not improve
Epoch 633/1000

- 0s - loss: 0.0021 - acc: 0.9129

Epoch 00633: acc did not improve
Epoch 634/1000
- 0s - loss: 0.0013 - acc: 0.9623

Epoch 00634: acc did not improve
Epoch 635/1000
- 0s - loss: 0.0032 - acc: 0.9478

Epoch 00635: acc did not improve
Epoch 636/1000
- 0s - loss: 0.0017 - acc: 0.9519

Epoch 00636: acc did not improve
Epoch 637/1000
- 0s - loss: 0.0104 - acc: 0.9562

Epoch 00637: acc did not improve
Epoch 638/1000
- 0s - loss: 0.0023 - acc: 0.9488

Epoch 00638: acc did not improve
Epoch 639/1000
- 0s - loss: 0.0012 - acc: 0.9602

Epoch 00639: acc did not improve
Epoch 640/1000
- 0s - loss: 0.0011 - acc: 0.9400

Epoch 00640: acc did not improve
Epoch 641/1000
- 0s - loss: 9.9371e-04 - acc: 0.9601

Epoch 00641: acc did not improve
Epoch 642/1000
- 0s - loss: 9.8569e-04 - acc: 0.9437

Epoch 00642: acc did not improve
Epoch 643/1000
- 0s - loss: 9.1340e-04 - acc: 0.9598

Epoch 00643: acc did not improve
Epoch 644/1000
- 0s - loss: 8.8516e-04 - acc: 0.9524

Epoch 00644: acc did not improve
Epoch 645/1000

- 0s - loss: 8.5419e-04 - acc: 0.9603

Epoch 00645: acc did not improve
Epoch 646/1000
- 0s - loss: 8.3465e-04 - acc: 0.9546

Epoch 00646: acc did not improve
Epoch 647/1000
- 0s - loss: 8.2129e-04 - acc: 0.9602

Epoch 00647: acc did not improve
Epoch 648/1000
- 0s - loss: 8.1580e-04 - acc: 0.9542

Epoch 00648: acc did not improve
Epoch 649/1000
- 0s - loss: 8.1557e-04 - acc: 0.9599

Epoch 00649: acc did not improve
Epoch 650/1000
- 0s - loss: 8.2070e-04 - acc: 0.9513

Epoch 00650: acc did not improve
Epoch 651/1000
- 0s - loss: 8.5137e-04 - acc: 0.9589

Epoch 00651: acc did not improve
Epoch 652/1000
- 0s - loss: 8.7546e-04 - acc: 0.9447

Epoch 00652: acc did not improve
Epoch 653/1000
- 0s - loss: 9.4498e-04 - acc: 0.9571

Epoch 00653: acc did not improve
Epoch 654/1000
- 0s - loss: 9.7614e-04 - acc: 0.9377

Epoch 00654: acc did not improve
Epoch 655/1000
- 0s - loss: 0.0011 - acc: 0.9573

Epoch 00655: acc did not improve
Epoch 656/1000
- 0s - loss: 9.5516e-04 - acc: 0.9410

Epoch 00656: acc did not improve
Epoch 657/1000

- 0s - loss: 9.5284e-04 - acc: 0.9574

Epoch 00657: acc did not improve
Epoch 658/1000
- 0s - loss: 8.7706e-04 - acc: 0.9479

Epoch 00658: acc did not improve
Epoch 659/1000
- 0s - loss: 9.2028e-04 - acc: 0.9595

Epoch 00659: acc did not improve
Epoch 660/1000
- 0s - loss: 8.1281e-04 - acc: 0.9499

Epoch 00660: acc did not improve
Epoch 661/1000
- 0s - loss: 8.2440e-04 - acc: 0.9602

Epoch 00661: acc did not improve
Epoch 662/1000
- 0s - loss: 8.3556e-04 - acc: 0.9504

Epoch 00662: acc did not improve
Epoch 663/1000
- 0s - loss: 8.5901e-04 - acc: 0.9592

Epoch 00663: acc did not improve
Epoch 664/1000
- 0s - loss: 8.6672e-04 - acc: 0.9516

Epoch 00664: acc did not improve
Epoch 665/1000
- 0s - loss: 9.3813e-04 - acc: 0.9593

Epoch 00665: acc did not improve
Epoch 666/1000
- 0s - loss: 8.7817e-04 - acc: 0.9526

Epoch 00666: acc did not improve
Epoch 667/1000
- 0s - loss: 9.5227e-04 - acc: 0.9597

Epoch 00667: acc did not improve
Epoch 668/1000
- 0s - loss: 9.5401e-04 - acc: 0.9479

Epoch 00668: acc did not improve
Epoch 669/1000

- 0s - loss: 0.0011 - acc: 0.9605

Epoch 00669: acc did not improve
Epoch 670/1000
- 0s - loss: 0.0011 - acc: 0.9242

Epoch 00670: acc did not improve
Epoch 671/1000
- 0s - loss: 0.0012 - acc: 0.9595

Epoch 00671: acc did not improve
Epoch 672/1000
- 0s - loss: 0.0012 - acc: 0.9181

Epoch 00672: acc did not improve
Epoch 673/1000
- 0s - loss: 8.8640e-04 - acc: 0.9635

Epoch 00673: acc did not improve
Epoch 674/1000
- 0s - loss: 8.1929e-04 - acc: 0.9561

Epoch 00674: acc did not improve
Epoch 675/1000
- 0s - loss: 7.5396e-04 - acc: 0.9632

Epoch 00675: acc did not improve
Epoch 676/1000
- 0s - loss: 7.4579e-04 - acc: 0.9590

Epoch 00676: acc did not improve
Epoch 677/1000
- 0s - loss: 7.5265e-04 - acc: 0.9631

Epoch 00677: acc did not improve
Epoch 678/1000
- 0s - loss: 8.0441e-04 - acc: 0.9587

Epoch 00678: acc did not improve
Epoch 679/1000
- 0s - loss: 9.0034e-04 - acc: 0.9540

Epoch 00679: acc did not improve
Epoch 680/1000
- 0s - loss: 0.0010 - acc: 0.9566

Epoch 00680: acc did not improve
Epoch 681/1000

- 0s - loss: 0.0011 - acc: 0.9354

Epoch 00681: acc did not improve
Epoch 682/1000
- 0s - loss: 0.0012 - acc: 0.9576

Epoch 00682: acc did not improve
Epoch 683/1000
- 0s - loss: 0.0010 - acc: 0.9362

Epoch 00683: acc did not improve
Epoch 684/1000
- 0s - loss: 0.0010 - acc: 0.9584

Epoch 00684: acc did not improve
Epoch 685/1000
- 0s - loss: 8.9032e-04 - acc: 0.9499

Epoch 00685: acc did not improve
Epoch 686/1000
- 0s - loss: 9.6757e-04 - acc: 0.9602

Epoch 00686: acc did not improve
Epoch 687/1000
- 0s - loss: 8.4241e-04 - acc: 0.9582

Epoch 00687: acc did not improve
Epoch 688/1000
- 0s - loss: 8.0680e-04 - acc: 0.9593

Epoch 00688: acc did not improve
Epoch 689/1000
- 0s - loss: 7.7572e-04 - acc: 0.9574

Epoch 00689: acc did not improve
Epoch 690/1000
- 0s - loss: 7.7879e-04 - acc: 0.9394

Epoch 00690: acc did not improve
Epoch 691/1000
- 0s - loss: 7.7196e-04 - acc: 0.9539

Epoch 00691: acc did not improve
Epoch 692/1000
- 0s - loss: 8.0812e-04 - acc: 0.9294

Epoch 00692: acc did not improve
Epoch 693/1000

- 0s - loss: 8.2301e-04 - acc: 0.9546

Epoch 00693: acc did not improve
Epoch 694/1000
- 0s - loss: 9.0899e-04 - acc: 0.9393

Epoch 00694: acc did not improve
Epoch 695/1000
- 0s - loss: 0.0011 - acc: 0.9560

Epoch 00695: acc did not improve
Epoch 696/1000
- 0s - loss: 0.0014 - acc: 0.9545

Epoch 00696: acc did not improve
Epoch 697/1000
- 0s - loss: 0.0017 - acc: 0.9450

Epoch 00697: acc did not improve
Epoch 698/1000
- 0s - loss: 9.4583e-04 - acc: 0.9545

Epoch 00698: acc did not improve
Epoch 699/1000
- 0s - loss: 9.0704e-04 - acc: 0.9273

Epoch 00699: acc did not improve
Epoch 700/1000
- 0s - loss: 8.4661e-04 - acc: 0.9589

Epoch 00700: acc did not improve
Epoch 701/1000
- 0s - loss: 9.5530e-04 - acc: 0.9589

Epoch 00701: acc did not improve
Epoch 702/1000
- 0s - loss: 0.0011 - acc: 0.9618

Epoch 00702: acc did not improve
Epoch 703/1000
- 0s - loss: 8.9139e-04 - acc: 0.9576

Epoch 00703: acc did not improve
Epoch 704/1000
- 0s - loss: 9.5651e-04 - acc: 0.9635

Epoch 00704: acc did not improve
Epoch 705/1000

- 0s - loss: 8.3758e-04 - acc: 0.9569

Epoch 00705: acc did not improve
Epoch 706/1000
- 0s - loss: 8.0487e-04 - acc: 0.9603

Epoch 00706: acc did not improve
Epoch 707/1000
- 0s - loss: 8.1191e-04 - acc: 0.9591

Epoch 00707: acc did not improve
Epoch 708/1000
- 0s - loss: 7.8705e-04 - acc: 0.9623

Epoch 00708: acc did not improve
Epoch 709/1000
- 0s - loss: 7.8559e-04 - acc: 0.9595

Epoch 00709: acc did not improve
Epoch 710/1000
- 0s - loss: 8.1169e-04 - acc: 0.9597

Epoch 00710: acc did not improve
Epoch 711/1000
- 0s - loss: 8.0794e-04 - acc: 0.9566

Epoch 00711: acc did not improve
Epoch 712/1000
- 0s - loss: 8.7494e-04 - acc: 0.9570

Epoch 00712: acc did not improve
Epoch 713/1000
- 0s - loss: 8.7902e-04 - acc: 0.9426

Epoch 00713: acc did not improve
Epoch 714/1000
- 0s - loss: 0.0010 - acc: 0.9562

Epoch 00714: acc did not improve
Epoch 715/1000
- 0s - loss: 0.0014 - acc: 0.9194

Epoch 00715: acc did not improve
Epoch 716/1000
- 0s - loss: 0.0017 - acc: 0.9591

Epoch 00716: acc did not improve
Epoch 717/1000

- 0s - loss: 0.0042 - acc: 0.8962

Epoch 00717: acc did not improve
Epoch 718/1000
- 0s - loss: 0.0022 - acc: 0.9541

Epoch 00718: acc did not improve
Epoch 719/1000
- 0s - loss: 0.0041 - acc: 0.9567

Epoch 00719: acc did not improve
Epoch 720/1000
- 0s - loss: 0.0017 - acc: 0.9437

Epoch 00720: acc did not improve
Epoch 721/1000
- 0s - loss: 0.0017 - acc: 0.9611

Epoch 00721: acc did not improve
Epoch 722/1000
- 0s - loss: 0.0018 - acc: 0.9164

Epoch 00722: acc did not improve
Epoch 723/1000
- 0s - loss: 0.0011 - acc: 0.9445

Epoch 00723: acc did not improve
Epoch 724/1000
- 0s - loss: 8.0082e-04 - acc: 0.9607

Epoch 00724: acc did not improve
Epoch 725/1000
- 0s - loss: 7.6587e-04 - acc: 0.9605

Epoch 00725: acc did not improve
Epoch 726/1000
- 0s - loss: 7.4867e-04 - acc: 0.9616

Epoch 00726: acc did not improve
Epoch 727/1000
- 0s - loss: 7.3719e-04 - acc: 0.9620

Epoch 00727: acc did not improve
Epoch 728/1000
- 0s - loss: 7.2829e-04 - acc: 0.9624

Epoch 00728: acc did not improve
Epoch 729/1000

- 0s - loss: 7.2098e-04 - acc: 0.9624

Epoch 00729: acc did not improve
Epoch 730/1000
- 0s - loss: 7.1475e-04 - acc: 0.9627

Epoch 00730: acc did not improve
Epoch 731/1000
- 0s - loss: 7.0947e-04 - acc: 0.9627

Epoch 00731: acc did not improve
Epoch 732/1000
- 0s - loss: 7.0483e-04 - acc: 0.9627

Epoch 00732: acc did not improve
Epoch 733/1000
- 0s - loss: 7.0081e-04 - acc: 0.9627

Epoch 00733: acc did not improve
Epoch 734/1000
- 0s - loss: 6.9739e-04 - acc: 0.9626

Epoch 00734: acc did not improve
Epoch 735/1000
- 0s - loss: 6.9515e-04 - acc: 0.9627

Epoch 00735: acc did not improve
Epoch 736/1000
- 0s - loss: 6.9673e-04 - acc: 0.9624

Epoch 00736: acc did not improve
Epoch 737/1000
- 0s - loss: 7.1398e-04 - acc: 0.9623

Epoch 00737: acc did not improve
Epoch 738/1000
- 0s - loss: 7.8742e-04 - acc: 0.9610

Epoch 00738: acc did not improve
Epoch 739/1000
- 0s - loss: 9.7246e-04 - acc: 0.9595

Epoch 00739: acc did not improve
Epoch 740/1000
- 0s - loss: 0.0011 - acc: 0.9500

Epoch 00740: acc did not improve
Epoch 741/1000

- 0s - loss: 0.0012 - acc: 0.9545

Epoch 00741: acc did not improve
Epoch 742/1000
- 0s - loss: 0.0010 - acc: 0.9339

Epoch 00742: acc did not improve
Epoch 743/1000
- 0s - loss: 8.7447e-04 - acc: 0.9581

Epoch 00743: acc did not improve
Epoch 744/1000
- 0s - loss: 7.6767e-04 - acc: 0.9532

Epoch 00744: acc did not improve
Epoch 745/1000
- 0s - loss: 7.6369e-04 - acc: 0.9592

Epoch 00745: acc did not improve
Epoch 746/1000
- 0s - loss: 7.3967e-04 - acc: 0.9578

Epoch 00746: acc did not improve
Epoch 747/1000
- 0s - loss: 7.4108e-04 - acc: 0.9609

Epoch 00747: acc did not improve
Epoch 748/1000
- 0s - loss: 7.3473e-04 - acc: 0.9553

Epoch 00748: acc did not improve
Epoch 749/1000
- 0s - loss: 7.3242e-04 - acc: 0.9614

Epoch 00749: acc did not improve
Epoch 750/1000
- 0s - loss: 7.2825e-04 - acc: 0.9506

Epoch 00750: acc did not improve
Epoch 751/1000
- 0s - loss: 7.2828e-04 - acc: 0.9601

Epoch 00751: acc did not improve
Epoch 752/1000
- 0s - loss: 7.4713e-04 - acc: 0.9404

Epoch 00752: acc did not improve
Epoch 753/1000

- 0s - loss: 7.9696e-04 - acc: 0.9587

Epoch 00753: acc did not improve
Epoch 754/1000
- 0s - loss: 8.9783e-04 - acc: 0.9328

Epoch 00754: acc did not improve
Epoch 755/1000
- 0s - loss: 0.0012 - acc: 0.9604

Epoch 00755: acc did not improve
Epoch 756/1000
- 0s - loss: 0.0017 - acc: 0.9256

Epoch 00756: acc did not improve
Epoch 757/1000
- 0s - loss: 0.0015 - acc: 0.9599

Epoch 00757: acc did not improve
Epoch 758/1000
- 0s - loss: 9.6700e-04 - acc: 0.9293

Epoch 00758: acc did not improve
Epoch 759/1000
- 0s - loss: 7.2730e-04 - acc: 0.9577

Epoch 00759: acc did not improve
Epoch 760/1000
- 0s - loss: 7.2300e-04 - acc: 0.9559

Epoch 00760: acc did not improve
Epoch 761/1000
- 0s - loss: 7.0152e-04 - acc: 0.9594

Epoch 00761: acc did not improve
Epoch 762/1000
- 0s - loss: 7.1003e-04 - acc: 0.9586

Epoch 00762: acc did not improve
Epoch 763/1000
- 0s - loss: 7.0807e-04 - acc: 0.9603

Epoch 00763: acc did not improve
Epoch 764/1000
- 0s - loss: 7.2581e-04 - acc: 0.9610

Epoch 00764: acc did not improve
Epoch 765/1000

- 0s - loss: 7.3489e-04 - acc: 0.9602

Epoch 00765: acc did not improve
Epoch 766/1000
- 0s - loss: 7.4081e-04 - acc: 0.9628

Epoch 00766: acc did not improve
Epoch 767/1000
- 0s - loss: 7.2323e-04 - acc: 0.9607

Epoch 00767: acc did not improve
Epoch 768/1000
- 0s - loss: 7.2243e-04 - acc: 0.9601

Epoch 00768: acc did not improve
Epoch 769/1000
- 0s - loss: 7.6022e-04 - acc: 0.9594

Epoch 00769: acc did not improve
Epoch 770/1000
- 0s - loss: 9.0864e-04 - acc: 0.9413

Epoch 00770: acc did not improve
Epoch 771/1000
- 0s - loss: 0.0012 - acc: 0.9544

Epoch 00771: acc did not improve
Epoch 772/1000
- 0s - loss: 0.0011 - acc: 0.9291

Epoch 00772: acc did not improve
Epoch 773/1000
- 0s - loss: 0.0020 - acc: 0.9566

Epoch 00773: acc did not improve
Epoch 774/1000
- 0s - loss: 0.0023 - acc: 0.9228

Epoch 00774: acc did not improve
Epoch 775/1000
- 0s - loss: 0.0012 - acc: 0.9552

Epoch 00775: acc did not improve
Epoch 776/1000
- 0s - loss: 8.9460e-04 - acc: 0.9326

Epoch 00776: acc did not improve
Epoch 777/1000

- 0s - loss: 7.8547e-04 - acc: 0.9611

Epoch 00777: acc did not improve
Epoch 778/1000
- 0s - loss: 7.3904e-04 - acc: 0.9632

Epoch 00778: acc did not improve
Epoch 779/1000
- 0s - loss: 7.2140e-04 - acc: 0.9614

Epoch 00779: acc did not improve
Epoch 780/1000
- 0s - loss: 7.0480e-04 - acc: 0.9642

Epoch 00780: acc improved from 0.96393 to 0.96416, saving model to model_v1.h5
Epoch 781/1000
- 0s - loss: 7.0139e-04 - acc: 0.9601

Epoch 00781: acc did not improve
Epoch 782/1000
- 0s - loss: 7.0091e-04 - acc: 0.9651

Epoch 00782: acc improved from 0.96416 to 0.96507, saving model to model_v1.h5
Epoch 783/1000
- 0s - loss: 7.1528e-04 - acc: 0.9580

Epoch 00783: acc did not improve
Epoch 784/1000
- 0s - loss: 7.4518e-04 - acc: 0.9657

Epoch 00784: acc improved from 0.96507 to 0.96569, saving model to model_v1.h5
Epoch 785/1000
- 0s - loss: 7.8018e-04 - acc: 0.9548

Epoch 00785: acc did not improve
Epoch 786/1000
- 0s - loss: 8.2232e-04 - acc: 0.9651

Epoch 00786: acc did not improve
Epoch 787/1000
- 0s - loss: 8.6465e-04 - acc: 0.9557

Epoch 00787: acc did not improve
Epoch 788/1000
- 0s - loss: 8.3068e-04 - acc: 0.9647

Epoch 00788: acc did not improve
Epoch 789/1000

- 0s - loss: 9.0215e-04 - acc: 0.9613

Epoch 00789: acc did not improve
Epoch 790/1000
- 0s - loss: 8.0505e-04 - acc: 0.9589

Epoch 00790: acc did not improve
Epoch 791/1000
- 0s - loss: 8.3686e-04 - acc: 0.9618

Epoch 00791: acc did not improve
Epoch 792/1000
- 0s - loss: 8.0987e-04 - acc: 0.9411

Epoch 00792: acc did not improve
Epoch 793/1000
- 0s - loss: 8.1873e-04 - acc: 0.9584

Epoch 00793: acc did not improve
Epoch 794/1000
- 0s - loss: 8.1932e-04 - acc: 0.9249

Epoch 00794: acc did not improve
Epoch 795/1000
- 0s - loss: 7.9925e-04 - acc: 0.9558

Epoch 00795: acc did not improve
Epoch 796/1000
- 0s - loss: 8.3991e-04 - acc: 0.9381

Epoch 00796: acc did not improve
Epoch 797/1000
- 0s - loss: 8.6869e-04 - acc: 0.9596

Epoch 00797: acc did not improve
Epoch 798/1000
- 0s - loss: 9.2648e-04 - acc: 0.9361

Epoch 00798: acc did not improve
Epoch 799/1000
- 0s - loss: 9.4604e-04 - acc: 0.9598

Epoch 00799: acc did not improve
Epoch 800/1000
- 0s - loss: 9.5462e-04 - acc: 0.9499

Epoch 00800: acc did not improve
Epoch 801/1000

- 0s - loss: 9.6994e-04 - acc: 0.9629

Epoch 00801: acc did not improve
Epoch 802/1000
- 0s - loss: 0.0010 - acc: 0.9527

Epoch 00802: acc did not improve
Epoch 803/1000
- 0s - loss: 9.1607e-04 - acc: 0.9632

Epoch 00803: acc did not improve
Epoch 804/1000
- 0s - loss: 8.7772e-04 - acc: 0.9570

Epoch 00804: acc did not improve
Epoch 805/1000
- 0s - loss: 8.0615e-04 - acc: 0.9572

Epoch 00805: acc did not improve
Epoch 806/1000
- 0s - loss: 7.9016e-04 - acc: 0.9621

Epoch 00806: acc did not improve
Epoch 807/1000
- 0s - loss: 8.3391e-04 - acc: 0.9463

Epoch 00807: acc did not improve
Epoch 808/1000
- 0s - loss: 9.3742e-04 - acc: 0.9576

Epoch 00808: acc did not improve
Epoch 809/1000
- 0s - loss: 9.6632e-04 - acc: 0.9294

Epoch 00809: acc did not improve
Epoch 810/1000
- 0s - loss: 8.9916e-04 - acc: 0.9584

Epoch 00810: acc did not improve
Epoch 811/1000
- 0s - loss: 8.8001e-04 - acc: 0.9337

Epoch 00811: acc did not improve
Epoch 812/1000
- 0s - loss: 7.5777e-04 - acc: 0.9605

Epoch 00812: acc did not improve
Epoch 813/1000

- 0s - loss: 7.6957e-04 - acc: 0.9528

Epoch 00813: acc did not improve
Epoch 814/1000
- 0s - loss: 8.4333e-04 - acc: 0.9617

Epoch 00814: acc did not improve
Epoch 815/1000
- 0s - loss: 8.1875e-04 - acc: 0.9606

Epoch 00815: acc did not improve
Epoch 816/1000
- 0s - loss: 8.6995e-04 - acc: 0.9628

Epoch 00816: acc did not improve
Epoch 817/1000
- 0s - loss: 7.7122e-04 - acc: 0.9602

Epoch 00817: acc did not improve
Epoch 818/1000
- 0s - loss: 7.4965e-04 - acc: 0.9607

Epoch 00818: acc did not improve
Epoch 819/1000
- 0s - loss: 8.2151e-04 - acc: 0.9616

Epoch 00819: acc did not improve
Epoch 820/1000
- 0s - loss: 8.1529e-04 - acc: 0.9617

Epoch 00820: acc did not improve
Epoch 821/1000
- 0s - loss: 8.3686e-04 - acc: 0.9615

Epoch 00821: acc did not improve
Epoch 822/1000
- 0s - loss: 8.7554e-04 - acc: 0.9593

Epoch 00822: acc did not improve
Epoch 823/1000
- 0s - loss: 9.3408e-04 - acc: 0.9464

Epoch 00823: acc did not improve
Epoch 824/1000
- 0s - loss: 9.2051e-04 - acc: 0.9560

Epoch 00824: acc did not improve
Epoch 825/1000

- 0s - loss: 0.0010 - acc: 0.9208

Epoch 00825: acc did not improve
Epoch 826/1000
- 0s - loss: 8.5369e-04 - acc: 0.9581

Epoch 00826: acc did not improve
Epoch 827/1000
- 0s - loss: 8.3551e-04 - acc: 0.9437

Epoch 00827: acc did not improve
Epoch 828/1000
- 0s - loss: 8.9898e-04 - acc: 0.9582

Epoch 00828: acc did not improve
Epoch 829/1000
- 0s - loss: 8.2787e-04 - acc: 0.9519

Epoch 00829: acc did not improve
Epoch 830/1000
- 0s - loss: 8.9316e-04 - acc: 0.9616

Epoch 00830: acc did not improve
Epoch 831/1000
- 0s - loss: 9.6163e-04 - acc: 0.9489

Epoch 00831: acc did not improve
Epoch 832/1000
- 0s - loss: 0.0011 - acc: 0.9629

Epoch 00832: acc did not improve
Epoch 833/1000
- 0s - loss: 0.0015 - acc: 0.9295

Epoch 00833: acc did not improve
Epoch 834/1000
- 0s - loss: 8.7380e-04 - acc: 0.9633

Epoch 00834: acc did not improve
Epoch 835/1000
- 0s - loss: 7.3819e-04 - acc: 0.9371

Epoch 00835: acc did not improve
Epoch 836/1000
- 0s - loss: 6.7758e-04 - acc: 0.9636

Epoch 00836: acc did not improve
Epoch 837/1000

- 0s - loss: 6.6332e-04 - acc: 0.9567

Epoch 00837: acc did not improve
Epoch 838/1000
- 0s - loss: 6.6054e-04 - acc: 0.9629

Epoch 00838: acc did not improve
Epoch 839/1000
- 0s - loss: 6.6846e-04 - acc: 0.9606

Epoch 00839: acc did not improve
Epoch 840/1000
- 0s - loss: 7.0128e-04 - acc: 0.9599

Epoch 00840: acc did not improve
Epoch 841/1000
- 0s - loss: 7.6945e-04 - acc: 0.9548

Epoch 00841: acc did not improve
Epoch 842/1000
- 0s - loss: 8.7847e-04 - acc: 0.9572

Epoch 00842: acc did not improve
Epoch 843/1000
- 0s - loss: 9.0025e-04 - acc: 0.9432

Epoch 00843: acc did not improve
Epoch 844/1000
- 0s - loss: 8.7981e-04 - acc: 0.9612

Epoch 00844: acc did not improve
Epoch 845/1000
- 0s - loss: 8.2985e-04 - acc: 0.9380

Epoch 00845: acc did not improve
Epoch 846/1000
- 0s - loss: 7.6969e-04 - acc: 0.9609

Epoch 00846: acc did not improve
Epoch 847/1000
- 0s - loss: 7.9375e-04 - acc: 0.9440

Epoch 00847: acc did not improve
Epoch 848/1000
- 0s - loss: 9.0929e-04 - acc: 0.9607

Epoch 00848: acc did not improve
Epoch 849/1000

- 0s - loss: 0.0010 - acc: 0.9449

Epoch 00849: acc did not improve
Epoch 850/1000
- 0s - loss: 0.0011 - acc: 0.9612

Epoch 00850: acc did not improve
Epoch 851/1000
- 0s - loss: 9.0039e-04 - acc: 0.9411

Epoch 00851: acc did not improve
Epoch 852/1000
- 0s - loss: 8.1370e-04 - acc: 0.9623

Epoch 00852: acc did not improve
Epoch 853/1000
- 0s - loss: 8.7582e-04 - acc: 0.9466

Epoch 00853: acc did not improve
Epoch 854/1000
- 0s - loss: 7.8747e-04 - acc: 0.9594

Epoch 00854: acc did not improve
Epoch 855/1000
- 0s - loss: 8.3368e-04 - acc: 0.9465

Epoch 00855: acc did not improve
Epoch 856/1000
- 0s - loss: 7.8097e-04 - acc: 0.9597

Epoch 00856: acc did not improve
Epoch 857/1000
- 0s - loss: 7.2902e-04 - acc: 0.9451

Epoch 00857: acc did not improve
Epoch 858/1000
- 0s - loss: 7.1074e-04 - acc: 0.9595

Epoch 00858: acc did not improve
Epoch 859/1000
- 0s - loss: 6.9888e-04 - acc: 0.9518

Epoch 00859: acc did not improve
Epoch 860/1000
- 0s - loss: 7.2351e-04 - acc: 0.9589

Epoch 00860: acc did not improve
Epoch 861/1000

- 0s - loss: 7.4817e-04 - acc: 0.9537

Epoch 00861: acc did not improve
Epoch 862/1000
- 0s - loss: 7.9696e-04 - acc: 0.9582

Epoch 00862: acc did not improve
Epoch 863/1000
- 0s - loss: 8.3746e-04 - acc: 0.9494

Epoch 00863: acc did not improve
Epoch 864/1000
- 0s - loss: 8.8042e-04 - acc: 0.9586

Epoch 00864: acc did not improve
Epoch 865/1000
- 0s - loss: 0.0011 - acc: 0.9495

Epoch 00865: acc did not improve
Epoch 866/1000
- 0s - loss: 0.0016 - acc: 0.9602

Epoch 00866: acc did not improve
Epoch 867/1000
- 0s - loss: 0.0027 - acc: 0.9082

Epoch 00867: acc did not improve
Epoch 868/1000
- 0s - loss: 0.0014 - acc: 0.9619

Epoch 00868: acc did not improve
Epoch 869/1000
- 0s - loss: 0.0042 - acc: 0.9466

Epoch 00869: acc did not improve
Epoch 870/1000
- 0s - loss: 0.0013 - acc: 0.9615

Epoch 00870: acc did not improve
Epoch 871/1000
- 0s - loss: 0.0015 - acc: 0.9582

Epoch 00871: acc did not improve
Epoch 872/1000
- 0s - loss: 0.0017 - acc: 0.9142

Epoch 00872: acc did not improve
Epoch 873/1000

- 0s - loss: 0.0012 - acc: 0.9521

Epoch 00873: acc did not improve
Epoch 874/1000
- 0s - loss: 7.4623e-04 - acc: 0.9607

Epoch 00874: acc did not improve
Epoch 875/1000
- 0s - loss: 7.1401e-04 - acc: 0.9611

Epoch 00875: acc did not improve
Epoch 876/1000
- 0s - loss: 6.9710e-04 - acc: 0.9620

Epoch 00876: acc did not improve
Epoch 877/1000
- 0s - loss: 6.8469e-04 - acc: 0.9616

Epoch 00877: acc did not improve
Epoch 878/1000
- 0s - loss: 6.7468e-04 - acc: 0.9630

Epoch 00878: acc did not improve
Epoch 879/1000
- 0s - loss: 6.6662e-04 - acc: 0.9618

Epoch 00879: acc did not improve
Epoch 880/1000
- 0s - loss: 6.5992e-04 - acc: 0.9638

Epoch 00880: acc did not improve
Epoch 881/1000
- 0s - loss: 6.5424e-04 - acc: 0.9620

Epoch 00881: acc did not improve
Epoch 882/1000
- 0s - loss: 6.5004e-04 - acc: 0.9641

Epoch 00882: acc did not improve
Epoch 883/1000
- 0s - loss: 6.4718e-04 - acc: 0.9610

Epoch 00883: acc did not improve
Epoch 884/1000
- 0s - loss: 6.4867e-04 - acc: 0.9636

Epoch 00884: acc did not improve
Epoch 885/1000

- 0s - loss: 6.5660e-04 - acc: 0.9590

Epoch 00885: acc did not improve
Epoch 886/1000
- 0s - loss: 6.9919e-04 - acc: 0.9569

Epoch 00886: acc did not improve
Epoch 887/1000
- 0s - loss: 7.7398e-04 - acc: 0.9565

Epoch 00887: acc did not improve
Epoch 888/1000
- 0s - loss: 9.3158e-04 - acc: 0.9380

Epoch 00888: acc did not improve
Epoch 889/1000
- 0s - loss: 0.0011 - acc: 0.9586

Epoch 00889: acc did not improve
Epoch 890/1000
- 0s - loss: 9.0102e-04 - acc: 0.9431

Epoch 00890: acc did not improve
Epoch 891/1000
- 0s - loss: 9.1254e-04 - acc: 0.9625

Epoch 00891: acc did not improve
Epoch 892/1000
- 0s - loss: 7.5260e-04 - acc: 0.9545

Epoch 00892: acc did not improve
Epoch 893/1000
- 0s - loss: 7.1647e-04 - acc: 0.9585

Epoch 00893: acc did not improve
Epoch 894/1000
- 0s - loss: 7.0791e-04 - acc: 0.9551

Epoch 00894: acc did not improve
Epoch 895/1000
- 0s - loss: 7.0375e-04 - acc: 0.9598

Epoch 00895: acc did not improve
Epoch 896/1000
- 0s - loss: 7.0155e-04 - acc: 0.9594

Epoch 00896: acc did not improve
Epoch 897/1000

- 0s - loss: 7.0478e-04 - acc: 0.9604

Epoch 00897: acc did not improve
Epoch 898/1000
- 0s - loss: 7.0815e-04 - acc: 0.9614

Epoch 00898: acc did not improve
Epoch 899/1000
- 0s - loss: 7.3109e-04 - acc: 0.9614

Epoch 00899: acc did not improve
Epoch 900/1000
- 0s - loss: 7.3906e-04 - acc: 0.9633

Epoch 00900: acc did not improve
Epoch 901/1000
- 0s - loss: 7.7449e-04 - acc: 0.9621

Epoch 00901: acc did not improve
Epoch 902/1000
- 0s - loss: 7.9805e-04 - acc: 0.9617

Epoch 00902: acc did not improve
Epoch 903/1000
- 0s - loss: 8.3144e-04 - acc: 0.9632

Epoch 00903: acc did not improve
Epoch 904/1000
- 0s - loss: 8.1862e-04 - acc: 0.9512

Epoch 00904: acc did not improve
Epoch 905/1000
- 0s - loss: 8.5560e-04 - acc: 0.9599

Epoch 00905: acc did not improve
Epoch 906/1000
- 0s - loss: 8.8961e-04 - acc: 0.9280

Epoch 00906: acc did not improve
Epoch 907/1000
- 0s - loss: 0.0010 - acc: 0.9542

Epoch 00907: acc did not improve
Epoch 908/1000
- 0s - loss: 0.0012 - acc: 0.9244

Epoch 00908: acc did not improve
Epoch 909/1000

- 0s - loss: 0.0010 - acc: 0.9594

Epoch 00909: acc did not improve
Epoch 910/1000
- 0s - loss: 0.0013 - acc: 0.9150

Epoch 00910: acc did not improve
Epoch 911/1000
- 0s - loss: 7.3996e-04 - acc: 0.9652

Epoch 00911: acc did not improve
Epoch 912/1000
- 0s - loss: 6.5774e-04 - acc: 0.9635

Epoch 00912: acc did not improve
Epoch 913/1000
- 0s - loss: 6.3778e-04 - acc: 0.9635

Epoch 00913: acc did not improve
Epoch 914/1000
- 0s - loss: 6.4075e-04 - acc: 0.9644

Epoch 00914: acc did not improve
Epoch 915/1000
- 0s - loss: 6.3921e-04 - acc: 0.9607

Epoch 00915: acc did not improve
Epoch 916/1000
- 0s - loss: 6.6490e-04 - acc: 0.9649

Epoch 00916: acc did not improve
Epoch 917/1000
- 0s - loss: 7.0604e-04 - acc: 0.9590

Epoch 00917: acc did not improve
Epoch 918/1000
- 0s - loss: 7.8235e-04 - acc: 0.9571

Epoch 00918: acc did not improve
Epoch 919/1000
- 0s - loss: 8.0261e-04 - acc: 0.9595

Epoch 00919: acc did not improve
Epoch 920/1000
- 0s - loss: 7.7003e-04 - acc: 0.9389

Epoch 00920: acc did not improve
Epoch 921/1000

- 0s - loss: 8.1175e-04 - acc: 0.9589

Epoch 00921: acc did not improve
Epoch 922/1000
- 0s - loss: 8.7114e-04 - acc: 0.9361

Epoch 00922: acc did not improve
Epoch 923/1000
- 0s - loss: 8.5435e-04 - acc: 0.9597

Epoch 00923: acc did not improve
Epoch 924/1000
- 0s - loss: 8.5927e-04 - acc: 0.9483

Epoch 00924: acc did not improve
Epoch 925/1000
- 0s - loss: 8.8300e-04 - acc: 0.9621

Epoch 00925: acc did not improve
Epoch 926/1000
- 0s - loss: 8.1201e-04 - acc: 0.9565

Epoch 00926: acc did not improve
Epoch 927/1000
- 0s - loss: 6.9026e-04 - acc: 0.9636

Epoch 00927: acc did not improve
Epoch 928/1000
- 0s - loss: 6.6605e-04 - acc: 0.9615

Epoch 00928: acc did not improve
Epoch 929/1000
- 0s - loss: 6.7299e-04 - acc: 0.9646

Epoch 00929: acc did not improve
Epoch 930/1000
- 0s - loss: 6.6250e-04 - acc: 0.9598

Epoch 00930: acc did not improve
Epoch 931/1000
- 0s - loss: 6.7244e-04 - acc: 0.9658

Epoch 00931: acc improved from 0.96569 to 0.96584, saving model to model_v1.h5
Epoch 932/1000
- 0s - loss: 6.9855e-04 - acc: 0.9527

Epoch 00932: acc did not improve
Epoch 933/1000

- 0s - loss: 7.4146e-04 - acc: 0.9645

Epoch 00933: acc did not improve
Epoch 934/1000
- 0s - loss: 8.0692e-04 - acc: 0.9495

Epoch 00934: acc did not improve
Epoch 935/1000
- 0s - loss: 8.7030e-04 - acc: 0.9625

Epoch 00935: acc did not improve
Epoch 936/1000
- 0s - loss: 8.0119e-04 - acc: 0.9610

Epoch 00936: acc did not improve
Epoch 937/1000
- 0s - loss: 8.2937e-04 - acc: 0.9203

Epoch 00937: acc did not improve
Epoch 938/1000
- 0s - loss: 7.6084e-04 - acc: 0.9541

Epoch 00938: acc did not improve
Epoch 939/1000
- 0s - loss: 7.6246e-04 - acc: 0.9272

Epoch 00939: acc did not improve
Epoch 940/1000
- 0s - loss: 7.0127e-04 - acc: 0.9590

Epoch 00940: acc did not improve
Epoch 941/1000
- 0s - loss: 7.7233e-04 - acc: 0.9486

Epoch 00941: acc did not improve
Epoch 942/1000
- 0s - loss: 9.4679e-04 - acc: 0.9625

Epoch 00942: acc did not improve
Epoch 943/1000
- 0s - loss: 0.0012 - acc: 0.9521

Epoch 00943: acc did not improve
Epoch 944/1000
- 0s - loss: 0.0028 - acc: 0.9607

Epoch 00944: acc did not improve
Epoch 945/1000

- 0s - loss: 0.0052 - acc: 0.9012

Epoch 00945: acc did not improve
Epoch 946/1000
- 0s - loss: 0.0020 - acc: 0.9498

Epoch 00946: acc did not improve
Epoch 947/1000
- 0s - loss: 0.0023 - acc: 0.9475

Epoch 00947: acc did not improve
Epoch 948/1000
- 0s - loss: 0.0013 - acc: 0.9560

Epoch 00948: acc did not improve
Epoch 949/1000
- 0s - loss: 8.7222e-04 - acc: 0.9598

Epoch 00949: acc did not improve
Epoch 950/1000
- 0s - loss: 7.6336e-04 - acc: 0.9581

Epoch 00950: acc did not improve
Epoch 951/1000
- 0s - loss: 7.1708e-04 - acc: 0.9627

Epoch 00951: acc did not improve
Epoch 952/1000
- 0s - loss: 6.9315e-04 - acc: 0.9626

Epoch 00952: acc did not improve
Epoch 953/1000
- 0s - loss: 6.7712e-04 - acc: 0.9634

Epoch 00953: acc did not improve
Epoch 954/1000
- 0s - loss: 6.6502e-04 - acc: 0.9630

Epoch 00954: acc did not improve
Epoch 955/1000
- 0s - loss: 6.5533e-04 - acc: 0.9635

Epoch 00955: acc did not improve
Epoch 956/1000
- 0s - loss: 6.4679e-04 - acc: 0.9631

Epoch 00956: acc did not improve
Epoch 957/1000

- 0s - loss: 6.3913e-04 - acc: 0.9635

Epoch 00957: acc did not improve
Epoch 958/1000
- 0s - loss: 6.3249e-04 - acc: 0.9633

Epoch 00958: acc did not improve
Epoch 959/1000
- 0s - loss: 6.2651e-04 - acc: 0.9640

Epoch 00959: acc did not improve
Epoch 960/1000
- 0s - loss: 6.2080e-04 - acc: 0.9637

Epoch 00960: acc did not improve
Epoch 961/1000
- 0s - loss: 6.1570e-04 - acc: 0.9642

Epoch 00961: acc did not improve
Epoch 962/1000
- 0s - loss: 6.1150e-04 - acc: 0.9636

Epoch 00962: acc did not improve
Epoch 963/1000
- 0s - loss: 6.0810e-04 - acc: 0.9640

Epoch 00963: acc did not improve
Epoch 964/1000
- 0s - loss: 6.0588e-04 - acc: 0.9621

Epoch 00964: acc did not improve
Epoch 965/1000
- 0s - loss: 6.0650e-04 - acc: 0.9611

Epoch 00965: acc did not improve
Epoch 966/1000
- 0s - loss: 6.1798e-04 - acc: 0.9498

Epoch 00966: acc did not improve
Epoch 967/1000
- 0s - loss: 6.4083e-04 - acc: 0.9540

Epoch 00967: acc did not improve
Epoch 968/1000
- 0s - loss: 7.1584e-04 - acc: 0.9290

Epoch 00968: acc did not improve
Epoch 969/1000

- 0s - loss: 7.4342e-04 - acc: 0.9563

Epoch 00969: acc did not improve
Epoch 970/1000
- 0s - loss: 8.3688e-04 - acc: 0.9408

Epoch 00970: acc did not improve
Epoch 971/1000
- 0s - loss: 8.9888e-04 - acc: 0.9613

Epoch 00971: acc did not improve
Epoch 972/1000
- 0s - loss: 8.1688e-04 - acc: 0.9523

Epoch 00972: acc did not improve
Epoch 973/1000
- 0s - loss: 8.0530e-04 - acc: 0.9638

Epoch 00973: acc did not improve
Epoch 974/1000
- 0s - loss: 6.9386e-04 - acc: 0.9553

Epoch 00974: acc did not improve
Epoch 975/1000
- 0s - loss: 6.5298e-04 - acc: 0.9612

Epoch 00975: acc did not improve
Epoch 976/1000
- 0s - loss: 6.3660e-04 - acc: 0.9570

Epoch 00976: acc did not improve
Epoch 977/1000
- 0s - loss: 6.3267e-04 - acc: 0.9627

Epoch 00977: acc did not improve
Epoch 978/1000
- 0s - loss: 6.3692e-04 - acc: 0.9550

Epoch 00978: acc did not improve
Epoch 979/1000
- 0s - loss: 6.5532e-04 - acc: 0.9613

Epoch 00979: acc did not improve
Epoch 980/1000
- 0s - loss: 6.9681e-04 - acc: 0.9480

Epoch 00980: acc did not improve
Epoch 981/1000

- 0s - loss: 7.2463e-04 - acc: 0.9592

Epoch 00981: acc did not improve
Epoch 982/1000
- 0s - loss: 7.6899e-04 - acc: 0.9418

Epoch 00982: acc did not improve
Epoch 983/1000
- 0s - loss: 7.7675e-04 - acc: 0.9582

Epoch 00983: acc did not improve
Epoch 984/1000
- 0s - loss: 7.6778e-04 - acc: 0.9425

Epoch 00984: acc did not improve
Epoch 985/1000
- 0s - loss: 7.4936e-04 - acc: 0.9619

Epoch 00985: acc did not improve
Epoch 986/1000
- 0s - loss: 7.4587e-04 - acc: 0.9532

Epoch 00986: acc did not improve
Epoch 987/1000
- 0s - loss: 7.5005e-04 - acc: 0.9608

Epoch 00987: acc did not improve
Epoch 988/1000
- 0s - loss: 7.5482e-04 - acc: 0.9582

Epoch 00988: acc did not improve
Epoch 989/1000
- 0s - loss: 7.3028e-04 - acc: 0.9600

Epoch 00989: acc did not improve
Epoch 990/1000
- 0s - loss: 6.9796e-04 - acc: 0.9535

Epoch 00990: acc did not improve
Epoch 991/1000
- 0s - loss: 6.9004e-04 - acc: 0.9609

Epoch 00991: acc did not improve
Epoch 992/1000
- 0s - loss: 6.7757e-04 - acc: 0.9482

Epoch 00992: acc did not improve
Epoch 993/1000

```
- 0s - loss: 6.8530e-04 - acc: 0.9552

Epoch 00993: acc did not improve
Epoch 994/1000
- 0s - loss: 7.3677e-04 - acc: 0.9377

Epoch 00994: acc did not improve
Epoch 995/1000
- 0s - loss: 6.8544e-04 - acc: 0.9540

Epoch 00995: acc did not improve
Epoch 996/1000
- 0s - loss: 7.0838e-04 - acc: 0.9369

Epoch 00996: acc did not improve
Epoch 997/1000
- 0s - loss: 6.3968e-04 - acc: 0.9581

Epoch 00997: acc did not improve
Epoch 998/1000
- 0s - loss: 6.7292e-04 - acc: 0.9479

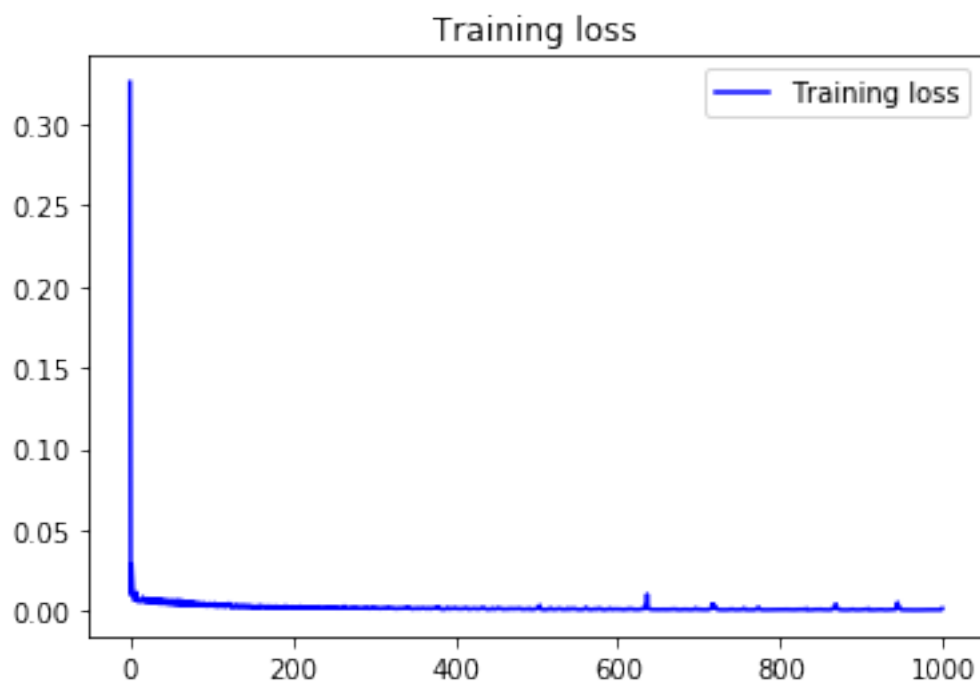
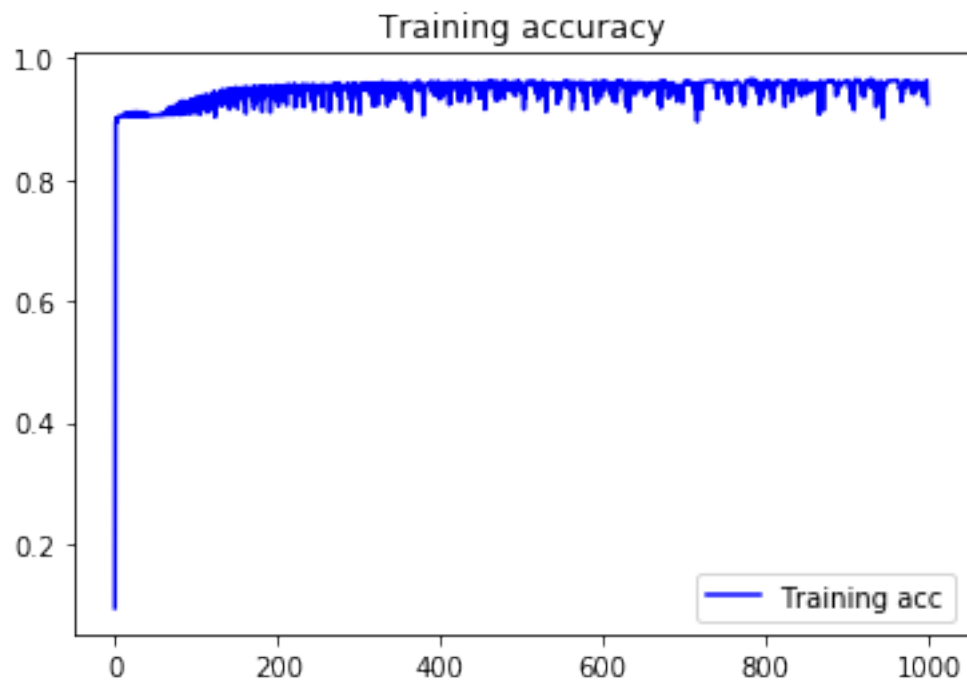
Epoch 00998: acc did not improve
Epoch 999/1000
- 0s - loss: 7.7298e-04 - acc: 0.9639

Epoch 00999: acc did not improve
Epoch 1000/1000
- 0s - loss: 0.0016 - acc: 0.9249

Epoch 01000: acc did not improve
```

```
In [7]: acc = history.history['acc']
        loss = history.history['loss']
        epochs = range(len(acc))
        plt.plot(epochs, acc, 'b', label='Training acc')
        plt.title('Training accuracy')
        plt.legend()
        plt.figure()
        plt.plot(epochs, loss, 'b', label='Training loss')
        plt.title('Training loss')
        plt.legend()

        plt.show()
```



```
In [8]: print(model.evaluate(X, Y, batch_size=1))  
        output = model.predict(X)
```

```

output *= 128
# Output colorizations
cur = np.zeros((400, 400, 3))
cur[:, :, 0] = X[0][:, :, 0]
cur[:, :, 1:] = output[0]
imsave("img_result.png", lab2rgb(cur))
imsave("img_gray_version.png", rgb2gray(lab2rgb(cur)))

```

```

1/1 [=====] - 0s 44ms/step
[0.002573425881564617, 0.959543764591217]

```

```

c:\anaconda3\envs\tensorflow\lib\site-packages\skimage\color\colorconv.py:985: UserWarning: Co
warn('Color data out of range: Z < 0 in %s pixels' % invalid[0].size)
c:\anaconda3\envs\tensorflow\lib\site-packages\skimage\util\dtype.py:122: UserWarning: Possibl
.format(dtypeobj_in, dtypeobj_out))
c:\anaconda3\envs\tensorflow\lib\site-packages\skimage\util\dtype.py:122: UserWarning: Possibl
.format(dtypeobj_in, dtypeobj_out))

```