Distracted Driving Detection

Load the Data

```
In [1]:  #dictionary for distraction category to numerical value
         catLabels = {
             'c0': 'safe driving',
             'c1': 'texting - right',
             'c2': 'talking on the phone - right',
             'c3': 'texting - left',
             'c4': 'talking on the phone - left',
             'c5': 'operating the radio',
             'c6': 'drinking',
             'c7': 'reaching behind',
             'c8': 'hair and makeup',
             'c9': 'talking to passenger'
         }

         def getClass(value):
             index = 'c' + str(value)
             return catLabels[index]
```

In [2]:
```python
from sklearn.datasets import load_files
from keras.utils import np_utils
import numpy as np
from glob import glob
import os
from sklearn.model_selection import train_test_split

import tensorflow as tf
hello = tf.constant('Hello, TensorFlow!')
sess = tf.Session()
print(sess.run(hello))

# import tensorflow as tf
# from keras import backend as K

# num_cores = 4
# GPU = 1
# CPU = 0

# if GPU:
#     num_GPU = 1
#     num_CPU = 1
# if CPU:
#     num_CPU = 1
#     num_GPU = 0

# config = tf.ConfigProto(intra_op_parallelism_threads=num_cores,\
```

```
#          inter_op_parallelism_threads=num_cores, allow_soft_placement=True,\
#          device_count = {'CPU' : num_CPU, 'GPU' : num_GPU})
# session = tf.Session(config=config)
# K.set_session(session)

def loadImages(path):
        data = load_files(path)
        files = data['filenames']
        targets = data['target']
        target_names = data['target_names']
        return files, targets, target_names

path = "images/train"
files,targets,target_names = loadImages(path)
predict_files = np.array(glob("images/test/*"))[1:10]
print('Number of Categories: ', len(target_names))
print('Categories: ', target_names)
print('Number of images by category: ')
for c in target_names:
    print(c + ':' + str(len( os.listdir(path+'/'+c))))
    # train_data = np.vstack((files, targets)).T
    # print(train_data.shape)

#Split the original training sets into training & validation sets
train_files, test_files, train_targets, test_targets = train_test_split(files,
 targets, test_size=0.20, random_state=40)

print(train_files.shape, test_files.shape, train_targets.shape, test_targets.s
hape)
print(len(test_files))
```

```
Using TensorFlow backend.

b'Hello, TensorFlow!'
Number of Categories:  10
Categories:  ['c0', 'c1', 'c2', 'c3', 'c4', 'c5', 'c6', 'c7', 'c8', 'c9']
Number of images by category:
c0:1900
c1:1900
c2:1900
c3:1900
c4:1900
c5:1900
c6:1900
c7:1900
c8:1900
c9:1900
(15200,) (3800,) (15200,) (3800,)
3800
```

Data Analysis

In [3]:
```python
import cv2
import matplotlib.pyplot as plt
%matplotlib inline

def displayImage(sample_image):
    gray = cv2.cvtColor(sample_image, cv2.COLOR_BGR2GRAY)

    # convert BGR image to RGB for plotting
    cv_rgb = cv2.cvtColor(sample_image, cv2.COLOR_BGR2RGB)
    plt.imshow(cv_rgb)
    plt.show()

for i in range(1,5):
    sample_image = cv2.imread(train_files[i])
    print(train_targets[i])
    print(getClass(train_targets[i]))
    displayImage(sample_image)
```

8
hair and makeup
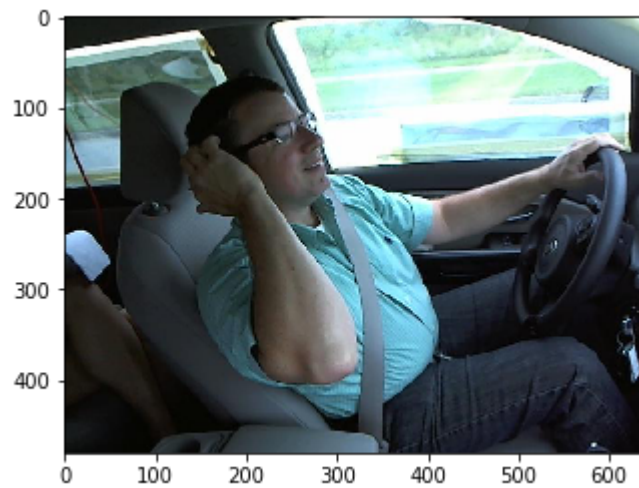
9
talking to passenger

0
safe driving

0
safe driving

```
In [4]: #(nb_samples,rows,columns,channels)
        #nb_samples - total number of images
        # Resize image to 224x224
        # Convert image to an array -> resized to a 4D tensor used by Keras CNN
        # Tensor will be (1,224,224,3)

        #Adopted from the Deep Learning Project
        from keras.preprocessing import image
        from tqdm import tqdm

        def path_to_tensor(img_path):
            # loads RGB image as PIL.Image.Image type
            img = image.load_img(img_path, target_size=(224, 224))
            # convert PIL.Image.Image type to 3D tensor with shape (224, 224, 3)
            x = image.img_to_array(img)
            # convert 3D tensor to 4D tensor with shape (1, 224, 224, 3) and return 4D
         tensor
            return np.expand_dims(x, axis=0)

        def paths_to_tensor(img_paths):
            print (img_paths)
            list_of_tensors = [path_to_tensor(img_path) for img_path in tqdm(img_paths
        )]
            return np.vstack(list_of_tensors)
```

Pre-Process the Data

In [5]:
```python
#Rescale the images

from PIL import ImageFile
ImageFile.LOAD_TRUNCATED_IMAGES = True

train_tensors = paths_to_tensor(train_files).astype('float32')/255
test_tensors = paths_to_tensor(test_files).astype('float32')/255
#predict_tensors = paths_to_tensor(predict_files).astype('float32')/255
```

```
['images/train\\c3\\img_24663.jpg' 'images/train\\c8\\img_98810.jpg'
 'images/train\\c9\\img_67390.jpg' ..., 'images/train\\c7\\img_31727.jpg'
 'images/train\\c7\\img_82756.jpg' 'images/train\\c5\\img_21995.jpg']
```

```
100%|████████████████████████████████████████████████████████|
███| 15200/15200 [01:25<00:00, 177.75it/s]
```

```
['images/train\\c5\\img_68264.jpg' 'images/train\\c6\\img_69335.jpg'
 'images/train\\c2\\img_12280.jpg' ..., 'images/train\\c8\\img_6916.jpg'
 'images/train\\c6\\img_21610.jpg' 'images/train\\c5\\img_46343.jpg']
```

```
100%|████████████████████████████████████████████████████████|
████| 3800/3800 [00:23<00:00, 160.48it/s]
```

Baseline Model Architecture

In [16]:

```python
from keras.layers import Conv2D, MaxPooling2D, GlobalAveragePooling2D
from keras.layers import Dropout, Flatten, Dense
from keras.models import Sequential
from keras.utils import plot_model

model = Sequential()

model.add(Conv2D(filters=10, kernel_size=(4,4), input_shape=(224,224,3
)))
model.add(Dropout(.2))
model.add(MaxPooling2D(pool_size=(4, 4), strides=None, padding='valid',
data_format=None))
model.add(Dropout(.2))
model.add(Conv2D(filters=10, kernel_size=(4,4), input_shape=(224,224,3
)))
model.add(MaxPooling2D(pool_size=(4, 4), strides=None, padding='valid',
data_format=None))
model.add(Conv2D(filters=10, kernel_size=(4,4), input_shape=(224,224,3
)))
model.add(MaxPooling2D(pool_size=(4, 4), strides=None, padding='valid',
data_format=None))
model.add(GlobalAveragePooling2D())
model.add(Dense(units=10, activation='relu'))
model.add(Dropout(.2))
model.add(Dense(units=10, activation='softmax'))
model.summary()


model.compile(optimizer='rmsprop', loss='categorical_crossentropy', metr
ics=['accuracy'])

# from IPython.display import SVG
# from keras.utils.vis_utils import model_to_dot
# plot_model(model, to_file='model.png')
# SVG(model_to_dot(model).create(prog='dot', format='svg'))
```

```
_____
Layer (type)                  Output Shape              Param #
================================================================
conv2d_14 (Conv2D)            (None, 221, 221, 10)      490
_____
dropout_10 (Dropout)          (None, 221, 221, 10)      0
_____
max_pooling2d_13 (MaxPooling  (None, 55, 55, 10)        0
_____
dropout_11 (Dropout)          (None, 55, 55, 10)        0
_____
conv2d_15 (Conv2D)            (None, 52, 52, 10)        1610
_____
max_pooling2d_14 (MaxPooling  (None, 13, 13, 10)        0
_____
conv2d_16 (Conv2D)            (None, 10, 10, 10)        1610
_____
max_pooling2d_15 (MaxPooling  (None, 2, 2, 10)          0
_____
global_average_pooling2d_4 (  (None, 10)                0
_____
dense_9 (Dense)               (None, 10)                110
_____
dropout_12 (Dropout)          (None, 10)                0
_____
dense_10 (Dense)              (None, 10)                110
================================================================
Total params: 3,930
Trainable params: 3,930
Non-trainable params: 0
_____
```

Train the Model

In [17]:
```python
from keras.callbacks import ModelCheckpoint
from keras.utils import np_utils

print("Train Targets", train_targets)
print ("Test Targets", test_targets)
train_targets_onehot = np_utils.to_categorical(np.array(train_targets),1
0)
test_targets_onehot = np_utils.to_categorical(np.array(test_targets),10)
print ("Train Targets One-hot encoded", train_targets_onehot)
print ("Test Targets One-hot encoded", test_targets_onehot)

print(train_targets_onehot.shape)
print(test_targets_onehot.shape)

checkpointer = ModelCheckpoint(filepath='C:/Users/pushkar/ML/machine-lea
rning/projects/capstone/saved_models/weights.best.from_scratch.hdf5',
                               verbose=1, save_best_only=True)

def train_model(_epochs):
    epochs = _epochs

    history = model.fit(train_tensors, train_targets_onehot, validation_
split=.20,
            epochs=epochs, batch_size=32, callbacks=[checkpointer], verbos
e=2)
    return history

history = train_model(1000)
```

```
Train Targets [3 8 9 ..., 7 7 5]
Test Targets [5 6 2 ..., 8 6 5]
Train Targets One-hot encoded [[ 0.  0.  0. ...,  0.  0.  0.]
 [ 0.  0.  0. ...,  0.  1.  0.]
 [ 0.  0.  0. ...,  0.  0.  1.]
 ...,
 [ 0.  0.  0. ...,  1.  0.  0.]
 [ 0.  0.  0. ...,  1.  0.  0.]
 [ 0.  0.  0. ...,  0.  0.  0.]]
Test Targets One-hot encoded [[ 0.  0.  0. ...,  0.  0.  0.]
 [ 0.  0.  0. ...,  0.  0.  0.]
 [ 0.  0.  1. ...,  0.  0.  0.]
 ...,
 [ 0.  0.  0. ...,  0.  1.  0.]
 [ 0.  0.  0. ...,  0.  0.  0.]
 [ 0.  0.  0. ...,  0.  0.  0.]]
(15200, 10)
(3800, 10)
Train on 12160 samples, validate on 3040 samples
Epoch 1/1000
 - 98s - loss: 2.2979 - acc: 0.1184 - val_loss: 2.2764 - val_acc: 0.1194

Epoch 00001: val_loss improved from inf to 2.27644, saving model to C:/U
sers/pushkar/ML/machine-learning/projects/capstone/saved_models/weights.
best.from_scratch.hdf5
Epoch 2/1000
 - 101s - loss: 2.1497 - acc: 0.2146 - val_loss: 2.0934 - val_acc: 0.201
3

Epoch 00002: val_loss improved from 2.27644 to 2.09343, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 3/1000
 - 95s - loss: 1.8942 - acc: 0.2998 - val_loss: 1.7036 - val_acc: 0.4076

Epoch 00003: val_loss improved from 2.09343 to 1.70355, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 4/1000
 - 94s - loss: 1.6769 - acc: 0.3777 - val_loss: 1.5201 - val_acc: 0.4740

Epoch 00004: val_loss improved from 1.70355 to 1.52007, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 5/1000
 - 97s - loss: 1.5076 - acc: 0.4485 - val_loss: 1.3838 - val_acc: 0.5276

Epoch 00005: val_loss improved from 1.52007 to 1.38375, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 6/1000
 - 94s - loss: 1.4001 - acc: 0.4925 - val_loss: 1.2981 - val_acc: 0.5484

Epoch 00006: val_loss improved from 1.38375 to 1.29812, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 7/1000
```

```
                        - 97s - loss: 1.2982 - acc: 0.5297 - val_loss: 1.2202 - val_acc: 0.5793


Epoch 00007: val_loss improved from 1.29812 to 1.22024, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 8/1000
                        - 96s - loss: 1.2182 - acc: 0.5558 - val_loss: 1.1085 - val_acc: 0.6214


Epoch 00008: val_loss improved from 1.22024 to 1.10846, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 9/1000
                        - 93s - loss: 1.1623 - acc: 0.5759 - val_loss: 1.0952 - val_acc: 0.6158


Epoch 00009: val_loss improved from 1.10846 to 1.09515, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 10/1000
                        - 93s - loss: 1.1089 - acc: 0.6054 - val_loss: 1.2851 - val_acc: 0.5385


Epoch 00010: val_loss did not improve
Epoch 11/1000
                        - 93s - loss: 1.0610 - acc: 0.6117 - val_loss: 1.1106 - val_acc: 0.6102


Epoch 00011: val_loss did not improve
Epoch 12/1000
                        - 93s - loss: 1.0161 - acc: 0.6338 - val_loss: 1.1158 - val_acc: 0.5970


Epoch 00012: val_loss did not improve
Epoch 13/1000
                        - 93s - loss: 0.9829 - acc: 0.6496 - val_loss: 1.2415 - val_acc: 0.5661


Epoch 00013: val_loss did not improve
Epoch 14/1000
                        - 93s - loss: 0.9629 - acc: 0.6553 - val_loss: 1.4371 - val_acc: 0.5118


Epoch 00014: val_loss did not improve
Epoch 15/1000
                        - 93s - loss: 0.9304 - acc: 0.6626 - val_loss: 1.0316 - val_acc: 0.6441


Epoch 00015: val_loss improved from 1.09515 to 1.03158, saving model to
C:/Users/pushkar/ML/machine-learning/projects/capstone/saved_models/weig
hts.best.from_scratch.hdf5
Epoch 16/1000
                        - 93s - loss: 0.9086 - acc: 0.6772 - val_loss: 1.4517 - val_acc: 0.5125


Epoch 00016: val_loss did not improve
Epoch 17/1000
                        - 93s - loss: 0.8814 - acc: 0.6833 - val_loss: 1.1930 - val_acc: 0.5819


Epoch 00017: val_loss did not improve
Epoch 18/1000
                        - 93s - loss: 0.8712 - acc: 0.6891 - val_loss: 1.9289 - val_acc: 0.4411


Epoch 00018: val_loss did not improve
Epoch 19/1000
                        - 93s - loss: 0.8437 - acc: 0.7009 - val_loss: 1.5767 - val_acc: 0.5289
```

```
Epoch 00019: val_loss did not improve
Epoch 20/1000
 - 93s - loss: 0.8338 - acc: 0.7005 - val_loss: 2.2313 - val_acc: 0.4016

Epoch 00020: val_loss did not improve
Epoch 21/1000
 - 93s - loss: 0.8060 - acc: 0.7160 - val_loss: 1.3313 - val_acc: 0.5727

Epoch 00021: val_loss did not improve
Epoch 22/1000
 - 93s - loss: 0.7949 - acc: 0.7190 - val_loss: 1.9272 - val_acc: 0.4740

Epoch 00022: val_loss did not improve
Epoch 23/1000
 - 93s - loss: 0.7850 - acc: 0.7239 - val_loss: 1.7038 - val_acc: 0.5056

Epoch 00023: val_loss did not improve
Epoch 24/1000
 - 93s - loss: 0.7790 - acc: 0.7220 - val_loss: 1.1873 - val_acc: 0.6204

Epoch 00024: val_loss did not improve
Epoch 25/1000
 - 93s - loss: 0.7638 - acc: 0.7311 - val_loss: 1.6926 - val_acc: 0.5138

Epoch 00025: val_loss did not improve
Epoch 26/1000
 - 93s - loss: 0.7514 - acc: 0.7350 - val_loss: 1.3646 - val_acc: 0.5852

Epoch 00026: val_loss did not improve
Epoch 27/1000
 - 93s - loss: 0.7408 - acc: 0.7367 - val_loss: 2.9309 - val_acc: 0.3809

Epoch 00027: val_loss did not improve
Epoch 28/1000
 - 93s - loss: 0.7307 - acc: 0.7440 - val_loss: 1.7625 - val_acc: 0.5099

Epoch 00028: val_loss did not improve
Epoch 29/1000
 - 93s - loss: 0.7240 - acc: 0.7492 - val_loss: 1.2907 - val_acc: 0.6066

Epoch 00029: val_loss did not improve
Epoch 30/1000
 - 93s - loss: 0.7130 - acc: 0.7499 - val_loss: 2.0769 - val_acc: 0.4645

Epoch 00030: val_loss did not improve
Epoch 31/1000
 - 93s - loss: 0.7225 - acc: 0.7424 - val_loss: 1.7144 - val_acc: 0.5234

Epoch 00031: val_loss did not improve
Epoch 32/1000
 - 93s - loss: 0.7251 - acc: 0.7475 - val_loss: 2.7037 - val_acc: 0.4184

Epoch 00032: val_loss did not improve
Epoch 33/1000
 - 93s - loss: 0.7009 - acc: 0.7539 - val_loss: 2.8754 - val_acc: 0.3783
```

```
Epoch 00033: val_loss did not improve
Epoch 34/1000
 - 93s - loss: 0.6789 - acc: 0.7601 - val_loss: 1.7444 - val_acc: 0.5398

Epoch 00034: val_loss did not improve
Epoch 35/1000
 - 93s - loss: 0.6899 - acc: 0.7568 - val_loss: 1.5666 - val_acc: 0.5586

Epoch 00035: val_loss did not improve
Epoch 36/1000
 - 93s - loss: 0.6892 - acc: 0.7623 - val_loss: 1.2677 - val_acc: 0.6224

Epoch 00036: val_loss did not improve
Epoch 37/1000
 - 93s - loss: 0.6740 - acc: 0.7640 - val_loss: 2.2206 - val_acc: 0.4743

Epoch 00037: val_loss did not improve
Epoch 38/1000
 - 93s - loss: 0.6610 - acc: 0.7685 - val_loss: 2.7620 - val_acc: 0.4217

Epoch 00038: val_loss did not improve
Epoch 39/1000
 - 93s - loss: 0.6645 - acc: 0.7705 - val_loss: 1.5210 - val_acc: 0.5707

Epoch 00039: val_loss did not improve
Epoch 40/1000
 - 93s - loss: 0.6731 - acc: 0.7623 - val_loss: 3.0430 - val_acc: 0.3908

Epoch 00040: val_loss did not improve
Epoch 41/1000
 - 93s - loss: 0.6584 - acc: 0.7694 - val_loss: 2.5587 - val_acc: 0.4257

Epoch 00041: val_loss did not improve
Epoch 42/1000
 - 93s - loss: 0.6544 - acc: 0.7691 - val_loss: 3.3706 - val_acc: 0.3799

Epoch 00042: val_loss did not improve
Epoch 43/1000
 - 93s - loss: 0.6640 - acc: 0.7719 - val_loss: 2.4878 - val_acc: 0.4260

Epoch 00043: val_loss did not improve
Epoch 44/1000
 - 93s - loss: 0.6572 - acc: 0.7680 - val_loss: 2.4819 - val_acc: 0.4336

Epoch 00044: val_loss did not improve
Epoch 45/1000
 - 93s - loss: 0.6422 - acc: 0.7756 - val_loss: 1.9259 - val_acc: 0.5036

Epoch 00045: val_loss did not improve
Epoch 46/1000
 - 93s - loss: 0.6424 - acc: 0.7729 - val_loss: 1.3214 - val_acc: 0.6201

Epoch 00046: val_loss did not improve
Epoch 47/1000
 - 93s - loss: 0.6359 - acc: 0.7791 - val_loss: 2.6290 - val_acc: 0.4309

Epoch 00047: val_loss did not improve
```

```
Epoch 48/1000
 - 93s - loss: 0.6324 - acc: 0.7773 - val_loss: 1.9197 - val_acc: 0.5141

Epoch 00048: val_loss did not improve
Epoch 49/1000
 - 93s - loss: 0.6347 - acc: 0.7808 - val_loss: 2.6209 - val_acc: 0.4339

Epoch 00049: val_loss did not improve
Epoch 50/1000
 - 93s - loss: 0.6279 - acc: 0.7777 - val_loss: 2.0236 - val_acc: 0.5109

Epoch 00050: val_loss did not improve
Epoch 51/1000
 - 93s - loss: 0.6217 - acc: 0.7839 - val_loss: 2.2231 - val_acc: 0.4961

Epoch 00051: val_loss did not improve
Epoch 52/1000
 - 93s - loss: 0.6169 - acc: 0.7879 - val_loss: 2.1413 - val_acc: 0.4941

Epoch 00052: val_loss did not improve
Epoch 53/1000
 - 93s - loss: 0.6148 - acc: 0.7859 - val_loss: 2.4661 - val_acc: 0.4566

Epoch 00053: val_loss did not improve
Epoch 54/1000
 - 93s - loss: 0.6142 - acc: 0.7882 - val_loss: 1.8242 - val_acc: 0.5332

Epoch 00054: val_loss did not improve
Epoch 55/1000
 - 93s - loss: 0.6154 - acc: 0.7850 - val_loss: 3.0818 - val_acc: 0.4260

Epoch 00055: val_loss did not improve
Epoch 56/1000
 - 93s - loss: 0.6258 - acc: 0.7817 - val_loss: 2.1315 - val_acc: 0.5214

Epoch 00056: val_loss did not improve
Epoch 57/1000
 - 93s - loss: 0.6184 - acc: 0.7844 - val_loss: 2.2573 - val_acc: 0.4961

Epoch 00057: val_loss did not improve
Epoch 58/1000
 - 93s - loss: 0.6134 - acc: 0.7872 - val_loss: 2.8536 - val_acc: 0.4566

Epoch 00058: val_loss did not improve
Epoch 59/1000
 - 93s - loss: 0.6208 - acc: 0.7829 - val_loss: 1.8174 - val_acc: 0.5536

Epoch 00059: val_loss did not improve
Epoch 60/1000
 - 93s - loss: 0.6033 - acc: 0.7889 - val_loss: 2.4103 - val_acc: 0.4776

Epoch 00060: val_loss did not improve
Epoch 61/1000
 - 93s - loss: 0.5997 - acc: 0.7929 - val_loss: 2.5643 - val_acc: 0.4681

Epoch 00061: val_loss did not improve
Epoch 62/1000
```

```
                   - 93s - loss: 0.5975 - acc: 0.7910 - val_loss: 3.2355 - val_acc: 0.4230


        Epoch 00062: val_loss did not improve
        Epoch 63/1000
         - 93s - loss: 0.5946 - acc: 0.7958 - val_loss: 3.6001 - val_acc: 0.4112


        Epoch 00063: val_loss did not improve
        Epoch 64/1000
         - 93s - loss: 0.5968 - acc: 0.7921 - val_loss: 3.4331 - val_acc: 0.4178


        Epoch 00064: val_loss did not improve
        Epoch 65/1000
         - 93s - loss: 0.5861 - acc: 0.7933 - val_loss: 2.8150 - val_acc: 0.4625


        Epoch 00065: val_loss did not improve
        Epoch 66/1000
         - 93s - loss: 0.5942 - acc: 0.7970 - val_loss: 2.0167 - val_acc: 0.5293


        Epoch 00066: val_loss did not improve
        Epoch 67/1000
         - 93s - loss: 0.6036 - acc: 0.7936 - val_loss: 2.3771 - val_acc: 0.5059


        Epoch 00067: val_loss did not improve
        Epoch 68/1000
         - 93s - loss: 0.5968 - acc: 0.7950 - val_loss: 2.6904 - val_acc: 0.4691


        Epoch 00068: val_loss did not improve
        Epoch 69/1000
         - 93s - loss: 0.5878 - acc: 0.7946 - val_loss: 3.1125 - val_acc: 0.4339


        Epoch 00069: val_loss did not improve
        Epoch 70/1000
         - 93s - loss: 0.5897 - acc: 0.7984 - val_loss: 1.8449 - val_acc: 0.5717


        Epoch 00070: val_loss did not improve
        Epoch 71/1000
         - 93s - loss: 0.5827 - acc: 0.7970 - val_loss: 3.3891 - val_acc: 0.4260


        Epoch 00071: val_loss did not improve
        Epoch 72/1000
         - 93s - loss: 0.5860 - acc: 0.7982 - val_loss: 4.3998 - val_acc: 0.3638


        Epoch 00072: val_loss did not improve
        Epoch 73/1000
         - 93s - loss: 0.5839 - acc: 0.8022 - val_loss: 1.9543 - val_acc: 0.5572


        Epoch 00073: val_loss did not improve
        Epoch 74/1000
         - 93s - loss: 0.5817 - acc: 0.7962 - val_loss: 2.0839 - val_acc: 0.5345


        Epoch 00074: val_loss did not improve
        Epoch 75/1000
         - 93s - loss: 0.5749 - acc: 0.7970 - val_loss: 3.2665 - val_acc: 0.4352


        Epoch 00075: val_loss did not improve
        Epoch 76/1000
         - 93s - loss: 0.5779 - acc: 0.8002 - val_loss: 2.9139 - val_acc: 0.4612
```

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Epoch 00076: val_loss did not improve
Epoch 77/1000
 - 93s - loss: 0.5856 - acc: 0.7998 - val_loss: 3.5563 - val_acc: 0.4102

Epoch 00077: val_loss did not improve
Epoch 78/1000
 - 93s - loss: 0.5863 - acc: 0.7996 - val_loss: 2.3530 - val_acc: 0.4961

Epoch 00078: val_loss did not improve
Epoch 79/1000
 - 93s - loss: 0.5716 - acc: 0.8005 - val_loss: 3.7149 - val_acc: 0.4066

Epoch 00079: val_loss did not improve
Epoch 80/1000
 - 93s - loss: 0.5701 - acc: 0.8071 - val_loss: 2.1083 - val_acc: 0.5184

Epoch 00080: val_loss did not improve
Epoch 81/1000
 - 93s - loss: 0.5750 - acc: 0.8026 - val_loss: 3.5298 - val_acc: 0.4332

Epoch 00081: val_loss did not improve
Epoch 82/1000
 - 93s - loss: 0.5757 - acc: 0.8027 - val_loss: 2.3359 - val_acc: 0.5007

Epoch 00082: val_loss did not improve
Epoch 83/1000
 - 93s - loss: 0.5684 - acc: 0.8012 - val_loss: 4.0688 - val_acc: 0.3895

Epoch 00083: val_loss did not improve
Epoch 84/1000
 - 93s - loss: 0.5792 - acc: 0.7990 - val_loss: 4.8472 - val_acc: 0.3605

Epoch 00084: val_loss did not improve
Epoch 85/1000
 - 93s - loss: 0.5666 - acc: 0.8035 - val_loss: 2.9764 - val_acc: 0.4549

Epoch 00085: val_loss did not improve
Epoch 86/1000
 - 93s - loss: 0.5613 - acc: 0.8072 - val_loss: 3.8241 - val_acc: 0.4122

Epoch 00086: val_loss did not improve
Epoch 87/1000
 - 93s - loss: 0.5549 - acc: 0.8085 - val_loss: 3.6185 - val_acc: 0.4230

Epoch 00087: val_loss did not improve
Epoch 88/1000
 - 93s - loss: 0.5712 - acc: 0.8066 - val_loss: 3.6572 - val_acc: 0.4257

Epoch 00088: val_loss did not improve
Epoch 89/1000
 - 93s - loss: 0.5759 - acc: 0.8007 - val_loss: 2.6091 - val_acc: 0.4954

Epoch 00089: val_loss did not improve
Epoch 90/1000
 - 93s - loss: 0.5656 - acc: 0.8035 - val_loss: 2.5220 - val_acc: 0.4813
```

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Epoch 00090: val_loss did not improve
Epoch 91/1000
 - 93s - loss: 0.5711 - acc: 0.8046 - val_loss: 2.7182 - val_acc: 0.4727

Epoch 00091: val_loss did not improve
Epoch 92/1000
 - 93s - loss: 0.5687 - acc: 0.8036 - val_loss: 4.2861 - val_acc: 0.3812

Epoch 00092: val_loss did not improve
Epoch 93/1000
 - 93s - loss: 0.5579 - acc: 0.8045 - val_loss: 3.2257 - val_acc: 0.4398

Epoch 00093: val_loss did not improve
Epoch 94/1000
 - 93s - loss: 0.5544 - acc: 0.8059 - val_loss: 1.9077 - val_acc: 0.5701

Epoch 00094: val_loss did not improve
Epoch 95/1000
 - 93s - loss: 0.5559 - acc: 0.8045 - val_loss: 3.0074 - val_acc: 0.4635

Epoch 00095: val_loss did not improve
Epoch 96/1000
 - 93s - loss: 0.5490 - acc: 0.8123 - val_loss: 3.9864 - val_acc: 0.4118

Epoch 00096: val_loss did not improve
Epoch 97/1000
 - 93s - loss: 0.5614 - acc: 0.8062 - val_loss: 4.0781 - val_acc: 0.3961

Epoch 00097: val_loss did not improve
Epoch 98/1000
 - 93s - loss: 0.5557 - acc: 0.8059 - val_loss: 6.0765 - val_acc: 0.3484

Epoch 00098: val_loss did not improve
Epoch 99/1000
 - 93s - loss: 0.5600 - acc: 0.8071 - val_loss: 3.8759 - val_acc: 0.4184

Epoch 00099: val_loss did not improve
Epoch 100/1000
 - 93s - loss: 0.5509 - acc: 0.8095 - val_loss: 2.4290 - val_acc: 0.4961

Epoch 00100: val_loss did not improve
Epoch 101/1000
 - 93s - loss: 0.5521 - acc: 0.8086 - val_loss: 2.4394 - val_acc: 0.5141

Epoch 00101: val_loss did not improve
Epoch 102/1000
 - 93s - loss: 0.5519 - acc: 0.8122 - val_loss: 3.6280 - val_acc: 0.4257

Epoch 00102: val_loss did not improve
Epoch 103/1000
 - 94s - loss: 0.5529 - acc: 0.8076 - val_loss: 3.3796 - val_acc: 0.4437

Epoch 00103: val_loss did not improve
Epoch 104/1000
 - 95s - loss: 0.5586 - acc: 0.8088 - val_loss: 3.1698 - val_acc: 0.4467

Epoch 00104: val_loss did not improve
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Epoch 105/1000
 - 93s - loss: 0.5492 - acc: 0.8104 - val_loss: 4.5984 - val_acc: 0.3911

Epoch 00105: val_loss did not improve
Epoch 106/1000
 - 93s - loss: 0.5549 - acc: 0.8072 - val_loss: 4.5248 - val_acc: 0.3888

Epoch 00106: val_loss did not improve
Epoch 107/1000
 - 93s - loss: 0.5545 - acc: 0.8109 - val_loss: 4.4116 - val_acc: 0.3951

Epoch 00107: val_loss did not improve
Epoch 108/1000
 - 93s - loss: 0.5475 - acc: 0.8117 - val_loss: 3.5299 - val_acc: 0.4313

Epoch 00108: val_loss did not improve
Epoch 109/1000
 - 93s - loss: 0.5378 - acc: 0.8165 - val_loss: 3.1875 - val_acc: 0.4513

Epoch 00109: val_loss did not improve
Epoch 110/1000
 - 93s - loss: 0.5499 - acc: 0.8086 - val_loss: 4.5141 - val_acc: 0.3951

Epoch 00110: val_loss did not improve
Epoch 111/1000
 - 93s - loss: 0.5481 - acc: 0.8107 - val_loss: 3.3816 - val_acc: 0.4385

Epoch 00111: val_loss did not improve
Epoch 112/1000
 - 93s - loss: 0.5349 - acc: 0.8183 - val_loss: 3.6815 - val_acc: 0.4220

Epoch 00112: val_loss did not improve
Epoch 113/1000
 - 93s - loss: 0.5554 - acc: 0.8088 - val_loss: 3.4773 - val_acc: 0.4365

Epoch 00113: val_loss did not improve
Epoch 114/1000
 - 93s - loss: 0.5323 - acc: 0.8171 - val_loss: 2.7104 - val_acc: 0.4803

Epoch 00114: val_loss did not improve
Epoch 115/1000
 - 93s - loss: 0.5422 - acc: 0.8164 - val_loss: 3.7461 - val_acc: 0.4230

Epoch 00115: val_loss did not improve
Epoch 116/1000
 - 93s - loss: 0.5481 - acc: 0.8138 - val_loss: 4.6398 - val_acc: 0.3891

Epoch 00116: val_loss did not improve
Epoch 117/1000
 - 93s - loss: 0.5394 - acc: 0.8122 - val_loss: 3.4324 - val_acc: 0.4391

Epoch 00117: val_loss did not improve
Epoch 118/1000
 - 93s - loss: 0.5435 - acc: 0.8146 - val_loss: 4.1445 - val_acc: 0.4141

Epoch 00118: val_loss did not improve
Epoch 119/1000
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 - 93s - loss: 0.5544 - acc: 0.8112 - val_loss: 2.5878 - val_acc: 0.5079


Epoch 00119: val_loss did not improve
Epoch 120/1000
 - 93s - loss: 0.5483 - acc: 0.8167 - val_loss: 4.7057 - val_acc: 0.3924


Epoch 00120: val_loss did not improve
Epoch 121/1000
 - 93s - loss: 0.5438 - acc: 0.8112 - val_loss: 3.0660 - val_acc: 0.4658


Epoch 00121: val_loss did not improve
Epoch 122/1000
 - 93s - loss: 0.5444 - acc: 0.8132 - val_loss: 4.6036 - val_acc: 0.3859


Epoch 00122: val_loss did not improve
Epoch 123/1000
 - 93s - loss: 0.5442 - acc: 0.8111 - val_loss: 3.8389 - val_acc: 0.4184


Epoch 00123: val_loss did not improve
Epoch 124/1000
 - 93s - loss: 0.5429 - acc: 0.8115 - val_loss: 5.8438 - val_acc: 0.3625


Epoch 00124: val_loss did not improve
Epoch 125/1000
 - 93s - loss: 0.5582 - acc: 0.8076 - val_loss: 5.0792 - val_acc: 0.3796


Epoch 00125: val_loss did not improve
Epoch 126/1000
 - 93s - loss: 0.5414 - acc: 0.8137 - val_loss: 3.9696 - val_acc: 0.4013


Epoch 00126: val_loss did not improve
Epoch 127/1000
 - 93s - loss: 0.5390 - acc: 0.8162 - val_loss: 3.2745 - val_acc: 0.4635


Epoch 00127: val_loss did not improve
Epoch 128/1000
 - 93s - loss: 0.5483 - acc: 0.8107 - val_loss: 4.2069 - val_acc: 0.4043


Epoch 00128: val_loss did not improve
Epoch 129/1000
 - 93s - loss: 0.5397 - acc: 0.8147 - val_loss: 3.2442 - val_acc: 0.4569


Epoch 00129: val_loss did not improve
Epoch 130/1000
 - 93s - loss: 0.5348 - acc: 0.8135 - val_loss: 3.4270 - val_acc: 0.4431


Epoch 00130: val_loss did not improve
Epoch 131/1000
 - 93s - loss: 0.5336 - acc: 0.8177 - val_loss: 2.3625 - val_acc: 0.5197


Epoch 00131: val_loss did not improve
Epoch 132/1000
 - 93s - loss: 0.5469 - acc: 0.8116 - val_loss: 4.1359 - val_acc: 0.4049


Epoch 00132: val_loss did not improve
Epoch 133/1000
 - 93s - loss: 0.5475 - acc: 0.8121 - val_loss: 4.3701 - val_acc: 0.4046
```

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Epoch 00133: val_loss did not improve
Epoch 134/1000
 - 93s - loss: 0.5464 - acc: 0.8101 - val_loss: 3.5617 - val_acc: 0.4342

Epoch 00134: val_loss did not improve
Epoch 135/1000
 - 92s - loss: 0.5484 - acc: 0.8105 - val_loss: 4.4114 - val_acc: 0.4036

Epoch 00135: val_loss did not improve
Epoch 136/1000
 - 93s - loss: 0.5389 - acc: 0.8166 - val_loss: 2.6005 - val_acc: 0.5191

Epoch 00136: val_loss did not improve
Epoch 137/1000
 - 93s - loss: 0.5426 - acc: 0.8072 - val_loss: 3.6174 - val_acc: 0.4454

Epoch 00137: val_loss did not improve
Epoch 138/1000
 - 93s - loss: 0.5457 - acc: 0.8132 - val_loss: 4.5310 - val_acc: 0.3891

Epoch 00138: val_loss did not improve
Epoch 139/1000
 - 93s - loss: 0.5343 - acc: 0.8154 - val_loss: 2.4882 - val_acc: 0.5257

Epoch 00139: val_loss did not improve
Epoch 140/1000
 - 93s - loss: 0.5295 - acc: 0.8186 - val_loss: 4.2754 - val_acc: 0.4086

Epoch 00140: val_loss did not improve
Epoch 141/1000
 - 93s - loss: 0.5430 - acc: 0.8109 - val_loss: 3.0413 - val_acc: 0.4789

Epoch 00141: val_loss did not improve
Epoch 142/1000
 - 93s - loss: 0.5385 - acc: 0.8125 - val_loss: 3.6635 - val_acc: 0.4388

Epoch 00142: val_loss did not improve
Epoch 143/1000
 - 93s - loss: 0.5372 - acc: 0.8143 - val_loss: 4.5564 - val_acc: 0.4095

Epoch 00143: val_loss did not improve
Epoch 144/1000
 - 93s - loss: 0.5192 - acc: 0.8190 - val_loss: 5.3750 - val_acc: 0.3714

Epoch 00144: val_loss did not improve
Epoch 145/1000
 - 93s - loss: 0.5304 - acc: 0.8148 - val_loss: 3.1912 - val_acc: 0.4490

Epoch 00145: val_loss did not improve
Epoch 146/1000
 - 93s - loss: 0.5279 - acc: 0.8163 - val_loss: 4.2618 - val_acc: 0.4053

Epoch 00146: val_loss did not improve
Epoch 147/1000
 - 93s - loss: 0.5286 - acc: 0.8207 - val_loss: 3.7526 - val_acc: 0.4293
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Epoch 00147: val_loss did not improve
Epoch 148/1000
 - 93s - loss: 0.5321 - acc: 0.8125 - val_loss: 4.4876 - val_acc: 0.4062

Epoch 00148: val_loss did not improve
Epoch 149/1000
 - 93s - loss: 0.5223 - acc: 0.8167 - val_loss: 4.0894 - val_acc: 0.4168

Epoch 00149: val_loss did not improve
Epoch 150/1000
 - 93s - loss: 0.5372 - acc: 0.8182 - val_loss: 3.4920 - val_acc: 0.4372

Epoch 00150: val_loss did not improve
Epoch 151/1000
 - 93s - loss: 0.5360 - acc: 0.8200 - val_loss: 5.3437 - val_acc: 0.3694

Epoch 00151: val_loss did not improve
Epoch 152/1000
 - 93s - loss: 0.5333 - acc: 0.8207 - val_loss: 3.1871 - val_acc: 0.4648

Epoch 00152: val_loss did not improve
Epoch 153/1000
 - 95s - loss: 0.5180 - acc: 0.8235 - val_loss: 3.7145 - val_acc: 0.4510

Epoch 00153: val_loss did not improve
Epoch 154/1000
 - 93s - loss: 0.5287 - acc: 0.8208 - val_loss: 3.9715 - val_acc: 0.4293

Epoch 00154: val_loss did not improve
Epoch 155/1000
 - 93s - loss: 0.5289 - acc: 0.8195 - val_loss: 3.2238 - val_acc: 0.4691

Epoch 00155: val_loss did not improve
Epoch 156/1000
 - 93s - loss: 0.5135 - acc: 0.8273 - val_loss: 3.4045 - val_acc: 0.4533

Epoch 00156: val_loss did not improve
Epoch 157/1000
 - 93s - loss: 0.5276 - acc: 0.8172 - val_loss: 3.2406 - val_acc: 0.4684

Epoch 00157: val_loss did not improve
Epoch 158/1000
 - 93s - loss: 0.5190 - acc: 0.8223 - val_loss: 2.8852 - val_acc: 0.4734

Epoch 00158: val_loss did not improve
Epoch 159/1000
 - 93s - loss: 0.5369 - acc: 0.8150 - val_loss: 4.7771 - val_acc: 0.3776

Epoch 00159: val_loss did not improve
Epoch 160/1000
 - 93s - loss: 0.5230 - acc: 0.8218 - val_loss: 4.7792 - val_acc: 0.3862

Epoch 00160: val_loss did not improve
Epoch 161/1000
 - 92s - loss: 0.5137 - acc: 0.8246 - val_loss: 4.8491 - val_acc: 0.3865

Epoch 00161: val_loss did not improve
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Epoch 162/1000
 - 92s - loss: 0.5213 - acc: 0.8226 - val_loss: 4.0798 - val_acc: 0.4188

Epoch 00162: val_loss did not improve
Epoch 163/1000
 - 92s - loss: 0.5324 - acc: 0.8152 - val_loss: 4.2995 - val_acc: 0.4043

Epoch 00163: val_loss did not improve
Epoch 164/1000
 - 92s - loss: 0.5372 - acc: 0.8168 - val_loss: 5.9426 - val_acc: 0.3704

Epoch 00164: val_loss did not improve
Epoch 165/1000
 - 92s - loss: 0.5246 - acc: 0.8201 - val_loss: 3.2460 - val_acc: 0.4674

Epoch 00165: val_loss did not improve
Epoch 166/1000
 - 93s - loss: 0.5142 - acc: 0.8196 - val_loss: 3.2996 - val_acc: 0.4773

Epoch 00166: val_loss did not improve
Epoch 167/1000
 - 92s - loss: 0.5289 - acc: 0.8155 - val_loss: 4.8994 - val_acc: 0.3885

Epoch 00167: val_loss did not improve
Epoch 168/1000
 - 93s - loss: 0.5121 - acc: 0.8201 - val_loss: 3.7922 - val_acc: 0.4464

Epoch 00168: val_loss did not improve
Epoch 169/1000
 - 92s - loss: 0.5231 - acc: 0.8191 - val_loss: 3.7408 - val_acc: 0.4678

Epoch 00169: val_loss did not improve
Epoch 170/1000
 - 93s - loss: 0.5288 - acc: 0.8178 - val_loss: 3.7024 - val_acc: 0.4345

Epoch 00170: val_loss did not improve
Epoch 171/1000
 - 92s - loss: 0.5372 - acc: 0.8163 - val_loss: 4.4882 - val_acc: 0.4066

Epoch 00171: val_loss did not improve
Epoch 172/1000
 - 92s - loss: 0.5209 - acc: 0.8158 - val_loss: 3.6430 - val_acc: 0.4378

Epoch 00172: val_loss did not improve
Epoch 173/1000
 - 94s - loss: 0.5212 - acc: 0.8192 - val_loss: 3.6402 - val_acc: 0.4536

Epoch 00173: val_loss did not improve
Epoch 174/1000
 - 92s - loss: 0.5172 - acc: 0.8188 - val_loss: 2.6935 - val_acc: 0.5135

Epoch 00174: val_loss did not improve
Epoch 175/1000
 - 92s - loss: 0.5130 - acc: 0.8229 - val_loss: 2.9392 - val_acc: 0.4997

Epoch 00175: val_loss did not improve
Epoch 176/1000
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 - 93s - loss: 0.5212 - acc: 0.8239 - val_loss: 4.9408 - val_acc: 0.4010

Epoch 00176: val_loss did not improve
Epoch 177/1000
 - 93s - loss: 0.5219 - acc: 0.8183 - val_loss: 4.6280 - val_acc: 0.4086

Epoch 00177: val_loss did not improve
Epoch 178/1000
 - 93s - loss: 0.5273 - acc: 0.8166 - val_loss: 4.2725 - val_acc: 0.4082

Epoch 00178: val_loss did not improve
Epoch 179/1000
 - 93s - loss: 0.5141 - acc: 0.8238 - val_loss: 4.5254 - val_acc: 0.3826

Epoch 00179: val_loss did not improve
Epoch 180/1000
 - 92s - loss: 0.5207 - acc: 0.8186 - val_loss: 5.3741 - val_acc: 0.3661

Epoch 00180: val_loss did not improve
Epoch 181/1000
 - 92s - loss: 0.5187 - acc: 0.8213 - val_loss: 4.9199 - val_acc: 0.3937

Epoch 00181: val_loss did not improve
Epoch 182/1000
 - 92s - loss: 0.5286 - acc: 0.8213 - val_loss: 3.9822 - val_acc: 0.4303

Epoch 00182: val_loss did not improve
Epoch 183/1000
 - 92s - loss: 0.5237 - acc: 0.8191 - val_loss: 3.9725 - val_acc: 0.4332

Epoch 00183: val_loss did not improve
Epoch 184/1000
 - 92s - loss: 0.5159 - acc: 0.8218 - val_loss: 4.0321 - val_acc: 0.4289

Epoch 00184: val_loss did not improve
Epoch 185/1000
 - 93s - loss: 0.5114 - acc: 0.8223 - val_loss: 3.9115 - val_acc: 0.4240

Epoch 00185: val_loss did not improve
Epoch 186/1000
 - 92s - loss: 0.5226 - acc: 0.8197 - val_loss: 3.0216 - val_acc: 0.4681

Epoch 00186: val_loss did not improve
Epoch 187/1000
 - 93s - loss: 0.5111 - acc: 0.8230 - val_loss: 5.3240 - val_acc: 0.3730

Epoch 00187: val_loss did not improve
Epoch 188/1000
 - 92s - loss: 0.5180 - acc: 0.8220 - val_loss: 2.5961 - val_acc: 0.5099

Epoch 00188: val_loss did not improve
Epoch 189/1000
 - 94s - loss: 0.5145 - acc: 0.8238 - val_loss: 3.4352 - val_acc: 0.4533

Epoch 00189: val_loss did not improve
Epoch 190/1000
 - 93s - loss: 0.5218 - acc: 0.8178 - val_loss: 5.3776 - val_acc: 0.3582
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Epoch 00190: val_loss did not improve
Epoch 191/1000
 - 92s - loss: 0.5257 - acc: 0.8221 - val_loss: 4.5867 - val_acc: 0.3964

Epoch 00191: val_loss did not improve
Epoch 192/1000
 - 93s - loss: 0.5196 - acc: 0.8224 - val_loss: 3.7564 - val_acc: 0.4257

Epoch 00192: val_loss did not improve
Epoch 193/1000
 - 93s - loss: 0.5093 - acc: 0.8209 - val_loss: 3.6892 - val_acc: 0.4444

Epoch 00193: val_loss did not improve
Epoch 194/1000
 - 93s - loss: 0.5196 - acc: 0.8174 - val_loss: 4.5158 - val_acc: 0.3967

Epoch 00194: val_loss did not improve
Epoch 195/1000
 - 93s - loss: 0.5186 - acc: 0.8222 - val_loss: 4.0960 - val_acc: 0.4257

Epoch 00195: val_loss did not improve
Epoch 196/1000
 - 93s - loss: 0.5010 - acc: 0.8247 - val_loss: 5.6274 - val_acc: 0.3865

Epoch 00196: val_loss did not improve
Epoch 197/1000
 - 92s - loss: 0.5192 - acc: 0.8201 - val_loss: 4.2817 - val_acc: 0.4095

Epoch 00197: val_loss did not improve
Epoch 198/1000
 - 92s - loss: 0.5157 - acc: 0.8241 - val_loss: 3.2594 - val_acc: 0.4819

Epoch 00198: val_loss did not improve
Epoch 199/1000
 - 92s - loss: 0.5230 - acc: 0.8207 - val_loss: 2.7827 - val_acc: 0.4829

Epoch 00199: val_loss did not improve
Epoch 200/1000
 - 93s - loss: 0.4996 - acc: 0.8266 - val_loss: 3.5968 - val_acc: 0.4326

Epoch 00200: val_loss did not improve
Epoch 201/1000
 - 92s - loss: 0.5063 - acc: 0.8261 - val_loss: 4.1092 - val_acc: 0.3928

Epoch 00201: val_loss did not improve
Epoch 202/1000
 - 92s - loss: 0.5267 - acc: 0.8183 - val_loss: 3.7643 - val_acc: 0.4247

Epoch 00202: val_loss did not improve
Epoch 203/1000
 - 93s - loss: 0.5113 - acc: 0.8223 - val_loss: 3.9989 - val_acc: 0.4286

Epoch 00203: val_loss did not improve
Epoch 204/1000
 - 94s - loss: 0.5302 - acc: 0.8131 - val_loss: 4.4174 - val_acc: 0.4053
```

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Epoch 00204: val_loss did not improve
Epoch 205/1000
 - 93s - loss: 0.5189 - acc: 0.8213 - val_loss: 5.4789 - val_acc: 0.3674

Epoch 00205: val_loss did not improve
Epoch 206/1000
 - 93s - loss: 0.5124 - acc: 0.8215 - val_loss: 4.7974 - val_acc: 0.4066

Epoch 00206: val_loss did not improve
Epoch 207/1000
 - 95s - loss: 0.5184 - acc: 0.8205 - val_loss: 5.0655 - val_acc: 0.3773

Epoch 00207: val_loss did not improve
Epoch 208/1000
 - 95s - loss: 0.5187 - acc: 0.8197 - val_loss: 4.1270 - val_acc: 0.4023

Epoch 00208: val_loss did not improve
Epoch 209/1000
 - 96s - loss: 0.5111 - acc: 0.8252 - val_loss: 3.4646 - val_acc: 0.4470

Epoch 00209: val_loss did not improve
Epoch 210/1000
 - 95s - loss: 0.5252 - acc: 0.8197 - val_loss: 4.1482 - val_acc: 0.4062

Epoch 00210: val_loss did not improve
Epoch 211/1000
 - 95s - loss: 0.5015 - acc: 0.8254 - val_loss: 3.9912 - val_acc: 0.4237

Epoch 00211: val_loss did not improve
Epoch 212/1000
 - 96s - loss: 0.5095 - acc: 0.8231 - val_loss: 4.6528 - val_acc: 0.3987

Epoch 00212: val_loss did not improve
Epoch 213/1000
 - 97s - loss: 0.5105 - acc: 0.8216 - val_loss: 3.6817 - val_acc: 0.4474

Epoch 00213: val_loss did not improve
Epoch 214/1000
 - 105s - loss: 0.5217 - acc: 0.8179 - val_loss: 6.2080 - val_acc: 0.368
4

Epoch 00214: val_loss did not improve
Epoch 215/1000
 - 95s - loss: 0.5146 - acc: 0.8198 - val_loss: 4.4054 - val_acc: 0.4102

Epoch 00215: val_loss did not improve
Epoch 216/1000
 - 94s - loss: 0.5190 - acc: 0.8220 - val_loss: 5.3217 - val_acc: 0.3737

Epoch 00216: val_loss did not improve
Epoch 217/1000
 - 93s - loss: 0.5121 - acc: 0.8235 - val_loss: 6.0269 - val_acc: 0.3661

Epoch 00217: val_loss did not improve
Epoch 218/1000
 - 94s - loss: 0.5201 - acc: 0.8241 - val_loss: 4.2321 - val_acc: 0.4112
```

```
Epoch 00218: val_loss did not improve
Epoch 219/1000
 - 100s - loss: 0.5090 - acc: 0.8285 - val_loss: 4.1864 - val_acc: 0.402
0

Epoch 00219: val_loss did not improve
Epoch 220/1000
 - 95s - loss: 0.5084 - acc: 0.8275 - val_loss: 3.2312 - val_acc: 0.4681

Epoch 00220: val_loss did not improve
Epoch 221/1000
 - 97s - loss: 0.5013 - acc: 0.8266 - val_loss: 5.4723 - val_acc: 0.3822

Epoch 00221: val_loss did not improve
Epoch 222/1000
 - 97s - loss: 0.5064 - acc: 0.8252 - val_loss: 3.9059 - val_acc: 0.4158

Epoch 00222: val_loss did not improve
Epoch 223/1000
 - 107s - loss: 0.5305 - acc: 0.8113 - val_loss: 5.7268 - val_acc: 0.378
3

Epoch 00223: val_loss did not improve
Epoch 224/1000
 - 107s - loss: 0.5149 - acc: 0.8232 - val_loss: 5.0790 - val_acc: 0.383
9

Epoch 00224: val_loss did not improve
Epoch 225/1000
 - 104s - loss: 0.5048 - acc: 0.8238 - val_loss: 5.6690 - val_acc: 0.366
8

Epoch 00225: val_loss did not improve
Epoch 226/1000
 - 104s - loss: 0.5119 - acc: 0.8240 - val_loss: 4.6546 - val_acc: 0.375
3

Epoch 00226: val_loss did not improve
Epoch 227/1000
 - 102s - loss: 0.5133 - acc: 0.8275 - val_loss: 3.5235 - val_acc: 0.453
0

Epoch 00227: val_loss did not improve
Epoch 228/1000
 - 97s - loss: 0.5107 - acc: 0.8237 - val_loss: 4.5982 - val_acc: 0.3984

Epoch 00228: val_loss did not improve
Epoch 229/1000
 - 93s - loss: 0.5079 - acc: 0.8234 - val_loss: 5.5295 - val_acc: 0.3691

Epoch 00229: val_loss did not improve
Epoch 230/1000
 - 95s - loss: 0.5235 - acc: 0.8211 - val_loss: 5.1221 - val_acc: 0.3812

Epoch 00230: val_loss did not improve
Epoch 231/1000
 - 94s - loss: 0.5137 - acc: 0.8222 - val_loss: 4.2575 - val_acc: 0.3908
```

```
Epoch 00231: val_loss did not improve
Epoch 232/1000
 - 93s - loss: 0.5019 - acc: 0.8257 - val_loss: 5.3691 - val_acc: 0.3766


Epoch 00232: val_loss did not improve
Epoch 233/1000
 - 93s - loss: 0.5039 - acc: 0.8272 - val_loss: 4.0637 - val_acc: 0.4112


Epoch 00233: val_loss did not improve
Epoch 234/1000
 - 94s - loss: 0.5039 - acc: 0.8274 - val_loss: 4.8266 - val_acc: 0.3990


Epoch 00234: val_loss did not improve
Epoch 235/1000
 - 93s - loss: 0.5136 - acc: 0.8214 - val_loss: 3.7690 - val_acc: 0.4411


Epoch 00235: val_loss did not improve
Epoch 236/1000
 - 93s - loss: 0.5231 - acc: 0.8219 - val_loss: 3.3958 - val_acc: 0.4431


Epoch 00236: val_loss did not improve
Epoch 237/1000
 - 92s - loss: 0.5188 - acc: 0.8246 - val_loss: 5.9398 - val_acc: 0.3720


Epoch 00237: val_loss did not improve
Epoch 238/1000
 - 93s - loss: 0.5030 - acc: 0.8239 - val_loss: 4.5468 - val_acc: 0.4000


Epoch 00238: val_loss did not improve
Epoch 239/1000
 - 93s - loss: 0.5081 - acc: 0.8236 - val_loss: 6.3471 - val_acc: 0.3563


Epoch 00239: val_loss did not improve
Epoch 240/1000
 - 93s - loss: 0.5049 - acc: 0.8211 - val_loss: 5.2286 - val_acc: 0.3773


Epoch 00240: val_loss did not improve
Epoch 241/1000
 - 93s - loss: 0.5087 - acc: 0.8219 - val_loss: 4.4516 - val_acc: 0.4076


Epoch 00241: val_loss did not improve
Epoch 242/1000
 - 94s - loss: 0.5141 - acc: 0.8198 - val_loss: 4.4815 - val_acc: 0.4026


Epoch 00242: val_loss did not improve
Epoch 243/1000
 - 97s - loss: 0.5025 - acc: 0.8252 - val_loss: 6.5757 - val_acc: 0.3530


Epoch 00243: val_loss did not improve
Epoch 244/1000
 - 104s - loss: 0.5130 - acc: 0.8236 - val_loss: 4.2550 - val_acc: 0.405
6


Epoch 00244: val_loss did not improve
Epoch 245/1000
 - 103s - loss: 0.5002 - acc: 0.8285 - val_loss: 5.4287 - val_acc: 0.378
```

3

Epoch 00245: val_loss did not improve
Epoch 246/1000
 - 98s - loss: 0.5130 - acc: 0.8187 - val_loss: 4.0404 - val_acc: 0.4181

Epoch 00246: val_loss did not improve
Epoch 247/1000
 - 99s - loss: 0.4934 - acc: 0.8266 - val_loss: 5.4612 - val_acc: 0.3806

Epoch 00247: val_loss did not improve
Epoch 248/1000
 - 96s - loss: 0.5056 - acc: 0.8227 - val_loss: 4.0958 - val_acc: 0.4095

Epoch 00248: val_loss did not improve
Epoch 249/1000
 - 98s - loss: 0.5145 - acc: 0.8212 - val_loss: 4.9558 - val_acc: 0.3885

Epoch 00249: val_loss did not improve
Epoch 250/1000
 - 96s - loss: 0.5107 - acc: 0.8249 - val_loss: 5.3196 - val_acc: 0.3783

Epoch 00250: val_loss did not improve
Epoch 251/1000
 - 94s - loss: 0.4913 - acc: 0.8317 - val_loss: 5.9854 - val_acc: 0.3638

Epoch 00251: val_loss did not improve
Epoch 252/1000
 - 95s - loss: 0.4972 - acc: 0.8333 - val_loss: 4.8901 - val_acc: 0.3987

Epoch 00252: val_loss did not improve
Epoch 253/1000
 - 93s - loss: 0.4959 - acc: 0.8300 - val_loss: 4.2837 - val_acc: 0.4178

Epoch 00253: val_loss did not improve
Epoch 254/1000
 - 93s - loss: 0.4993 - acc: 0.8258 - val_loss: 3.9315 - val_acc: 0.4273

Epoch 00254: val_loss did not improve
Epoch 255/1000
 - 93s - loss: 0.4998 - acc: 0.8238 - val_loss: 5.0369 - val_acc: 0.3829

Epoch 00255: val_loss did not improve
Epoch 256/1000
 - 93s - loss: 0.5120 - acc: 0.8218 - val_loss: 4.5453 - val_acc: 0.4033

Epoch 00256: val_loss did not improve
Epoch 257/1000
 - 92s - loss: 0.4929 - acc: 0.8284 - val_loss: 3.7618 - val_acc: 0.4520

Epoch 00257: val_loss did not improve
Epoch 258/1000
 - 94s - loss: 0.5084 - acc: 0.8269 - val_loss: 2.2410 - val_acc: 0.5484

Epoch 00258: val_loss did not improve
Epoch 259/1000
 - 93s - loss: 0.4990 - acc: 0.8302 - val_loss: 6.0046 - val_acc: 0.3711

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Epoch 00259: val_loss did not improve
Epoch 260/1000
 - 93s - loss: 0.4993 - acc: 0.8308 - val_loss: 3.4633 - val_acc: 0.4694


Epoch 00260: val_loss did not improve
Epoch 261/1000
 - 94s - loss: 0.5044 - acc: 0.8253 - val_loss: 4.9539 - val_acc: 0.3849


Epoch 00261: val_loss did not improve
Epoch 262/1000
 - 94s - loss: 0.5024 - acc: 0.8284 - val_loss: 4.3490 - val_acc: 0.4135


Epoch 00262: val_loss did not improve
Epoch 263/1000
 - 94s - loss: 0.5113 - acc: 0.8213 - val_loss: 4.8812 - val_acc: 0.3911


Epoch 00263: val_loss did not improve
Epoch 264/1000
 - 94s - loss: 0.5188 - acc: 0.8213 - val_loss: 3.9154 - val_acc: 0.4319


Epoch 00264: val_loss did not improve
Epoch 265/1000
 - 93s - loss: 0.4995 - acc: 0.8301 - val_loss: 4.7978 - val_acc: 0.3990


Epoch 00265: val_loss did not improve
Epoch 266/1000
 - 93s - loss: 0.5010 - acc: 0.8248 - val_loss: 4.6022 - val_acc: 0.3964


Epoch 00266: val_loss did not improve
Epoch 267/1000
 - 93s - loss: 0.4996 - acc: 0.8262 - val_loss: 4.6542 - val_acc: 0.3974


Epoch 00267: val_loss did not improve
Epoch 268/1000
 - 98s - loss: 0.5105 - acc: 0.8235 - val_loss: 5.8060 - val_acc: 0.3671


Epoch 00268: val_loss did not improve
Epoch 269/1000
 - 95s - loss: 0.5114 - acc: 0.8229 - val_loss: 4.2710 - val_acc: 0.4118


Epoch 00269: val_loss did not improve
Epoch 270/1000
 - 93s - loss: 0.5078 - acc: 0.8276 - val_loss: 6.3177 - val_acc: 0.3664


Epoch 00270: val_loss did not improve
Epoch 271/1000
 - 94s - loss: 0.4932 - acc: 0.8288 - val_loss: 5.0215 - val_acc: 0.3970


Epoch 00271: val_loss did not improve
Epoch 272/1000
 - 94s - loss: 0.5129 - acc: 0.8233 - val_loss: 5.0146 - val_acc: 0.3826


Epoch 00272: val_loss did not improve
Epoch 273/1000
 - 94s - loss: 0.4940 - acc: 0.8303 - val_loss: 5.1128 - val_acc: 0.3829
```

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Epoch 00273: val_loss did not improve
Epoch 274/1000
 - 93s - loss: 0.4903 - acc: 0.8303 - val_loss: 7.1164 - val_acc: 0.3533

Epoch 00274: val_loss did not improve
Epoch 275/1000
 - 94s - loss: 0.5022 - acc: 0.8275 - val_loss: 5.7676 - val_acc: 0.3523

Epoch 00275: val_loss did not improve
Epoch 276/1000
 - 94s - loss: 0.5027 - acc: 0.8262 - val_loss: 5.8117 - val_acc: 0.3688

Epoch 00276: val_loss did not improve
Epoch 277/1000
 - 108s - loss: 0.5096 - acc: 0.8213 - val_loss: 4.5180 - val_acc: 0.398
4

Epoch 00277: val_loss did not improve
Epoch 278/1000
 - 94s - loss: 0.4939 - acc: 0.8260 - val_loss: 4.8655 - val_acc: 0.3849

Epoch 00278: val_loss did not improve
Epoch 279/1000
 - 94s - loss: 0.5024 - acc: 0.8238 - val_loss: 4.9850 - val_acc: 0.3905

Epoch 00279: val_loss did not improve
Epoch 280/1000
 - 94s - loss: 0.4969 - acc: 0.8304 - val_loss: 4.1080 - val_acc: 0.4250

Epoch 00280: val_loss did not improve
Epoch 281/1000
 - 94s - loss: 0.4868 - acc: 0.8313 - val_loss: 4.5748 - val_acc: 0.4066

Epoch 00281: val_loss did not improve
Epoch 282/1000
 - 94s - loss: 0.4996 - acc: 0.8280 - val_loss: 4.7401 - val_acc: 0.3937

Epoch 00282: val_loss did not improve
Epoch 283/1000
 - 94s - loss: 0.4853 - acc: 0.8307 - val_loss: 4.0374 - val_acc: 0.4191

Epoch 00283: val_loss did not improve
Epoch 284/1000
 - 94s - loss: 0.5021 - acc: 0.8253 - val_loss: 5.7801 - val_acc: 0.3694

Epoch 00284: val_loss did not improve
Epoch 285/1000
 - 94s - loss: 0.4918 - acc: 0.8307 - val_loss: 6.2454 - val_acc: 0.3628

Epoch 00285: val_loss did not improve
Epoch 286/1000
 - 94s - loss: 0.4986 - acc: 0.8262 - val_loss: 3.6225 - val_acc: 0.4470

Epoch 00286: val_loss did not improve
Epoch 287/1000
 - 94s - loss: 0.4841 - acc: 0.8336 - val_loss: 4.3496 - val_acc: 0.4145
```

```
Epoch 00287: val_loss did not improve
Epoch 288/1000
 - 93s - loss: 0.4967 - acc: 0.8320 - val_loss: 4.3262 - val_acc: 0.4138

Epoch 00288: val_loss did not improve
Epoch 289/1000
 - 93s - loss: 0.5000 - acc: 0.8262 - val_loss: 6.1144 - val_acc: 0.3651

Epoch 00289: val_loss did not improve
Epoch 290/1000
 - 94s - loss: 0.4960 - acc: 0.8307 - val_loss: 6.4683 - val_acc: 0.3648

Epoch 00290: val_loss did not improve
Epoch 291/1000
 - 94s - loss: 0.5018 - acc: 0.8274 - val_loss: 5.9229 - val_acc: 0.3701

Epoch 00291: val_loss did not improve
Epoch 292/1000
 - 94s - loss: 0.5039 - acc: 0.8310 - val_loss: 3.9455 - val_acc: 0.4408

Epoch 00292: val_loss did not improve
Epoch 293/1000
 - 94s - loss: 0.5069 - acc: 0.8259 - val_loss: 4.1697 - val_acc: 0.4257

Epoch 00293: val_loss did not improve
Epoch 294/1000
 - 94s - loss: 0.4999 - acc: 0.8321 - val_loss: 4.5390 - val_acc: 0.4132

Epoch 00294: val_loss did not improve
Epoch 295/1000
 - 94s - loss: 0.4993 - acc: 0.8270 - val_loss: 4.7937 - val_acc: 0.4049

Epoch 00295: val_loss did not improve
Epoch 296/1000
 - 94s - loss: 0.4949 - acc: 0.8267 - val_loss: 5.1129 - val_acc: 0.3941

Epoch 00296: val_loss did not improve
Epoch 297/1000
 - 94s - loss: 0.5040 - acc: 0.8271 - val_loss: 5.5329 - val_acc: 0.3757

Epoch 00297: val_loss did not improve
Epoch 298/1000
 - 94s - loss: 0.4828 - acc: 0.8335 - val_loss: 5.0551 - val_acc: 0.3816

Epoch 00298: val_loss did not improve
Epoch 299/1000
 - 94s - loss: 0.5045 - acc: 0.8219 - val_loss: 5.3608 - val_acc: 0.3753

Epoch 00299: val_loss did not improve
Epoch 300/1000
 - 94s - loss: 0.4941 - acc: 0.8310 - val_loss: 4.4064 - val_acc: 0.4115

Epoch 00300: val_loss did not improve
Epoch 301/1000
 - 94s - loss: 0.4844 - acc: 0.8341 - val_loss: 6.0274 - val_acc: 0.3638

Epoch 00301: val_loss did not improve
```

```
Epoch 302/1000
 - 94s - loss: 0.4914 - acc: 0.8285 - val_loss: 5.6954 - val_acc: 0.3674

Epoch 00302: val_loss did not improve
Epoch 303/1000
 - 94s - loss: 0.5072 - acc: 0.8250 - val_loss: 3.9156 - val_acc: 0.4398

Epoch 00303: val_loss did not improve
Epoch 304/1000
 - 94s - loss: 0.4966 - acc: 0.8262 - val_loss: 5.0932 - val_acc: 0.3826

Epoch 00304: val_loss did not improve
Epoch 305/1000
 - 94s - loss: 0.5009 - acc: 0.8223 - val_loss: 3.2802 - val_acc: 0.4796

Epoch 00305: val_loss did not improve
Epoch 306/1000
 - 94s - loss: 0.5053 - acc: 0.8257 - val_loss: 4.9824 - val_acc: 0.3964

Epoch 00306: val_loss did not improve
Epoch 307/1000
 - 93s - loss: 0.5036 - acc: 0.8282 - val_loss: 3.3895 - val_acc: 0.4747

Epoch 00307: val_loss did not improve
Epoch 308/1000
 - 94s - loss: 0.4898 - acc: 0.8293 - val_loss: 6.2226 - val_acc: 0.3454

Epoch 00308: val_loss did not improve
Epoch 309/1000
 - 94s - loss: 0.4957 - acc: 0.8294 - val_loss: 4.5335 - val_acc: 0.3987

Epoch 00309: val_loss did not improve
Epoch 310/1000
 - 94s - loss: 0.4989 - acc: 0.8285 - val_loss: 3.9466 - val_acc: 0.4490

Epoch 00310: val_loss did not improve
Epoch 311/1000
 - 94s - loss: 0.4932 - acc: 0.8278 - val_loss: 4.5071 - val_acc: 0.4224

Epoch 00311: val_loss did not improve
Epoch 312/1000
 - 94s - loss: 0.4904 - acc: 0.8323 - val_loss: 3.1855 - val_acc: 0.4553

Epoch 00312: val_loss did not improve
Epoch 313/1000
 - 94s - loss: 0.4863 - acc: 0.8327 - val_loss: 4.8729 - val_acc: 0.3980

Epoch 00313: val_loss did not improve
Epoch 314/1000
 - 94s - loss: 0.4906 - acc: 0.8276 - val_loss: 5.3442 - val_acc: 0.3829

Epoch 00314: val_loss did not improve
Epoch 315/1000
 - 94s - loss: 0.4895 - acc: 0.8310 - val_loss: 7.1434 - val_acc: 0.3303

Epoch 00315: val_loss did not improve
Epoch 316/1000
```

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                    - 94s - loss: 0.4991 - acc: 0.8257 - val_loss: 4.2631 - val_acc: 0.4313


          Epoch 00316: val_loss did not improve
          Epoch 317/1000
           - 94s - loss: 0.4907 - acc: 0.8299 - val_loss: 4.2721 - val_acc: 0.4316


          Epoch 00317: val_loss did not improve
          Epoch 318/1000
           - 94s - loss: 0.4879 - acc: 0.8335 - val_loss: 6.1128 - val_acc: 0.3661


          Epoch 00318: val_loss did not improve
          Epoch 319/1000
           - 94s - loss: 0.4892 - acc: 0.8326 - val_loss: 6.0526 - val_acc: 0.3605


          Epoch 00319: val_loss did not improve
          Epoch 320/1000
           - 94s - loss: 0.5059 - acc: 0.8294 - val_loss: 2.8678 - val_acc: 0.5109


          Epoch 00320: val_loss did not improve
          Epoch 321/1000
           - 94s - loss: 0.4920 - acc: 0.8306 - val_loss: 5.7711 - val_acc: 0.3668


          Epoch 00321: val_loss did not improve
          Epoch 322/1000
           - 94s - loss: 0.4923 - acc: 0.8304 - val_loss: 3.0203 - val_acc: 0.4849


          Epoch 00322: val_loss did not improve
          Epoch 323/1000
           - 94s - loss: 0.4797 - acc: 0.8343 - val_loss: 4.6080 - val_acc: 0.4066


          Epoch 00323: val_loss did not improve
          Epoch 324/1000
           - 94s - loss: 0.4934 - acc: 0.8288 - val_loss: 6.9309 - val_acc: 0.3332


          Epoch 00324: val_loss did not improve
          Epoch 325/1000
           - 94s - loss: 0.4840 - acc: 0.8337 - val_loss: 6.3283 - val_acc: 0.3638


          Epoch 00325: val_loss did not improve
          Epoch 326/1000
           - 93s - loss: 0.4877 - acc: 0.8347 - val_loss: 4.7093 - val_acc: 0.4135


          Epoch 00326: val_loss did not improve
          Epoch 327/1000
           - 94s - loss: 0.5029 - acc: 0.8260 - val_loss: 4.0359 - val_acc: 0.4253


          Epoch 00327: val_loss did not improve
          Epoch 328/1000
           - 94s - loss: 0.4917 - acc: 0.8301 - val_loss: 5.2867 - val_acc: 0.3878


          Epoch 00328: val_loss did not improve
          Epoch 329/1000
           - 94s - loss: 0.4950 - acc: 0.8333 - val_loss: 4.8838 - val_acc: 0.4046


          Epoch 00329: val_loss did not improve
          Epoch 330/1000
           - 93s - loss: 0.4999 - acc: 0.8285 - val_loss: 3.8736 - val_acc: 0.4293
```

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Epoch 00330: val_loss did not improve
Epoch 331/1000
 - 93s - loss: 0.4946 - acc: 0.8303 - val_loss: 5.3903 - val_acc: 0.3734

Epoch 00331: val_loss did not improve
Epoch 332/1000
 - 93s - loss: 0.4915 - acc: 0.8303 - val_loss: 6.8429 - val_acc: 0.3477

Epoch 00332: val_loss did not improve
Epoch 333/1000
 - 94s - loss: 0.4793 - acc: 0.8396 - val_loss: 5.5141 - val_acc: 0.3694

Epoch 00333: val_loss did not improve
Epoch 334/1000
 - 94s - loss: 0.4867 - acc: 0.8313 - val_loss: 7.9752 - val_acc: 0.3224

Epoch 00334: val_loss did not improve
Epoch 335/1000
 - 94s - loss: 0.4874 - acc: 0.8359 - val_loss: 6.3981 - val_acc: 0.3556

Epoch 00335: val_loss did not improve
Epoch 336/1000
 - 93s - loss: 0.4877 - acc: 0.8322 - val_loss: 4.9027 - val_acc: 0.3852

Epoch 00336: val_loss did not improve
Epoch 337/1000
 - 94s - loss: 0.4900 - acc: 0.8376 - val_loss: 4.6903 - val_acc: 0.4086

Epoch 00337: val_loss did not improve
Epoch 338/1000
 - 94s - loss: 0.4778 - acc: 0.8344 - val_loss: 5.7734 - val_acc: 0.3760

Epoch 00338: val_loss did not improve
Epoch 339/1000
 - 94s - loss: 0.4797 - acc: 0.8320 - val_loss: 6.4702 - val_acc: 0.3740

Epoch 00339: val_loss did not improve
Epoch 340/1000
 - 94s - loss: 0.4900 - acc: 0.8299 - val_loss: 5.9046 - val_acc: 0.3773

Epoch 00340: val_loss did not improve
Epoch 341/1000
 - 94s - loss: 0.4855 - acc: 0.8345 - val_loss: 7.0725 - val_acc: 0.3398

Epoch 00341: val_loss did not improve
Epoch 342/1000
 - 94s - loss: 0.4812 - acc: 0.8368 - val_loss: 6.6774 - val_acc: 0.3474

Epoch 00342: val_loss did not improve
Epoch 343/1000
 - 94s - loss: 0.4953 - acc: 0.8317 - val_loss: 4.2318 - val_acc: 0.4102

Epoch 00343: val_loss did not improve
Epoch 344/1000
 - 94s - loss: 0.4805 - acc: 0.8331 - val_loss: 6.9564 - val_acc: 0.3368
```

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Epoch 00344: val_loss did not improve
Epoch 345/1000
 - 94s - loss: 0.4779 - acc: 0.8337 - val_loss: 5.1249 - val_acc: 0.3855

Epoch 00345: val_loss did not improve
Epoch 346/1000
 - 94s - loss: 0.4881 - acc: 0.8344 - val_loss: 6.5337 - val_acc: 0.3536

Epoch 00346: val_loss did not improve
Epoch 347/1000
 - 93s - loss: 0.4784 - acc: 0.8359 - val_loss: 6.5907 - val_acc: 0.3388

Epoch 00347: val_loss did not improve
Epoch 348/1000
 - 93s - loss: 0.4793 - acc: 0.8331 - val_loss: 5.4454 - val_acc: 0.3615

Epoch 00348: val_loss did not improve
Epoch 349/1000
 - 94s - loss: 0.4834 - acc: 0.8334 - val_loss: 5.1366 - val_acc: 0.3888

Epoch 00349: val_loss did not improve
Epoch 350/1000
 - 94s - loss: 0.4887 - acc: 0.8337 - val_loss: 5.6118 - val_acc: 0.3701

Epoch 00350: val_loss did not improve
Epoch 351/1000
 - 93s - loss: 0.4824 - acc: 0.8369 - val_loss: 5.3860 - val_acc: 0.3829

Epoch 00351: val_loss did not improve
Epoch 352/1000
 - 93s - loss: 0.4953 - acc: 0.8320 - val_loss: 4.0832 - val_acc: 0.4286

Epoch 00352: val_loss did not improve
Epoch 353/1000
 - 93s - loss: 0.4865 - acc: 0.8322 - val_loss: 5.3248 - val_acc: 0.3849

Epoch 00353: val_loss did not improve
Epoch 354/1000
 - 94s - loss: 0.4786 - acc: 0.8353 - val_loss: 5.2730 - val_acc: 0.3875

Epoch 00354: val_loss did not improve
Epoch 355/1000
 - 94s - loss: 0.4783 - acc: 0.8376 - val_loss: 7.2957 - val_acc: 0.3457

Epoch 00355: val_loss did not improve
Epoch 356/1000
 - 93s - loss: 0.4796 - acc: 0.8361 - val_loss: 8.4870 - val_acc: 0.2809

Epoch 00356: val_loss did not improve
Epoch 357/1000
 - 93s - loss: 0.4958 - acc: 0.8272 - val_loss: 5.8484 - val_acc: 0.3734

Epoch 00357: val_loss did not improve
Epoch 358/1000
 - 94s - loss: 0.4858 - acc: 0.8345 - val_loss: 4.1204 - val_acc: 0.4191

Epoch 00358: val_loss did not improve
```

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Epoch 359/1000
 - 94s - loss: 0.4795 - acc: 0.8339 - val_loss: 4.7850 - val_acc: 0.4030

Epoch 00359: val_loss did not improve
Epoch 360/1000
 - 94s - loss: 0.4874 - acc: 0.8317 - val_loss: 7.8572 - val_acc: 0.3135

Epoch 00360: val_loss did not improve
Epoch 361/1000
 - 94s - loss: 0.4802 - acc: 0.8368 - val_loss: 4.7586 - val_acc: 0.4155

Epoch 00361: val_loss did not improve
Epoch 362/1000
 - 94s - loss: 0.4843 - acc: 0.8328 - val_loss: 6.2946 - val_acc: 0.3678

Epoch 00362: val_loss did not improve
Epoch 363/1000
 - 94s - loss: 0.4767 - acc: 0.8364 - val_loss: 5.7712 - val_acc: 0.3803

Epoch 00363: val_loss did not improve
Epoch 364/1000
 - 94s - loss: 0.4754 - acc: 0.8339 - val_loss: 4.6778 - val_acc: 0.4086

Epoch 00364: val_loss did not improve
Epoch 365/1000
 - 94s - loss: 0.4767 - acc: 0.8348 - val_loss: 5.5584 - val_acc: 0.3786

Epoch 00365: val_loss did not improve
Epoch 366/1000
 - 93s - loss: 0.5030 - acc: 0.8287 - val_loss: 3.4640 - val_acc: 0.4526

Epoch 00366: val_loss did not improve
Epoch 367/1000
 - 94s - loss: 0.4735 - acc: 0.8387 - val_loss: 5.6376 - val_acc: 0.3668

Epoch 00367: val_loss did not improve
Epoch 368/1000
 - 94s - loss: 0.4809 - acc: 0.8360 - val_loss: 3.8537 - val_acc: 0.4388

Epoch 00368: val_loss did not improve
Epoch 369/1000
 - 94s - loss: 0.4931 - acc: 0.8287 - val_loss: 3.4613 - val_acc: 0.4789

Epoch 00369: val_loss did not improve
Epoch 370/1000
 - 94s - loss: 0.4856 - acc: 0.8358 - val_loss: 5.6174 - val_acc: 0.3865

Epoch 00370: val_loss did not improve
Epoch 371/1000
 - 93s - loss: 0.4800 - acc: 0.8372 - val_loss: 5.6769 - val_acc: 0.3799

Epoch 00371: val_loss did not improve
Epoch 372/1000
 - 93s - loss: 0.4738 - acc: 0.8355 - val_loss: 6.4571 - val_acc: 0.3431

Epoch 00372: val_loss did not improve
Epoch 373/1000
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            - 93s - loss: 0.4875 - acc: 0.8304 - val_loss: 5.1432 - val_acc: 0.3862


        Epoch 00373: val_loss did not improve
        Epoch 374/1000
            - 94s - loss: 0.4791 - acc: 0.8317 - val_loss: 5.9903 - val_acc: 0.3770


        Epoch 00374: val_loss did not improve
        Epoch 375/1000
            - 93s - loss: 0.4559 - acc: 0.8420 - val_loss: 4.8617 - val_acc: 0.3885


        Epoch 00375: val_loss did not improve
        Epoch 376/1000
            - 93s - loss: 0.4903 - acc: 0.8289 - val_loss: 5.0497 - val_acc: 0.3638


        Epoch 00376: val_loss did not improve
        Epoch 377/1000
            - 93s - loss: 0.4932 - acc: 0.8285 - val_loss: 6.3214 - val_acc: 0.3533


        Epoch 00377: val_loss did not improve
        Epoch 378/1000
            - 94s - loss: 0.4824 - acc: 0.8342 - val_loss: 7.2030 - val_acc: 0.3266


        Epoch 00378: val_loss did not improve
        Epoch 379/1000
            - 94s - loss: 0.4754 - acc: 0.8410 - val_loss: 6.2695 - val_acc: 0.3391


        Epoch 00379: val_loss did not improve
        Epoch 380/1000
            - 94s - loss: 0.4766 - acc: 0.8380 - val_loss: 5.3152 - val_acc: 0.4013


        Epoch 00380: val_loss did not improve
        Epoch 381/1000
            - 94s - loss: 0.4680 - acc: 0.8398 - val_loss: 5.4466 - val_acc: 0.3641


        Epoch 00381: val_loss did not improve
        Epoch 382/1000
            - 94s - loss: 0.4653 - acc: 0.8394 - val_loss: 3.9895 - val_acc: 0.4230


        Epoch 00382: val_loss did not improve
        Epoch 383/1000
            - 94s - loss: 0.4837 - acc: 0.8328 - val_loss: 6.9678 - val_acc: 0.3359


        Epoch 00383: val_loss did not improve
        Epoch 384/1000
            - 94s - loss: 0.4817 - acc: 0.8406 - val_loss: 5.2492 - val_acc: 0.3826


        Epoch 00384: val_loss did not improve
        Epoch 385/1000
            - 94s - loss: 0.4809 - acc: 0.8337 - val_loss: 4.8684 - val_acc: 0.4039


        Epoch 00385: val_loss did not improve
        Epoch 386/1000
            - 94s - loss: 0.4780 - acc: 0.8354 - val_loss: 6.5808 - val_acc: 0.3602


        Epoch 00386: val_loss did not improve
        Epoch 387/1000
            - 94s - loss: 0.4845 - acc: 0.8280 - val_loss: 6.0349 - val_acc: 0.3510
```

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Epoch 00387: val_loss did not improve
Epoch 388/1000
 - 94s - loss: 0.4756 - acc: 0.8359 - val_loss: 4.8852 - val_acc: 0.4086


Epoch 00388: val_loss did not improve
Epoch 389/1000
 - 93s - loss: 0.4650 - acc: 0.8419 - val_loss: 5.7150 - val_acc: 0.3681


Epoch 00389: val_loss did not improve
Epoch 390/1000
 - 93s - loss: 0.4727 - acc: 0.8390 - val_loss: 6.4076 - val_acc: 0.3605


Epoch 00390: val_loss did not improve
Epoch 391/1000
 - 93s - loss: 0.4736 - acc: 0.8382 - val_loss: 6.2376 - val_acc: 0.3211


Epoch 00391: val_loss did not improve
Epoch 392/1000
 - 94s - loss: 0.4794 - acc: 0.8377 - val_loss: 6.2079 - val_acc: 0.3632


Epoch 00392: val_loss did not improve
Epoch 393/1000
 - 94s - loss: 0.4620 - acc: 0.8386 - val_loss: 5.3687 - val_acc: 0.4056


Epoch 00393: val_loss did not improve
Epoch 394/1000
 - 93s - loss: 0.4910 - acc: 0.8300 - val_loss: 5.7885 - val_acc: 0.3734


Epoch 00394: val_loss did not improve
Epoch 395/1000
 - 94s - loss: 0.4879 - acc: 0.8363 - val_loss: 4.4025 - val_acc: 0.4266


Epoch 00395: val_loss did not improve
Epoch 396/1000
 - 94s - loss: 0.4833 - acc: 0.8346 - val_loss: 6.7214 - val_acc: 0.3651


Epoch 00396: val_loss did not improve
Epoch 397/1000
 - 94s - loss: 0.4806 - acc: 0.8385 - val_loss: 5.6200 - val_acc: 0.3697


Epoch 00397: val_loss did not improve
Epoch 398/1000
 - 94s - loss: 0.4704 - acc: 0.8363 - val_loss: 5.6811 - val_acc: 0.3773


Epoch 00398: val_loss did not improve
Epoch 399/1000
 - 94s - loss: 0.4854 - acc: 0.8317 - val_loss: 4.8399 - val_acc: 0.4007


Epoch 00399: val_loss did not improve
Epoch 400/1000
 - 94s - loss: 0.4720 - acc: 0.8395 - val_loss: 4.3546 - val_acc: 0.4178


Epoch 00400: val_loss did not improve
Epoch 401/1000
 - 94s - loss: 0.4690 - acc: 0.8355 - val_loss: 5.8215 - val_acc: 0.3586
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Epoch 00401: val_loss did not improve
Epoch 402/1000
 - 94s - loss: 0.4715 - acc: 0.8377 - val_loss: 6.0506 - val_acc: 0.3411

Epoch 00402: val_loss did not improve
Epoch 403/1000
 - 93s - loss: 0.4796 - acc: 0.8363 - val_loss: 5.8357 - val_acc: 0.3796

Epoch 00403: val_loss did not improve
Epoch 404/1000
 - 93s - loss: 0.4658 - acc: 0.8414 - val_loss: 4.9527 - val_acc: 0.4099

Epoch 00404: val_loss did not improve
Epoch 405/1000
 - 94s - loss: 0.4644 - acc: 0.8412 - val_loss: 3.9571 - val_acc: 0.4451

Epoch 00405: val_loss did not improve
Epoch 406/1000
 - 94s - loss: 0.4694 - acc: 0.8396 - val_loss: 4.5209 - val_acc: 0.4253

Epoch 00406: val_loss did not improve
Epoch 407/1000
 - 94s - loss: 0.4724 - acc: 0.8373 - val_loss: 5.3843 - val_acc: 0.3799

Epoch 00407: val_loss did not improve
Epoch 408/1000
 - 94s - loss: 0.4750 - acc: 0.8379 - val_loss: 6.4284 - val_acc: 0.3658

Epoch 00408: val_loss did not improve
Epoch 409/1000
 - 93s - loss: 0.4778 - acc: 0.8394 - val_loss: 5.2062 - val_acc: 0.3750

Epoch 00409: val_loss did not improve
Epoch 410/1000
 - 94s - loss: 0.4693 - acc: 0.8408 - val_loss: 3.5539 - val_acc: 0.4648

Epoch 00410: val_loss did not improve
Epoch 411/1000
 - 94s - loss: 0.4577 - acc: 0.8410 - val_loss: 6.7283 - val_acc: 0.3704

Epoch 00411: val_loss did not improve
Epoch 412/1000
 - 93s - loss: 0.4564 - acc: 0.8404 - val_loss: 5.1976 - val_acc: 0.4003

Epoch 00412: val_loss did not improve
Epoch 413/1000
 - 93s - loss: 0.4757 - acc: 0.8350 - val_loss: 7.6964 - val_acc: 0.3207

Epoch 00413: val_loss did not improve
Epoch 414/1000
 - 93s - loss: 0.4586 - acc: 0.8429 - val_loss: 6.7445 - val_acc: 0.3523

Epoch 00414: val_loss did not improve
Epoch 415/1000
 - 94s - loss: 0.4785 - acc: 0.8346 - val_loss: 6.0156 - val_acc: 0.3724

Epoch 00415: val_loss did not improve
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Epoch 416/1000
 - 94s - loss: 0.4754 - acc: 0.8355 - val_loss: 7.4171 - val_acc: 0.3365

Epoch 00416: val_loss did not improve
Epoch 417/1000
 - 94s - loss: 0.4696 - acc: 0.8373 - val_loss: 5.0562 - val_acc: 0.4109

Epoch 00417: val_loss did not improve
Epoch 418/1000
 - 94s - loss: 0.4800 - acc: 0.8345 - val_loss: 5.2623 - val_acc: 0.3776

Epoch 00418: val_loss did not improve
Epoch 419/1000
 - 94s - loss: 0.4627 - acc: 0.8407 - val_loss: 6.0833 - val_acc: 0.3651

Epoch 00419: val_loss did not improve
Epoch 420/1000
 - 94s - loss: 0.4587 - acc: 0.8443 - val_loss: 6.1796 - val_acc: 0.3615

Epoch 00420: val_loss did not improve
Epoch 421/1000
 - 94s - loss: 0.4584 - acc: 0.8462 - val_loss: 5.7040 - val_acc: 0.3444

Epoch 00421: val_loss did not improve
Epoch 422/1000
 - 93s - loss: 0.4630 - acc: 0.8402 - val_loss: 6.9096 - val_acc: 0.3395

Epoch 00422: val_loss did not improve
Epoch 423/1000
 - 93s - loss: 0.4674 - acc: 0.8407 - val_loss: 5.0674 - val_acc: 0.3888

Epoch 00423: val_loss did not improve
Epoch 424/1000
 - 93s - loss: 0.4606 - acc: 0.8396 - val_loss: 6.7742 - val_acc: 0.3503

Epoch 00424: val_loss did not improve
Epoch 425/1000
 - 93s - loss: 0.4690 - acc: 0.8388 - val_loss: 4.6117 - val_acc: 0.4247

Epoch 00425: val_loss did not improve
Epoch 426/1000
 - 94s - loss: 0.4682 - acc: 0.8421 - val_loss: 7.2527 - val_acc: 0.3191

Epoch 00426: val_loss did not improve
Epoch 427/1000
 - 94s - loss: 0.4758 - acc: 0.8386 - val_loss: 5.1089 - val_acc: 0.3921

Epoch 00427: val_loss did not improve
Epoch 428/1000
 - 94s - loss: 0.4713 - acc: 0.8361 - val_loss: 5.8877 - val_acc: 0.3914

Epoch 00428: val_loss did not improve
Epoch 429/1000
 - 93s - loss: 0.4742 - acc: 0.8359 - val_loss: 7.1628 - val_acc: 0.3438

Epoch 00429: val_loss did not improve
Epoch 430/1000
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                    - 93s - loss: 0.4762 - acc: 0.8343 - val_loss: 5.8315 - val_acc: 0.3872

          Epoch 00430: val_loss did not improve
          Epoch 431/1000
                    - 98s - loss: 0.4693 - acc: 0.8376 - val_loss: 5.0007 - val_acc: 0.4247

          Epoch 00431: val_loss did not improve
          Epoch 432/1000
                    - 95s - loss: 0.4610 - acc: 0.8410 - val_loss: 5.1120 - val_acc: 0.3859

          Epoch 00432: val_loss did not improve
          Epoch 433/1000
                    - 96s - loss: 0.4734 - acc: 0.8360 - val_loss: 8.3943 - val_acc: 0.3066

          Epoch 00433: val_loss did not improve
          Epoch 434/1000
                    - 96s - loss: 0.4684 - acc: 0.8414 - val_loss: 5.3506 - val_acc: 0.4003

          Epoch 00434: val_loss did not improve
          Epoch 435/1000
                    - 96s - loss: 0.4782 - acc: 0.8373 - val_loss: 5.4932 - val_acc: 0.4033

          Epoch 00435: val_loss did not improve
          Epoch 436/1000
                    - 95s - loss: 0.4689 - acc: 0.8400 - val_loss: 6.4714 - val_acc: 0.3852

          Epoch 00436: val_loss did not improve
          Epoch 437/1000
                    - 96s - loss: 0.4709 - acc: 0.8365 - val_loss: 6.2340 - val_acc: 0.3434

          Epoch 00437: val_loss did not improve
          Epoch 438/1000
                    - 94s - loss: 0.4724 - acc: 0.8356 - val_loss: 5.8646 - val_acc: 0.3730

          Epoch 00438: val_loss did not improve
          Epoch 439/1000
                    - 94s - loss: 0.4760 - acc: 0.8361 - val_loss: 3.8528 - val_acc: 0.4562

          Epoch 00439: val_loss did not improve
          Epoch 440/1000
                    - 94s - loss: 0.4751 - acc: 0.8348 - val_loss: 7.1730 - val_acc: 0.3306

          Epoch 00440: val_loss did not improve
          Epoch 441/1000
                    - 94s - loss: 0.4689 - acc: 0.8374 - val_loss: 5.4894 - val_acc: 0.3839

          Epoch 00441: val_loss did not improve
          Epoch 442/1000
                    - 93s - loss: 0.4644 - acc: 0.8424 - val_loss: 5.0158 - val_acc: 0.4036

          Epoch 00442: val_loss did not improve
          Epoch 443/1000
                    - 94s - loss: 0.4608 - acc: 0.8415 - val_loss: 9.1209 - val_acc: 0.2901

          Epoch 00443: val_loss did not improve
          Epoch 444/1000
                    - 94s - loss: 0.4682 - acc: 0.8415 - val_loss: 5.3844 - val_acc: 0.3836
```

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Epoch 00444: val_loss did not improve
Epoch 445/1000
 - 95s - loss: 0.4618 - acc: 0.8382 - val_loss: 4.0232 - val_acc: 0.4418


Epoch 00445: val_loss did not improve
Epoch 446/1000
 - 94s - loss: 0.4650 - acc: 0.8421 - val_loss: 4.7802 - val_acc: 0.4178


Epoch 00446: val_loss did not improve
Epoch 447/1000
 - 93s - loss: 0.4718 - acc: 0.8361 - val_loss: 6.6694 - val_acc: 0.3563


Epoch 00447: val_loss did not improve
Epoch 448/1000
 - 95s - loss: 0.4678 - acc: 0.8406 - val_loss: 4.4412 - val_acc: 0.4240


Epoch 00448: val_loss did not improve
Epoch 449/1000
 - 96s - loss: 0.4664 - acc: 0.8405 - val_loss: 5.6737 - val_acc: 0.3655


Epoch 00449: val_loss did not improve
Epoch 450/1000
 - 94s - loss: 0.4642 - acc: 0.8395 - val_loss: 5.1832 - val_acc: 0.4069


Epoch 00450: val_loss did not improve
Epoch 451/1000
 - 94s - loss: 0.4563 - acc: 0.8440 - val_loss: 5.7031 - val_acc: 0.3812


Epoch 00451: val_loss did not improve
Epoch 452/1000
 - 94s - loss: 0.4682 - acc: 0.8406 - val_loss: 6.4681 - val_acc: 0.3622


Epoch 00452: val_loss did not improve
Epoch 453/1000
 - 94s - loss: 0.4608 - acc: 0.8441 - val_loss: 6.3758 - val_acc: 0.3816


Epoch 00453: val_loss did not improve
Epoch 454/1000
 - 94s - loss: 0.4691 - acc: 0.8392 - val_loss: 5.9143 - val_acc: 0.3852


Epoch 00454: val_loss did not improve
Epoch 455/1000
 - 94s - loss: 0.4697 - acc: 0.8391 - val_loss: 6.1625 - val_acc: 0.3836


Epoch 00455: val_loss did not improve
Epoch 456/1000
 - 95s - loss: 0.4527 - acc: 0.8404 - val_loss: 6.6831 - val_acc: 0.3431


Epoch 00456: val_loss did not improve
Epoch 457/1000
 - 94s - loss: 0.4845 - acc: 0.8331 - val_loss: 5.9925 - val_acc: 0.3697


Epoch 00457: val_loss did not improve
Epoch 458/1000
 - 96s - loss: 0.4584 - acc: 0.8417 - val_loss: 7.3460 - val_acc: 0.3408
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Epoch 00458: val_loss did not improve
Epoch 459/1000
 - 95s - loss: 0.4715 - acc: 0.8400 - val_loss: 6.5121 - val_acc: 0.3592

Epoch 00459: val_loss did not improve
Epoch 460/1000
 - 94s - loss: 0.4664 - acc: 0.8395 - val_loss: 6.1887 - val_acc: 0.3599

Epoch 00460: val_loss did not improve
Epoch 461/1000
 - 95s - loss: 0.4601 - acc: 0.8398 - val_loss: 6.5781 - val_acc: 0.3757

Epoch 00461: val_loss did not improve
Epoch 462/1000
 - 95s - loss: 0.4564 - acc: 0.8412 - val_loss: 6.6651 - val_acc: 0.3855

Epoch 00462: val_loss did not improve
Epoch 463/1000
 - 94s - loss: 0.4767 - acc: 0.8344 - val_loss: 7.5157 - val_acc: 0.3516

Epoch 00463: val_loss did not improve
Epoch 464/1000
 - 93s - loss: 0.4662 - acc: 0.8360 - val_loss: 7.4047 - val_acc: 0.3181

Epoch 00464: val_loss did not improve
Epoch 465/1000
 - 93s - loss: 0.4701 - acc: 0.8373 - val_loss: 8.3425 - val_acc: 0.3263

Epoch 00465: val_loss did not improve
Epoch 466/1000
 - 93s - loss: 0.4758 - acc: 0.8366 - val_loss: 4.0235 - val_acc: 0.4595

Epoch 00466: val_loss did not improve
Epoch 467/1000
 - 93s - loss: 0.4610 - acc: 0.8429 - val_loss: 6.6106 - val_acc: 0.3559

Epoch 00467: val_loss did not improve
Epoch 468/1000
 - 93s - loss: 0.4643 - acc: 0.8381 - val_loss: 5.1794 - val_acc: 0.3967

Epoch 00468: val_loss did not improve
Epoch 469/1000
 - 93s - loss: 0.4620 - acc: 0.8425 - val_loss: 6.5399 - val_acc: 0.3763

Epoch 00469: val_loss did not improve
Epoch 470/1000
 - 93s - loss: 0.4667 - acc: 0.8444 - val_loss: 6.6413 - val_acc: 0.3694

Epoch 00470: val_loss did not improve
Epoch 471/1000
 - 93s - loss: 0.4698 - acc: 0.8362 - val_loss: 5.8202 - val_acc: 0.3819

Epoch 00471: val_loss did not improve
Epoch 472/1000
 - 93s - loss: 0.4621 - acc: 0.8414 - val_loss: 6.3729 - val_acc: 0.3714

Epoch 00472: val_loss did not improve
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Epoch 473/1000
 - 93s - loss: 0.4689 - acc: 0.8387 - val_loss: 6.8163 - val_acc: 0.3497

Epoch 00473: val_loss did not improve
Epoch 474/1000
 - 93s - loss: 0.4696 - acc: 0.8359 - val_loss: 6.8940 - val_acc: 0.3395

Epoch 00474: val_loss did not improve
Epoch 475/1000
 - 93s - loss: 0.4629 - acc: 0.8381 - val_loss: 6.3795 - val_acc: 0.3638

Epoch 00475: val_loss did not improve
Epoch 476/1000
 - 93s - loss: 0.4710 - acc: 0.8354 - val_loss: 4.9595 - val_acc: 0.4118

Epoch 00476: val_loss did not improve
Epoch 477/1000
 - 93s - loss: 0.4594 - acc: 0.8410 - val_loss: 6.5403 - val_acc: 0.3461

Epoch 00477: val_loss did not improve
Epoch 478/1000
 - 93s - loss: 0.4818 - acc: 0.8345 - val_loss: 6.4587 - val_acc: 0.3510

Epoch 00478: val_loss did not improve
Epoch 479/1000
 - 93s - loss: 0.4665 - acc: 0.8388 - val_loss: 5.1557 - val_acc: 0.4174

Epoch 00479: val_loss did not improve
Epoch 480/1000
 - 93s - loss: 0.4589 - acc: 0.8427 - val_loss: 5.2558 - val_acc: 0.4069

Epoch 00480: val_loss did not improve
Epoch 481/1000
 - 93s - loss: 0.4724 - acc: 0.8369 - val_loss: 6.3168 - val_acc: 0.3776

Epoch 00481: val_loss did not improve
Epoch 482/1000
 - 93s - loss: 0.4518 - acc: 0.8432 - val_loss: 8.0088 - val_acc: 0.3329

Epoch 00482: val_loss did not improve
Epoch 483/1000
 - 93s - loss: 0.4665 - acc: 0.8420 - val_loss: 6.1632 - val_acc: 0.3928

Epoch 00483: val_loss did not improve
Epoch 484/1000
 - 93s - loss: 0.4638 - acc: 0.8439 - val_loss: 6.9290 - val_acc: 0.3582

Epoch 00484: val_loss did not improve
Epoch 485/1000
 - 92s - loss: 0.4603 - acc: 0.8384 - val_loss: 5.0029 - val_acc: 0.4164

Epoch 00485: val_loss did not improve
Epoch 486/1000
 - 93s - loss: 0.4595 - acc: 0.8417 - val_loss: 6.5608 - val_acc: 0.3592

Epoch 00486: val_loss did not improve
Epoch 487/1000
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                 - 93s - loss: 0.4638 - acc: 0.8416 - val_loss: 5.9217 - val_acc: 0.3812

         Epoch 00487: val_loss did not improve
         Epoch 488/1000
                 - 93s - loss: 0.4624 - acc: 0.8400 - val_loss: 7.5694 - val_acc: 0.3566

         Epoch 00488: val_loss did not improve
         Epoch 489/1000
                 - 92s - loss: 0.4621 - acc: 0.8377 - val_loss: 6.4466 - val_acc: 0.3632

         Epoch 00489: val_loss did not improve
         Epoch 490/1000
                 - 92s - loss: 0.4609 - acc: 0.8419 - val_loss: 5.9197 - val_acc: 0.3780

         Epoch 00490: val_loss did not improve
         Epoch 491/1000
                 - 92s - loss: 0.4578 - acc: 0.8454 - val_loss: 5.5651 - val_acc: 0.4082

         Epoch 00491: val_loss did not improve
         Epoch 492/1000
                 - 93s - loss: 0.4656 - acc: 0.8401 - val_loss: 7.3108 - val_acc: 0.3434

         Epoch 00492: val_loss did not improve
         Epoch 493/1000
                 - 93s - loss: 0.4507 - acc: 0.8447 - val_loss: 7.3558 - val_acc: 0.3359

         Epoch 00493: val_loss did not improve
         Epoch 494/1000
                 - 92s - loss: 0.4557 - acc: 0.8459 - val_loss: 8.1468 - val_acc: 0.3030

         Epoch 00494: val_loss did not improve
         Epoch 495/1000
                 - 93s - loss: 0.4676 - acc: 0.8359 - val_loss: 4.1913 - val_acc: 0.4447

         Epoch 00495: val_loss did not improve
         Epoch 496/1000
                 - 93s - loss: 0.4569 - acc: 0.8402 - val_loss: 7.6859 - val_acc: 0.3053

         Epoch 00496: val_loss did not improve
         Epoch 497/1000
                 - 93s - loss: 0.4632 - acc: 0.8417 - val_loss: 4.8589 - val_acc: 0.4240

         Epoch 00497: val_loss did not improve
         Epoch 498/1000
                 - 92s - loss: 0.4691 - acc: 0.8423 - val_loss: 8.0329 - val_acc: 0.3329

         Epoch 00498: val_loss did not improve
         Epoch 499/1000
                 - 92s - loss: 0.4563 - acc: 0.8433 - val_loss: 7.3893 - val_acc: 0.3398

         Epoch 00499: val_loss did not improve
         Epoch 500/1000
                 - 93s - loss: 0.4541 - acc: 0.8474 - val_loss: 4.7871 - val_acc: 0.4148

         Epoch 00500: val_loss did not improve
         Epoch 501/1000
                 - 93s - loss: 0.4586 - acc: 0.8392 - val_loss: 5.0871 - val_acc: 0.4036
```

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Epoch 00501: val_loss did not improve
Epoch 502/1000
 - 93s - loss: 0.4862 - acc: 0.8376 - val_loss: 6.9740 - val_acc: 0.3487

Epoch 00502: val_loss did not improve
Epoch 503/1000
 - 93s - loss: 0.4620 - acc: 0.8380 - val_loss: 6.7497 - val_acc: 0.3398

Epoch 00503: val_loss did not improve
Epoch 504/1000
 - 92s - loss: 0.4577 - acc: 0.8426 - val_loss: 5.9387 - val_acc: 0.3990

Epoch 00504: val_loss did not improve
Epoch 505/1000
 - 92s - loss: 0.4664 - acc: 0.8378 - val_loss: 6.0522 - val_acc: 0.4072

Epoch 00505: val_loss did not improve
Epoch 506/1000
 - 93s - loss: 0.4655 - acc: 0.8396 - val_loss: 6.1880 - val_acc: 0.3957

Epoch 00506: val_loss did not improve
Epoch 507/1000
 - 93s - loss: 0.4742 - acc: 0.8400 - val_loss: 5.9119 - val_acc: 0.3812

Epoch 00507: val_loss did not improve
Epoch 508/1000
 - 92s - loss: 0.4594 - acc: 0.8436 - val_loss: 7.5704 - val_acc: 0.3266

Epoch 00508: val_loss did not improve
Epoch 509/1000
 - 92s - loss: 0.4481 - acc: 0.8450 - val_loss: 6.1971 - val_acc: 0.3737

Epoch 00509: val_loss did not improve
Epoch 510/1000
 - 93s - loss: 0.4573 - acc: 0.8421 - val_loss: 7.5345 - val_acc: 0.3355

Epoch 00510: val_loss did not improve
Epoch 511/1000
 - 92s - loss: 0.4580 - acc: 0.8416 - val_loss: 6.8086 - val_acc: 0.3493

Epoch 00511: val_loss did not improve
Epoch 512/1000
 - 93s - loss: 0.4615 - acc: 0.8450 - val_loss: 5.7284 - val_acc: 0.4053

Epoch 00512: val_loss did not improve
Epoch 513/1000
 - 93s - loss: 0.4675 - acc: 0.8399 - val_loss: 6.7101 - val_acc: 0.3500

Epoch 00513: val_loss did not improve
Epoch 514/1000
 - 93s - loss: 0.4581 - acc: 0.8394 - val_loss: 5.9725 - val_acc: 0.3888

Epoch 00514: val_loss did not improve
Epoch 515/1000
 - 93s - loss: 0.4546 - acc: 0.8424 - val_loss: 6.7348 - val_acc: 0.3740
```

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Epoch 00515: val_loss did not improve
Epoch 516/1000
 - 93s - loss: 0.4566 - acc: 0.8395 - val_loss: 7.7118 - val_acc: 0.3312

Epoch 00516: val_loss did not improve
Epoch 517/1000
 - 93s - loss: 0.4666 - acc: 0.8410 - val_loss: 5.7263 - val_acc: 0.3891

Epoch 00517: val_loss did not improve
Epoch 518/1000
 - 93s - loss: 0.4593 - acc: 0.8396 - val_loss: 6.2396 - val_acc: 0.3878

Epoch 00518: val_loss did not improve
Epoch 519/1000
 - 93s - loss: 0.4574 - acc: 0.8424 - val_loss: 3.8150 - val_acc: 0.4549

Epoch 00519: val_loss did not improve
Epoch 520/1000
 - 93s - loss: 0.4617 - acc: 0.8391 - val_loss: 7.1143 - val_acc: 0.3615

Epoch 00520: val_loss did not improve
Epoch 521/1000
 - 93s - loss: 0.4686 - acc: 0.8387 - val_loss: 7.7304 - val_acc: 0.3385

Epoch 00521: val_loss did not improve
Epoch 522/1000
 - 93s - loss: 0.4621 - acc: 0.8433 - val_loss: 8.3405 - val_acc: 0.3227

Epoch 00522: val_loss did not improve
Epoch 523/1000
 - 93s - loss: 0.4692 - acc: 0.8396 - val_loss: 7.9326 - val_acc: 0.3303

Epoch 00523: val_loss did not improve
Epoch 524/1000
 - 93s - loss: 0.4543 - acc: 0.8467 - val_loss: 4.9153 - val_acc: 0.4234

Epoch 00524: val_loss did not improve
Epoch 525/1000
 - 93s - loss: 0.4476 - acc: 0.8469 - val_loss: 6.9391 - val_acc: 0.3556

Epoch 00525: val_loss did not improve
Epoch 526/1000
 - 93s - loss: 0.4486 - acc: 0.8440 - val_loss: 6.3824 - val_acc: 0.3645

Epoch 00526: val_loss did not improve
Epoch 527/1000
 - 93s - loss: 0.4751 - acc: 0.8350 - val_loss: 4.8282 - val_acc: 0.4230

Epoch 00527: val_loss did not improve
Epoch 528/1000
 - 93s - loss: 0.4531 - acc: 0.8435 - val_loss: 6.4844 - val_acc: 0.3678

Epoch 00528: val_loss did not improve
Epoch 529/1000
 - 93s - loss: 0.4537 - acc: 0.8412 - val_loss: 7.0195 - val_acc: 0.3487

Epoch 00529: val_loss did not improve
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Epoch 530/1000
 - 93s - loss: 0.4546 - acc: 0.8443 - val_loss: 6.3449 - val_acc: 0.3724

Epoch 00530: val_loss did not improve
Epoch 531/1000
 - 92s - loss: 0.4513 - acc: 0.8433 - val_loss: 6.4393 - val_acc: 0.3605

Epoch 00531: val_loss did not improve
Epoch 532/1000
 - 93s - loss: 0.4468 - acc: 0.8453 - val_loss: 5.6471 - val_acc: 0.3990

Epoch 00532: val_loss did not improve
Epoch 533/1000
 - 93s - loss: 0.4571 - acc: 0.8413 - val_loss: 7.5811 - val_acc: 0.3224

Epoch 00533: val_loss did not improve
Epoch 534/1000
 - 93s - loss: 0.4577 - acc: 0.8417 - val_loss: 5.5863 - val_acc: 0.3882

Epoch 00534: val_loss did not improve
Epoch 535/1000
 - 93s - loss: 0.4622 - acc: 0.8434 - val_loss: 5.3827 - val_acc: 0.4132

Epoch 00535: val_loss did not improve
Epoch 536/1000
 - 94s - loss: 0.4537 - acc: 0.8420 - val_loss: 6.5853 - val_acc: 0.3635

Epoch 00536: val_loss did not improve
Epoch 537/1000
 - 94s - loss: 0.4651 - acc: 0.8391 - val_loss: 6.3454 - val_acc: 0.3661

Epoch 00537: val_loss did not improve
Epoch 538/1000
 - 94s - loss: 0.4648 - acc: 0.8388 - val_loss: 6.9365 - val_acc: 0.3681

Epoch 00538: val_loss did not improve
Epoch 539/1000
 - 94s - loss: 0.4684 - acc: 0.8394 - val_loss: 5.6446 - val_acc: 0.4039

Epoch 00539: val_loss did not improve
Epoch 540/1000
 - 94s - loss: 0.4545 - acc: 0.8420 - val_loss: 7.2597 - val_acc: 0.3457

Epoch 00540: val_loss did not improve
Epoch 541/1000
 - 94s - loss: 0.4594 - acc: 0.8408 - val_loss: 5.2561 - val_acc: 0.4109

Epoch 00541: val_loss did not improve
Epoch 542/1000
 - 94s - loss: 0.4654 - acc: 0.8392 - val_loss: 5.4258 - val_acc: 0.4151

Epoch 00542: val_loss did not improve
Epoch 543/1000
 - 94s - loss: 0.4602 - acc: 0.8378 - val_loss: 5.9767 - val_acc: 0.3688

Epoch 00543: val_loss did not improve
Epoch 544/1000
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        - 94s - loss: 0.4589 - acc: 0.8409 - val_loss: 4.6066 - val_acc: 0.4345

     Epoch 00544: val_loss did not improve
     Epoch 545/1000
        - 96s - loss: 0.4720 - acc: 0.8380 - val_loss: 5.6268 - val_acc: 0.4105

     Epoch 00545: val_loss did not improve
     Epoch 546/1000
        - 95s - loss: 0.4552 - acc: 0.8429 - val_loss: 7.5091 - val_acc: 0.3395

     Epoch 00546: val_loss did not improve
     Epoch 547/1000
        - 94s - loss: 0.4623 - acc: 0.8394 - val_loss: 6.3119 - val_acc: 0.3763

     Epoch 00547: val_loss did not improve
     Epoch 548/1000
        - 94s - loss: 0.4595 - acc: 0.8409 - val_loss: 5.5473 - val_acc: 0.3862

     Epoch 00548: val_loss did not improve
     Epoch 549/1000
        - 94s - loss: 0.4557 - acc: 0.8414 - val_loss: 7.6247 - val_acc: 0.3434

     Epoch 00549: val_loss did not improve
     Epoch 550/1000
        - 94s - loss: 0.4663 - acc: 0.8426 - val_loss: 6.8693 - val_acc: 0.3602

     Epoch 00550: val_loss did not improve
     Epoch 551/1000
        - 94s - loss: 0.4543 - acc: 0.8458 - val_loss: 4.6009 - val_acc: 0.4266

     Epoch 00551: val_loss did not improve
     Epoch 552/1000
        - 97s - loss: 0.4578 - acc: 0.8406 - val_loss: 7.7434 - val_acc: 0.3516

     Epoch 00552: val_loss did not improve
     Epoch 553/1000
        - 97s - loss: 0.4539 - acc: 0.8442 - val_loss: 6.2533 - val_acc: 0.3809

     Epoch 00553: val_loss did not improve
     Epoch 554/1000
        - 97s - loss: 0.4724 - acc: 0.8378 - val_loss: 6.5477 - val_acc: 0.3648

     Epoch 00554: val_loss did not improve
     Epoch 555/1000
        - 96s - loss: 0.4572 - acc: 0.8408 - val_loss: 5.9836 - val_acc: 0.3895

     Epoch 00555: val_loss did not improve
     Epoch 556/1000
        - 97s - loss: 0.4659 - acc: 0.8375 - val_loss: 6.4162 - val_acc: 0.3701

     Epoch 00556: val_loss did not improve
     Epoch 557/1000
        - 95s - loss: 0.4463 - acc: 0.8457 - val_loss: 7.3015 - val_acc: 0.3569

     Epoch 00557: val_loss did not improve
     Epoch 558/1000
        - 95s - loss: 0.4647 - acc: 0.8391 - val_loss: 7.3667 - val_acc: 0.3336
```

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Epoch 00558: val_loss did not improve
Epoch 559/1000
 - 99s - loss: 0.4634 - acc: 0.8414 - val_loss: 6.9374 - val_acc: 0.3454


Epoch 00559: val_loss did not improve
Epoch 560/1000
 - 96s - loss: 0.4469 - acc: 0.8472 - val_loss: 7.8445 - val_acc: 0.3174


Epoch 00560: val_loss did not improve
Epoch 561/1000
 - 99s - loss: 0.4583 - acc: 0.8420 - val_loss: 6.1839 - val_acc: 0.3717


Epoch 00561: val_loss did not improve
Epoch 562/1000
 - 99s - loss: 0.4506 - acc: 0.8443 - val_loss: 7.7215 - val_acc: 0.3303


Epoch 00562: val_loss did not improve
Epoch 563/1000
 - 97s - loss: 0.4649 - acc: 0.8370 - val_loss: 7.1464 - val_acc: 0.3349


Epoch 00563: val_loss did not improve
Epoch 564/1000
 - 94s - loss: 0.4660 - acc: 0.8373 - val_loss: 6.8762 - val_acc: 0.3569


Epoch 00564: val_loss did not improve
Epoch 565/1000
 - 94s - loss: 0.4647 - acc: 0.8424 - val_loss: 6.9352 - val_acc: 0.3474


Epoch 00565: val_loss did not improve
Epoch 566/1000
 - 94s - loss: 0.4572 - acc: 0.8432 - val_loss: 5.8434 - val_acc: 0.3766


Epoch 00566: val_loss did not improve
Epoch 567/1000
 - 97s - loss: 0.4371 - acc: 0.8493 - val_loss: 6.0732 - val_acc: 0.3773


Epoch 00567: val_loss did not improve
Epoch 568/1000
 - 94s - loss: 0.4595 - acc: 0.8416 - val_loss: 7.5024 - val_acc: 0.3549


Epoch 00568: val_loss did not improve
Epoch 569/1000
 - 96s - loss: 0.4575 - acc: 0.8400 - val_loss: 6.4073 - val_acc: 0.3852


Epoch 00569: val_loss did not improve
Epoch 570/1000
 - 93s - loss: 0.4660 - acc: 0.8402 - val_loss: 8.3577 - val_acc: 0.3207


Epoch 00570: val_loss did not improve
Epoch 571/1000
 - 93s - loss: 0.4502 - acc: 0.8440 - val_loss: 7.7372 - val_acc: 0.3312


Epoch 00571: val_loss did not improve
Epoch 572/1000
 - 93s - loss: 0.4604 - acc: 0.8444 - val_loss: 5.3706 - val_acc: 0.4010
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Epoch 00572: val_loss did not improve
Epoch 573/1000
 - 95s - loss: 0.4501 - acc: 0.8449 - val_loss: 7.3037 - val_acc: 0.3533

Epoch 00573: val_loss did not improve
Epoch 574/1000
 - 93s - loss: 0.4638 - acc: 0.8396 - val_loss: 4.7305 - val_acc: 0.4408

Epoch 00574: val_loss did not improve
Epoch 575/1000
 - 94s - loss: 0.4611 - acc: 0.8421 - val_loss: 5.9465 - val_acc: 0.3839

Epoch 00575: val_loss did not improve
Epoch 576/1000
 - 94s - loss: 0.4559 - acc: 0.8424 - val_loss: 4.5722 - val_acc: 0.4191

Epoch 00576: val_loss did not improve
Epoch 577/1000
 - 95s - loss: 0.4511 - acc: 0.8401 - val_loss: 6.4974 - val_acc: 0.3852

Epoch 00577: val_loss did not improve
Epoch 578/1000
 - 94s - loss: 0.4522 - acc: 0.8451 - val_loss: 9.0070 - val_acc: 0.2954

Epoch 00578: val_loss did not improve
Epoch 579/1000
 - 94s - loss: 0.4632 - acc: 0.8436 - val_loss: 8.1586 - val_acc: 0.3109

Epoch 00579: val_loss did not improve
Epoch 580/1000
 - 94s - loss: 0.4537 - acc: 0.8436 - val_loss: 7.1488 - val_acc: 0.3530

Epoch 00580: val_loss did not improve
Epoch 581/1000
 - 94s - loss: 0.4669 - acc: 0.8391 - val_loss: 6.8099 - val_acc: 0.3727

Epoch 00581: val_loss did not improve
Epoch 582/1000
 - 95s - loss: 0.4301 - acc: 0.8522 - val_loss: 7.5455 - val_acc: 0.3411

Epoch 00582: val_loss did not improve
Epoch 583/1000
 - 96s - loss: 0.4560 - acc: 0.8446 - val_loss: 5.0346 - val_acc: 0.4201

Epoch 00583: val_loss did not improve
Epoch 584/1000
 - 95s - loss: 0.4627 - acc: 0.8425 - val_loss: 7.4818 - val_acc: 0.3398

Epoch 00584: val_loss did not improve
Epoch 585/1000
 - 95s - loss: 0.4549 - acc: 0.8423 - val_loss: 7.0588 - val_acc: 0.3513

Epoch 00585: val_loss did not improve
Epoch 586/1000
 - 94s - loss: 0.4414 - acc: 0.8481 - val_loss: 7.0255 - val_acc: 0.3434

Epoch 00586: val_loss did not improve
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Epoch 587/1000
 - 94s - loss: 0.4571 - acc: 0.8434 - val_loss: 6.5898 - val_acc: 0.3714

Epoch 00587: val_loss did not improve
Epoch 588/1000
 - 95s - loss: 0.4608 - acc: 0.8396 - val_loss: 8.3738 - val_acc: 0.2895

Epoch 00588: val_loss did not improve
Epoch 589/1000
 - 95s - loss: 0.4516 - acc: 0.8469 - val_loss: 6.1164 - val_acc: 0.3862

Epoch 00589: val_loss did not improve
Epoch 590/1000
 - 96s - loss: 0.4575 - acc: 0.8424 - val_loss: 7.4405 - val_acc: 0.3224

Epoch 00590: val_loss did not improve
Epoch 591/1000
 - 95s - loss: 0.4554 - acc: 0.8441 - val_loss: 6.4394 - val_acc: 0.3533

Epoch 00591: val_loss did not improve
Epoch 592/1000
 - 95s - loss: 0.4577 - acc: 0.8432 - val_loss: 6.1826 - val_acc: 0.3632

Epoch 00592: val_loss did not improve
Epoch 593/1000
 - 95s - loss: 0.4592 - acc: 0.8443 - val_loss: 7.5437 - val_acc: 0.3365

Epoch 00593: val_loss did not improve
Epoch 594/1000
 - 94s - loss: 0.4508 - acc: 0.8454 - val_loss: 6.5782 - val_acc: 0.3490

Epoch 00594: val_loss did not improve
Epoch 595/1000
 - 95s - loss: 0.4582 - acc: 0.8415 - val_loss: 6.3872 - val_acc: 0.3911

Epoch 00595: val_loss did not improve
Epoch 596/1000
 - 95s - loss: 0.4410 - acc: 0.8506 - val_loss: 7.6345 - val_acc: 0.3296

Epoch 00596: val_loss did not improve
Epoch 597/1000
 - 93s - loss: 0.4588 - acc: 0.8371 - val_loss: 7.9135 - val_acc: 0.3184

Epoch 00597: val_loss did not improve
Epoch 598/1000
 - 98s - loss: 0.4567 - acc: 0.8402 - val_loss: 6.8050 - val_acc: 0.3730

Epoch 00598: val_loss did not improve
Epoch 599/1000
 - 103s - loss: 0.4584 - acc: 0.8407 - val_loss: 6.4606 - val_acc: 0.361
8

Epoch 00599: val_loss did not improve
Epoch 600/1000
 - 101s - loss: 0.4530 - acc: 0.8428 - val_loss: 6.2901 - val_acc: 0.379
3
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                    Epoch 00600: val_loss did not improve
                    Epoch 601/1000
                     - 99s - loss: 0.4537 - acc: 0.8382 - val_loss: 8.0805 - val_acc: 0.3332

                    Epoch 00601: val_loss did not improve
                    Epoch 602/1000
                     - 98s - loss: 0.4622 - acc: 0.8428 - val_loss: 5.8702 - val_acc: 0.3819

                    Epoch 00602: val_loss did not improve
                    Epoch 603/1000
                     - 99s - loss: 0.4487 - acc: 0.8407 - val_loss: 6.5394 - val_acc: 0.3964

                    Epoch 00603: val_loss did not improve
                    Epoch 604/1000
                     - 96s - loss: 0.4461 - acc: 0.8483 - val_loss: 6.2439 - val_acc: 0.3668

                    Epoch 00604: val_loss did not improve
                    Epoch 605/1000
                     - 94s - loss: 0.4580 - acc: 0.8437 - val_loss: 7.0444 - val_acc: 0.3707

                    Epoch 00605: val_loss did not improve
                    Epoch 606/1000
                     - 95s - loss: 0.4590 - acc: 0.8421 - val_loss: 7.3211 - val_acc: 0.3487

                    Epoch 00606: val_loss did not improve
                    Epoch 607/1000
                     - 93s - loss: 0.4536 - acc: 0.8420 - val_loss: 6.1398 - val_acc: 0.3944

                    Epoch 00607: val_loss did not improve
                    Epoch 608/1000
                     - 93s - loss: 0.4487 - acc: 0.8447 - val_loss: 6.7729 - val_acc: 0.3763

                    Epoch 00608: val_loss did not improve
                    Epoch 609/1000
                     - 93s - loss: 0.4497 - acc: 0.8472 - val_loss: 6.4850 - val_acc: 0.3822

                    Epoch 00609: val_loss did not improve
                    Epoch 610/1000
                     - 93s - loss: 0.4624 - acc: 0.8441 - val_loss: 7.3480 - val_acc: 0.3553

                    Epoch 00610: val_loss did not improve
                    Epoch 611/1000
                     - 93s - loss: 0.4423 - acc: 0.8427 - val_loss: 7.1790 - val_acc: 0.3493

                    Epoch 00611: val_loss did not improve
                    Epoch 612/1000
                     - 93s - loss: 0.4590 - acc: 0.8424 - val_loss: 6.1547 - val_acc: 0.3691

                    Epoch 00612: val_loss did not improve
                    Epoch 613/1000
                     - 93s - loss: 0.4611 - acc: 0.8420 - val_loss: 6.9492 - val_acc: 0.3500

                    Epoch 00613: val_loss did not improve
                    Epoch 614/1000
                     - 93s - loss: 0.4469 - acc: 0.8463 - val_loss: 4.8338 - val_acc: 0.4289

                    Epoch 00614: val_loss did not improve
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Epoch 615/1000
 - 93s - loss: 0.4476 - acc: 0.8465 - val_loss: 6.6387 - val_acc: 0.3803

Epoch 00615: val_loss did not improve
Epoch 616/1000
 - 93s - loss: 0.4501 - acc: 0.8444 - val_loss: 6.7771 - val_acc: 0.3819

Epoch 00616: val_loss did not improve
Epoch 617/1000
 - 93s - loss: 0.4477 - acc: 0.8439 - val_loss: 8.3700 - val_acc: 0.3145

Epoch 00617: val_loss did not improve
Epoch 618/1000
 - 93s - loss: 0.4576 - acc: 0.8436 - val_loss: 6.6815 - val_acc: 0.3368

Epoch 00618: val_loss did not improve
Epoch 619/1000
 - 93s - loss: 0.4541 - acc: 0.8382 - val_loss: 7.3838 - val_acc: 0.3438

Epoch 00619: val_loss did not improve
Epoch 620/1000
 - 93s - loss: 0.4436 - acc: 0.8453 - val_loss: 7.4213 - val_acc: 0.3461

Epoch 00620: val_loss did not improve
Epoch 621/1000
 - 93s - loss: 0.4491 - acc: 0.8470 - val_loss: 7.6518 - val_acc: 0.3589

Epoch 00621: val_loss did not improve
Epoch 622/1000
 - 93s - loss: 0.4568 - acc: 0.8446 - val_loss: 7.2583 - val_acc: 0.3536

Epoch 00622: val_loss did not improve
Epoch 623/1000
 - 93s - loss: 0.4556 - acc: 0.8418 - val_loss: 7.4744 - val_acc: 0.3095

Epoch 00623: val_loss did not improve
Epoch 624/1000
 - 93s - loss: 0.4558 - acc: 0.8403 - val_loss: 5.9845 - val_acc: 0.3937

Epoch 00624: val_loss did not improve
Epoch 625/1000
 - 93s - loss: 0.4556 - acc: 0.8425 - val_loss: 6.2042 - val_acc: 0.3760

Epoch 00625: val_loss did not improve
Epoch 626/1000
 - 93s - loss: 0.4572 - acc: 0.8434 - val_loss: 8.1640 - val_acc: 0.3260

Epoch 00626: val_loss did not improve
Epoch 627/1000
 - 93s - loss: 0.4628 - acc: 0.8420 - val_loss: 8.0732 - val_acc: 0.3303

Epoch 00627: val_loss did not improve
Epoch 628/1000
 - 93s - loss: 0.4533 - acc: 0.8429 - val_loss: 6.5386 - val_acc: 0.3753

Epoch 00628: val_loss did not improve
Epoch 629/1000
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 - 93s - loss: 0.4528 - acc: 0.8452 - val_loss: 7.4250 - val_acc: 0.3628

Epoch 00629: val_loss did not improve
Epoch 630/1000
 - 93s - loss: 0.4533 - acc: 0.8435 - val_loss: 6.4520 - val_acc: 0.3809

Epoch 00630: val_loss did not improve
Epoch 631/1000
 - 93s - loss: 0.4652 - acc: 0.8412 - val_loss: 5.4402 - val_acc: 0.4257

Epoch 00631: val_loss did not improve
Epoch 632/1000
 - 93s - loss: 0.4512 - acc: 0.8441 - val_loss: 6.5844 - val_acc: 0.3819

Epoch 00632: val_loss did not improve
Epoch 633/1000
 - 93s - loss: 0.4424 - acc: 0.8494 - val_loss: 7.3533 - val_acc: 0.3487

Epoch 00633: val_loss did not improve
Epoch 634/1000
 - 93s - loss: 0.4585 - acc: 0.8428 - val_loss: 7.1727 - val_acc: 0.3609

Epoch 00634: val_loss did not improve
Epoch 635/1000
 - 93s - loss: 0.4388 - acc: 0.8488 - val_loss: 7.2517 - val_acc: 0.3641

Epoch 00635: val_loss did not improve
Epoch 636/1000
 - 93s - loss: 0.4581 - acc: 0.8410 - val_loss: 4.5755 - val_acc: 0.4444

Epoch 00636: val_loss did not improve
Epoch 637/1000
 - 93s - loss: 0.4516 - acc: 0.8439 - val_loss: 6.0055 - val_acc: 0.4026

Epoch 00637: val_loss did not improve
Epoch 638/1000
 - 93s - loss: 0.4507 - acc: 0.8489 - val_loss: 4.6631 - val_acc: 0.4329

Epoch 00638: val_loss did not improve
Epoch 639/1000
 - 93s - loss: 0.4630 - acc: 0.8369 - val_loss: 7.1359 - val_acc: 0.3586

Epoch 00639: val_loss did not improve
Epoch 640/1000
 - 93s - loss: 0.4519 - acc: 0.8433 - val_loss: 5.4248 - val_acc: 0.4082

Epoch 00640: val_loss did not improve
Epoch 641/1000
 - 93s - loss: 0.4492 - acc: 0.8430 - val_loss: 7.1495 - val_acc: 0.3658

Epoch 00641: val_loss did not improve
Epoch 642/1000
 - 93s - loss: 0.4440 - acc: 0.8473 - val_loss: 5.7359 - val_acc: 0.4253

Epoch 00642: val_loss did not improve
Epoch 643/1000
 - 93s - loss: 0.4628 - acc: 0.8423 - val_loss: 5.4596 - val_acc: 0.4316
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Epoch 00643: val_loss did not improve
Epoch 644/1000
 - 93s - loss: 0.4552 - acc: 0.8445 - val_loss: 6.6426 - val_acc: 0.3937


Epoch 00644: val_loss did not improve
Epoch 645/1000
 - 93s - loss: 0.4442 - acc: 0.8443 - val_loss: 7.0609 - val_acc: 0.3885


Epoch 00645: val_loss did not improve
Epoch 646/1000
 - 93s - loss: 0.4526 - acc: 0.8449 - val_loss: 7.8342 - val_acc: 0.3526


Epoch 00646: val_loss did not improve
Epoch 647/1000
 - 93s - loss: 0.4568 - acc: 0.8394 - val_loss: 8.5696 - val_acc: 0.3187


Epoch 00647: val_loss did not improve
Epoch 648/1000
 - 93s - loss: 0.4512 - acc: 0.8472 - val_loss: 5.9428 - val_acc: 0.3836


Epoch 00648: val_loss did not improve
Epoch 649/1000
 - 93s - loss: 0.4511 - acc: 0.8470 - val_loss: 5.3734 - val_acc: 0.4309


Epoch 00649: val_loss did not improve
Epoch 650/1000
 - 93s - loss: 0.4417 - acc: 0.8473 - val_loss: 6.6772 - val_acc: 0.3809


Epoch 00650: val_loss did not improve
Epoch 651/1000
 - 93s - loss: 0.4592 - acc: 0.8404 - val_loss: 6.8072 - val_acc: 0.3895


Epoch 00651: val_loss did not improve
Epoch 652/1000
 - 93s - loss: 0.4548 - acc: 0.8452 - val_loss: 7.5363 - val_acc: 0.3569


Epoch 00652: val_loss did not improve
Epoch 653/1000
 - 93s - loss: 0.4514 - acc: 0.8399 - val_loss: 5.4870 - val_acc: 0.4273


Epoch 00653: val_loss did not improve
Epoch 654/1000
 - 93s - loss: 0.4516 - acc: 0.8422 - val_loss: 6.8041 - val_acc: 0.3875


Epoch 00654: val_loss did not improve
Epoch 655/1000
 - 93s - loss: 0.4408 - acc: 0.8464 - val_loss: 5.2793 - val_acc: 0.4046


Epoch 00655: val_loss did not improve
Epoch 656/1000
 - 93s - loss: 0.4559 - acc: 0.8436 - val_loss: 7.5112 - val_acc: 0.3714


Epoch 00656: val_loss did not improve
Epoch 657/1000
 - 93s - loss: 0.4565 - acc: 0.8408 - val_loss: 6.1685 - val_acc: 0.4102
```

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Epoch 00657: val_loss did not improve
Epoch 658/1000
 - 93s - loss: 0.4550 - acc: 0.8443 - val_loss: 6.2744 - val_acc: 0.4086

Epoch 00658: val_loss did not improve
Epoch 659/1000
 - 93s - loss: 0.4486 - acc: 0.8450 - val_loss: 8.4334 - val_acc: 0.3168

Epoch 00659: val_loss did not improve
Epoch 660/1000
 - 93s - loss: 0.4661 - acc: 0.8424 - val_loss: 6.8647 - val_acc: 0.3589

Epoch 00660: val_loss did not improve
Epoch 661/1000
 - 93s - loss: 0.4536 - acc: 0.8408 - val_loss: 6.0886 - val_acc: 0.4082

Epoch 00661: val_loss did not improve
Epoch 662/1000
 - 93s - loss: 0.4519 - acc: 0.8476 - val_loss: 7.0055 - val_acc: 0.3740

Epoch 00662: val_loss did not improve
Epoch 663/1000
 - 93s - loss: 0.4580 - acc: 0.8437 - val_loss: 7.6783 - val_acc: 0.3533

Epoch 00663: val_loss did not improve
Epoch 664/1000
 - 98s - loss: 0.4515 - acc: 0.8444 - val_loss: 7.2385 - val_acc: 0.3836

Epoch 00664: val_loss did not improve
Epoch 665/1000
 - 93s - loss: 0.4449 - acc: 0.8494 - val_loss: 8.8049 - val_acc: 0.3197

Epoch 00665: val_loss did not improve
Epoch 666/1000
 - 93s - loss: 0.4572 - acc: 0.8391 - val_loss: 6.9106 - val_acc: 0.3701

Epoch 00666: val_loss did not improve
Epoch 667/1000
 - 93s - loss: 0.4512 - acc: 0.8455 - val_loss: 7.9891 - val_acc: 0.3332

Epoch 00667: val_loss did not improve
Epoch 668/1000
 - 93s - loss: 0.4508 - acc: 0.8449 - val_loss: 7.5112 - val_acc: 0.3569

Epoch 00668: val_loss did not improve
Epoch 669/1000
 - 93s - loss: 0.4578 - acc: 0.8442 - val_loss: 7.8559 - val_acc: 0.3490

Epoch 00669: val_loss did not improve
Epoch 670/1000
 - 93s - loss: 0.4430 - acc: 0.8462 - val_loss: 7.4865 - val_acc: 0.3674

Epoch 00670: val_loss did not improve
Epoch 671/1000
 - 93s - loss: 0.4517 - acc: 0.8405 - val_loss: 6.2919 - val_acc: 0.4056

Epoch 00671: val_loss did not improve
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Epoch 672/1000
 - 93s - loss: 0.4519 - acc: 0.8465 - val_loss: 6.3026 - val_acc: 0.4043

Epoch 00672: val_loss did not improve
Epoch 673/1000
 - 93s - loss: 0.4444 - acc: 0.8451 - val_loss: 5.7619 - val_acc: 0.4273

Epoch 00673: val_loss did not improve
Epoch 674/1000
 - 93s - loss: 0.4434 - acc: 0.8478 - val_loss: 7.1909 - val_acc: 0.3490

Epoch 00674: val_loss did not improve
Epoch 675/1000
 - 93s - loss: 0.4483 - acc: 0.8469 - val_loss: 8.1210 - val_acc: 0.3401

Epoch 00675: val_loss did not improve
Epoch 676/1000
 - 93s - loss: 0.4593 - acc: 0.8411 - val_loss: 5.7040 - val_acc: 0.4164

Epoch 00676: val_loss did not improve
Epoch 677/1000
 - 93s - loss: 0.4528 - acc: 0.8424 - val_loss: 7.5621 - val_acc: 0.3717

Epoch 00677: val_loss did not improve
Epoch 678/1000
 - 93s - loss: 0.4539 - acc: 0.8446 - val_loss: 4.8715 - val_acc: 0.4342

Epoch 00678: val_loss did not improve
Epoch 679/1000
 - 93s - loss: 0.4532 - acc: 0.8403 - val_loss: 5.6509 - val_acc: 0.4289

Epoch 00679: val_loss did not improve
Epoch 680/1000
 - 93s - loss: 0.4562 - acc: 0.8415 - val_loss: 8.8138 - val_acc: 0.3072

Epoch 00680: val_loss did not improve
Epoch 681/1000
 - 93s - loss: 0.4462 - acc: 0.8462 - val_loss: 6.6482 - val_acc: 0.3701

Epoch 00681: val_loss did not improve
Epoch 682/1000
 - 93s - loss: 0.4505 - acc: 0.8467 - val_loss: 6.0362 - val_acc: 0.4023

Epoch 00682: val_loss did not improve
Epoch 683/1000
 - 93s - loss: 0.4597 - acc: 0.8428 - val_loss: 6.4347 - val_acc: 0.3658

Epoch 00683: val_loss did not improve
Epoch 684/1000
 - 93s - loss: 0.4493 - acc: 0.8438 - val_loss: 4.0411 - val_acc: 0.4539

Epoch 00684: val_loss did not improve
Epoch 685/1000
 - 93s - loss: 0.4497 - acc: 0.8451 - val_loss: 7.5464 - val_acc: 0.3161

Epoch 00685: val_loss did not improve
Epoch 686/1000
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 - 93s - loss: 0.4392 - acc: 0.8475 - val_loss: 5.4921 - val_acc: 0.4309

Epoch 00686: val_loss did not improve
Epoch 687/1000
 - 93s - loss: 0.4430 - acc: 0.8478 - val_loss: 6.8722 - val_acc: 0.3747

Epoch 00687: val_loss did not improve
Epoch 688/1000
 - 93s - loss: 0.4466 - acc: 0.8473 - val_loss: 7.9815 - val_acc: 0.3253

Epoch 00688: val_loss did not improve
Epoch 689/1000
 - 93s - loss: 0.4481 - acc: 0.8456 - val_loss: 8.5356 - val_acc: 0.3115

Epoch 00689: val_loss did not improve
Epoch 690/1000
 - 93s - loss: 0.4452 - acc: 0.8470 - val_loss: 8.0791 - val_acc: 0.3296

Epoch 00690: val_loss did not improve
Epoch 691/1000
 - 93s - loss: 0.4491 - acc: 0.8461 - val_loss: 8.9296 - val_acc: 0.2993

Epoch 00691: val_loss did not improve
Epoch 692/1000
 - 93s - loss: 0.4471 - acc: 0.8497 - val_loss: 6.1404 - val_acc: 0.3885

Epoch 00692: val_loss did not improve
Epoch 693/1000
 - 93s - loss: 0.4563 - acc: 0.8404 - val_loss: 6.7505 - val_acc: 0.3822

Epoch 00693: val_loss did not improve
Epoch 694/1000
 - 92s - loss: 0.4487 - acc: 0.8479 - val_loss: 8.0697 - val_acc: 0.3500

Epoch 00694: val_loss did not improve
Epoch 695/1000
 - 93s - loss: 0.4402 - acc: 0.8467 - val_loss: 7.8287 - val_acc: 0.3391

Epoch 00695: val_loss did not improve
Epoch 696/1000
 - 93s - loss: 0.4503 - acc: 0.8461 - val_loss: 6.2410 - val_acc: 0.3737

Epoch 00696: val_loss did not improve
Epoch 697/1000
 - 93s - loss: 0.4535 - acc: 0.8448 - val_loss: 6.2029 - val_acc: 0.3888

Epoch 00697: val_loss did not improve
Epoch 698/1000
 - 93s - loss: 0.4612 - acc: 0.8400 - val_loss: 5.6658 - val_acc: 0.4135

Epoch 00698: val_loss did not improve
Epoch 699/1000
 - 93s - loss: 0.4529 - acc: 0.8447 - val_loss: 8.4227 - val_acc: 0.3234

Epoch 00699: val_loss did not improve
Epoch 700/1000
 - 93s - loss: 0.4457 - acc: 0.8451 - val_loss: 5.5262 - val_acc: 0.4053

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Epoch 00700: val_loss did not improve
Epoch 701/1000
 - 93s - loss: 0.4501 - acc: 0.8446 - val_loss: 4.3232 - val_acc: 0.4625


Epoch 00701: val_loss did not improve
Epoch 702/1000
 - 93s - loss: 0.4571 - acc: 0.8440 - val_loss: 6.7870 - val_acc: 0.3780


Epoch 00702: val_loss did not improve
Epoch 703/1000
 - 93s - loss: 0.4475 - acc: 0.8438 - val_loss: 7.9291 - val_acc: 0.3641


Epoch 00703: val_loss did not improve
Epoch 704/1000
 - 93s - loss: 0.4472 - acc: 0.8468 - val_loss: 6.6241 - val_acc: 0.3882


Epoch 00704: val_loss did not improve
Epoch 705/1000
 - 93s - loss: 0.4382 - acc: 0.8442 - val_loss: 5.8252 - val_acc: 0.4003


Epoch 00705: val_loss did not improve
Epoch 706/1000
 - 93s - loss: 0.4484 - acc: 0.8437 - val_loss: 5.6966 - val_acc: 0.4059


Epoch 00706: val_loss did not improve
Epoch 707/1000
 - 93s - loss: 0.4403 - acc: 0.8493 - val_loss: 6.8020 - val_acc: 0.3803


Epoch 00707: val_loss did not improve
Epoch 708/1000
 - 92s - loss: 0.4538 - acc: 0.8420 - val_loss: 6.5833 - val_acc: 0.3937


Epoch 00708: val_loss did not improve
Epoch 709/1000
 - 92s - loss: 0.4541 - acc: 0.8423 - val_loss: 5.5800 - val_acc: 0.4214


Epoch 00709: val_loss did not improve
Epoch 710/1000
 - 93s - loss: 0.4573 - acc: 0.8398 - val_loss: 8.5314 - val_acc: 0.3250


Epoch 00710: val_loss did not improve
Epoch 711/1000
 - 93s - loss: 0.4567 - acc: 0.8445 - val_loss: 6.6467 - val_acc: 0.3855


Epoch 00711: val_loss did not improve
Epoch 712/1000
 - 93s - loss: 0.4478 - acc: 0.8455 - val_loss: 6.9875 - val_acc: 0.3845


Epoch 00712: val_loss did not improve
Epoch 713/1000
 - 93s - loss: 0.4585 - acc: 0.8405 - val_loss: 5.9937 - val_acc: 0.4013


Epoch 00713: val_loss did not improve
Epoch 714/1000
 - 93s - loss: 0.4521 - acc: 0.8438 - val_loss: 8.9615 - val_acc: 0.3066
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Epoch 00714: val_loss did not improve
Epoch 715/1000
 - 92s - loss: 0.4543 - acc: 0.8452 - val_loss: 8.4391 - val_acc: 0.3109

Epoch 00715: val_loss did not improve
Epoch 716/1000
 - 92s - loss: 0.4547 - acc: 0.8443 - val_loss: 8.1011 - val_acc: 0.3309

Epoch 00716: val_loss did not improve
Epoch 717/1000
 - 93s - loss: 0.4637 - acc: 0.8415 - val_loss: 7.1293 - val_acc: 0.3757

Epoch 00717: val_loss did not improve
Epoch 718/1000
 - 93s - loss: 0.4518 - acc: 0.8423 - val_loss: 8.5645 - val_acc: 0.3214

Epoch 00718: val_loss did not improve
Epoch 719/1000
 - 93s - loss: 0.4479 - acc: 0.8482 - val_loss: 7.0245 - val_acc: 0.3730

Epoch 00719: val_loss did not improve
Epoch 720/1000
 - 92s - loss: 0.4508 - acc: 0.8448 - val_loss: 5.8190 - val_acc: 0.4148

Epoch 00720: val_loss did not improve
Epoch 721/1000
 - 92s - loss: 0.4606 - acc: 0.8447 - val_loss: 7.8986 - val_acc: 0.3536

Epoch 00721: val_loss did not improve
Epoch 722/1000
 - 92s - loss: 0.4577 - acc: 0.8444 - val_loss: 7.5383 - val_acc: 0.3586

Epoch 00722: val_loss did not improve
Epoch 723/1000
 - 92s - loss: 0.4541 - acc: 0.8433 - val_loss: 5.4462 - val_acc: 0.4257

Epoch 00723: val_loss did not improve
Epoch 724/1000
 - 92s - loss: 0.4538 - acc: 0.8445 - val_loss: 4.6184 - val_acc: 0.4576

Epoch 00724: val_loss did not improve
Epoch 725/1000
 - 92s - loss: 0.4414 - acc: 0.8526 - val_loss: 5.6614 - val_acc: 0.3970

Epoch 00725: val_loss did not improve
Epoch 726/1000
 - 93s - loss: 0.4372 - acc: 0.8473 - val_loss: 7.1816 - val_acc: 0.3885

Epoch 00726: val_loss did not improve
Epoch 727/1000
 - 93s - loss: 0.4481 - acc: 0.8471 - val_loss: 7.6126 - val_acc: 0.3539

Epoch 00727: val_loss did not improve
Epoch 728/1000
 - 93s - loss: 0.4484 - acc: 0.8469 - val_loss: 7.4019 - val_acc: 0.3543

Epoch 00728: val_loss did not improve
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Epoch 729/1000
 - 93s - loss: 0.4448 - acc: 0.8476 - val_loss: 8.4639 - val_acc: 0.3336

Epoch 00729: val_loss did not improve
Epoch 730/1000
 - 93s - loss: 0.4450 - acc: 0.8439 - val_loss: 5.7857 - val_acc: 0.4224

Epoch 00730: val_loss did not improve
Epoch 731/1000
 - 93s - loss: 0.4489 - acc: 0.8493 - val_loss: 7.7196 - val_acc: 0.3480

Epoch 00731: val_loss did not improve
Epoch 732/1000
 - 93s - loss: 0.4470 - acc: 0.8454 - val_loss: 6.5912 - val_acc: 0.4016

Epoch 00732: val_loss did not improve
Epoch 733/1000
 - 92s - loss: 0.4264 - acc: 0.8533 - val_loss: 8.7903 - val_acc: 0.2977

Epoch 00733: val_loss did not improve
Epoch 734/1000
 - 92s - loss: 0.4480 - acc: 0.8461 - val_loss: 7.6210 - val_acc: 0.3500

Epoch 00734: val_loss did not improve
Epoch 735/1000
 - 92s - loss: 0.4478 - acc: 0.8474 - val_loss: 8.1868 - val_acc: 0.3605

Epoch 00735: val_loss did not improve
Epoch 736/1000
 - 93s - loss: 0.4459 - acc: 0.8432 - val_loss: 7.0083 - val_acc: 0.3888

Epoch 00736: val_loss did not improve
Epoch 737/1000
 - 93s - loss: 0.4441 - acc: 0.8419 - val_loss: 9.1734 - val_acc: 0.2905

Epoch 00737: val_loss did not improve
Epoch 738/1000
 - 92s - loss: 0.4759 - acc: 0.8382 - val_loss: 7.4003 - val_acc: 0.3720

Epoch 00738: val_loss did not improve
Epoch 739/1000
 - 93s - loss: 0.4467 - acc: 0.8451 - val_loss: 7.6493 - val_acc: 0.3605

Epoch 00739: val_loss did not improve
Epoch 740/1000
 - 93s - loss: 0.4509 - acc: 0.8449 - val_loss: 7.6302 - val_acc: 0.3674

Epoch 00740: val_loss did not improve
Epoch 741/1000
 - 92s - loss: 0.4464 - acc: 0.8431 - val_loss: 8.3498 - val_acc: 0.3467

Epoch 00741: val_loss did not improve
Epoch 742/1000
 - 93s - loss: 0.4515 - acc: 0.8429 - val_loss: 7.2735 - val_acc: 0.3382

Epoch 00742: val_loss did not improve
Epoch 743/1000
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 - 93s - loss: 0.4507 - acc: 0.8447 - val_loss: 7.9465 - val_acc: 0.3332

Epoch 00743: val_loss did not improve
Epoch 744/1000
 - 93s - loss: 0.4526 - acc: 0.8458 - val_loss: 8.0156 - val_acc: 0.3487

Epoch 00744: val_loss did not improve
Epoch 745/1000
 - 93s - loss: 0.4526 - acc: 0.8436 - val_loss: 9.2574 - val_acc: 0.2987

Epoch 00745: val_loss did not improve
Epoch 746/1000
 - 93s - loss: 0.4541 - acc: 0.8422 - val_loss: 7.6548 - val_acc: 0.3424

Epoch 00746: val_loss did not improve
Epoch 747/1000
 - 92s - loss: 0.4495 - acc: 0.8431 - val_loss: 7.5061 - val_acc: 0.3684

Epoch 00747: val_loss did not improve
Epoch 748/1000
 - 92s - loss: 0.4595 - acc: 0.8457 - val_loss: 7.9669 - val_acc: 0.3405

Epoch 00748: val_loss did not improve
Epoch 749/1000
 - 92s - loss: 0.4599 - acc: 0.8399 - val_loss: 7.6563 - val_acc: 0.3625

Epoch 00749: val_loss did not improve
Epoch 750/1000
 - 93s - loss: 0.4470 - acc: 0.8419 - val_loss: 7.1751 - val_acc: 0.3727

Epoch 00750: val_loss did not improve
Epoch 751/1000
 - 92s - loss: 0.4501 - acc: 0.8451 - val_loss: 6.8470 - val_acc: 0.3757

Epoch 00751: val_loss did not improve
Epoch 752/1000
 - 93s - loss: 0.4492 - acc: 0.8424 - val_loss: 7.0428 - val_acc: 0.3671

Epoch 00752: val_loss did not improve
Epoch 753/1000
 - 93s - loss: 0.4533 - acc: 0.8428 - val_loss: 6.7159 - val_acc: 0.3944

Epoch 00753: val_loss did not improve
Epoch 754/1000
 - 93s - loss: 0.4585 - acc: 0.8415 - val_loss: 8.2076 - val_acc: 0.3424

Epoch 00754: val_loss did not improve
Epoch 755/1000
 - 93s - loss: 0.4484 - acc: 0.8470 - val_loss: 8.6166 - val_acc: 0.3382

Epoch 00755: val_loss did not improve
Epoch 756/1000
 - 93s - loss: 0.4477 - acc: 0.8467 - val_loss: 7.1986 - val_acc: 0.3809

Epoch 00756: val_loss did not improve
Epoch 757/1000
 - 93s - loss: 0.4489 - acc: 0.8479 - val_loss: 8.2017 - val_acc: 0.3563
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Epoch 00757: val_loss did not improve
Epoch 758/1000
 - 92s - loss: 0.4541 - acc: 0.8438 - val_loss: 8.7747 - val_acc: 0.3181

Epoch 00758: val_loss did not improve
Epoch 759/1000
 - 92s - loss: 0.4347 - acc: 0.8473 - val_loss: 7.8650 - val_acc: 0.3612

Epoch 00759: val_loss did not improve
Epoch 760/1000
 - 92s - loss: 0.4430 - acc: 0.8468 - val_loss: 6.8665 - val_acc: 0.3974

Epoch 00760: val_loss did not improve
Epoch 761/1000
 - 93s - loss: 0.4541 - acc: 0.8424 - val_loss: 4.4005 - val_acc: 0.4592

Epoch 00761: val_loss did not improve
Epoch 762/1000
 - 92s - loss: 0.4547 - acc: 0.8463 - val_loss: 7.4287 - val_acc: 0.3796

Epoch 00762: val_loss did not improve
Epoch 763/1000
 - 92s - loss: 0.4570 - acc: 0.8404 - val_loss: 8.4956 - val_acc: 0.3109

Epoch 00763: val_loss did not improve
Epoch 764/1000
 - 92s - loss: 0.4520 - acc: 0.8436 - val_loss: 6.1204 - val_acc: 0.3987

Epoch 00764: val_loss did not improve
Epoch 765/1000
 - 93s - loss: 0.4486 - acc: 0.8448 - val_loss: 7.4899 - val_acc: 0.3678

Epoch 00765: val_loss did not improve
Epoch 766/1000
 - 92s - loss: 0.4576 - acc: 0.8428 - val_loss: 6.7276 - val_acc: 0.3898

Epoch 00766: val_loss did not improve
Epoch 767/1000
 - 92s - loss: 0.4500 - acc: 0.8472 - val_loss: 7.8189 - val_acc: 0.3609

Epoch 00767: val_loss did not improve
Epoch 768/1000
 - 93s - loss: 0.4493 - acc: 0.8429 - val_loss: 6.5923 - val_acc: 0.3990

Epoch 00768: val_loss did not improve
Epoch 769/1000
 - 92s - loss: 0.4438 - acc: 0.8432 - val_loss: 7.7923 - val_acc: 0.3602

Epoch 00769: val_loss did not improve
Epoch 770/1000
 - 92s - loss: 0.4558 - acc: 0.8426 - val_loss: 6.4336 - val_acc: 0.3970

Epoch 00770: val_loss did not improve
Epoch 771/1000
 - 93s - loss: 0.4468 - acc: 0.8451 - val_loss: 6.4815 - val_acc: 0.3974
```

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Epoch 00771: val_loss did not improve
Epoch 772/1000
 - 93s - loss: 0.4435 - acc: 0.8459 - val_loss: 6.5463 - val_acc: 0.3865

Epoch 00772: val_loss did not improve
Epoch 773/1000
 - 92s - loss: 0.4513 - acc: 0.8442 - val_loss: 5.9204 - val_acc: 0.3865

Epoch 00773: val_loss did not improve
Epoch 774/1000
 - 92s - loss: 0.4478 - acc: 0.8440 - val_loss: 6.5257 - val_acc: 0.4020

Epoch 00774: val_loss did not improve
Epoch 775/1000
 - 93s - loss: 0.4512 - acc: 0.8414 - val_loss: 6.9536 - val_acc: 0.3694

Epoch 00775: val_loss did not improve
Epoch 776/1000
 - 93s - loss: 0.4550 - acc: 0.8431 - val_loss: 6.3512 - val_acc: 0.3796

Epoch 00776: val_loss did not improve
Epoch 777/1000
 - 93s - loss: 0.4539 - acc: 0.8431 - val_loss: 6.6750 - val_acc: 0.3786

Epoch 00777: val_loss did not improve
Epoch 778/1000
 - 93s - loss: 0.4365 - acc: 0.8465 - val_loss: 7.5897 - val_acc: 0.3681

Epoch 00778: val_loss did not improve
Epoch 779/1000
 - 93s - loss: 0.4551 - acc: 0.8468 - val_loss: 8.6625 - val_acc: 0.3049

Epoch 00779: val_loss did not improve
Epoch 780/1000
 - 93s - loss: 0.4441 - acc: 0.8460 - val_loss: 8.0489 - val_acc: 0.3605

Epoch 00780: val_loss did not improve
Epoch 781/1000
 - 93s - loss: 0.4498 - acc: 0.8451 - val_loss: 8.9730 - val_acc: 0.3125

Epoch 00781: val_loss did not improve
Epoch 782/1000
 - 93s - loss: 0.4509 - acc: 0.8456 - val_loss: 6.4252 - val_acc: 0.4161

Epoch 00782: val_loss did not improve
Epoch 783/1000
 - 93s - loss: 0.4424 - acc: 0.8462 - val_loss: 8.0531 - val_acc: 0.3615

Epoch 00783: val_loss did not improve
Epoch 784/1000
 - 93s - loss: 0.4357 - acc: 0.8511 - val_loss: 7.2805 - val_acc: 0.3868

Epoch 00784: val_loss did not improve
Epoch 785/1000
 - 93s - loss: 0.4482 - acc: 0.8450 - val_loss: 7.7997 - val_acc: 0.3694

Epoch 00785: val_loss did not improve
```

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Epoch 786/1000
 - 92s - loss: 0.4591 - acc: 0.8425 - val_loss: 7.7064 - val_acc: 0.3487

Epoch 00786: val_loss did not improve
Epoch 787/1000
 - 92s - loss: 0.4412 - acc: 0.8443 - val_loss: 6.7954 - val_acc: 0.4128

Epoch 00787: val_loss did not improve
Epoch 788/1000
 - 93s - loss: 0.4395 - acc: 0.8492 - val_loss: 7.0920 - val_acc: 0.3730

Epoch 00788: val_loss did not improve
Epoch 789/1000
 - 92s - loss: 0.4492 - acc: 0.8412 - val_loss: 6.4192 - val_acc: 0.4128

Epoch 00789: val_loss did not improve
Epoch 790/1000
 - 93s - loss: 0.4376 - acc: 0.8460 - val_loss: 8.3769 - val_acc: 0.3398

Epoch 00790: val_loss did not improve
Epoch 791/1000
 - 92s - loss: 0.4600 - acc: 0.8421 - val_loss: 7.7126 - val_acc: 0.3576

Epoch 00791: val_loss did not improve
Epoch 792/1000
 - 93s - loss: 0.4467 - acc: 0.8477 - val_loss: 6.4086 - val_acc: 0.3776

Epoch 00792: val_loss did not improve
Epoch 793/1000
 - 93s - loss: 0.4383 - acc: 0.8461 - val_loss: 7.7397 - val_acc: 0.3589

Epoch 00793: val_loss did not improve
Epoch 794/1000
 - 92s - loss: 0.4480 - acc: 0.8437 - val_loss: 6.2157 - val_acc: 0.4007

Epoch 00794: val_loss did not improve
Epoch 795/1000
 - 92s - loss: 0.4455 - acc: 0.8463 - val_loss: 8.0202 - val_acc: 0.3451

Epoch 00795: val_loss did not improve
Epoch 796/1000
 - 93s - loss: 0.4563 - acc: 0.8479 - val_loss: 7.9859 - val_acc: 0.3497

Epoch 00796: val_loss did not improve
Epoch 797/1000
 - 93s - loss: 0.4483 - acc: 0.8456 - val_loss: 7.3368 - val_acc: 0.3872

Epoch 00797: val_loss did not improve
Epoch 798/1000
 - 92s - loss: 0.4401 - acc: 0.8484 - val_loss: 8.0423 - val_acc: 0.3546

Epoch 00798: val_loss did not improve
Epoch 799/1000
 - 92s - loss: 0.4498 - acc: 0.8463 - val_loss: 6.3835 - val_acc: 0.4003

Epoch 00799: val_loss did not improve
Epoch 800/1000
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        - 92s - loss: 0.4574 - acc: 0.8433 - val_loss: 5.4324 - val_acc: 0.4411


     Epoch 00800: val_loss did not improve
     Epoch 801/1000
        - 92s - loss: 0.4363 - acc: 0.8479 - val_loss: 6.5978 - val_acc: 0.4016


     Epoch 00801: val_loss did not improve
     Epoch 802/1000
        - 92s - loss: 0.4501 - acc: 0.8424 - val_loss: 5.8951 - val_acc: 0.4266


     Epoch 00802: val_loss did not improve
     Epoch 803/1000
        - 92s - loss: 0.4499 - acc: 0.8432 - val_loss: 8.3651 - val_acc: 0.3243


     Epoch 00803: val_loss did not improve
     Epoch 804/1000
        - 92s - loss: 0.4451 - acc: 0.8421 - val_loss: 6.6684 - val_acc: 0.4138


     Epoch 00804: val_loss did not improve
     Epoch 805/1000
        - 92s - loss: 0.4539 - acc: 0.8445 - val_loss: 6.5181 - val_acc: 0.3901


     Epoch 00805: val_loss did not improve
     Epoch 806/1000
        - 93s - loss: 0.4288 - acc: 0.8529 - val_loss: 7.1782 - val_acc: 0.3842


     Epoch 00806: val_loss did not improve
     Epoch 807/1000
        - 93s - loss: 0.4499 - acc: 0.8461 - val_loss: 7.7847 - val_acc: 0.3414


     Epoch 00807: val_loss did not improve
     Epoch 808/1000
        - 92s - loss: 0.4680 - acc: 0.8406 - val_loss: 7.7790 - val_acc: 0.3523


     Epoch 00808: val_loss did not improve
     Epoch 809/1000
        - 92s - loss: 0.4572 - acc: 0.8412 - val_loss: 8.1077 - val_acc: 0.3345


     Epoch 00809: val_loss did not improve
     Epoch 810/1000
        - 93s - loss: 0.4444 - acc: 0.8468 - val_loss: 7.3614 - val_acc: 0.3668


     Epoch 00810: val_loss did not improve
     Epoch 811/1000
        - 93s - loss: 0.4503 - acc: 0.8441 - val_loss: 7.4698 - val_acc: 0.3579


     Epoch 00811: val_loss did not improve
     Epoch 812/1000
        - 93s - loss: 0.4521 - acc: 0.8443 - val_loss: 6.3337 - val_acc: 0.4062


     Epoch 00812: val_loss did not improve
     Epoch 813/1000
        - 92s - loss: 0.4345 - acc: 0.8501 - val_loss: 6.9874 - val_acc: 0.3855


     Epoch 00813: val_loss did not improve
     Epoch 814/1000
        - 93s - loss: 0.4470 - acc: 0.8456 - val_loss: 4.7215 - val_acc: 0.4546
```

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Epoch 00814: val_loss did not improve
Epoch 815/1000
 - 92s - loss: 0.4446 - acc: 0.8437 - val_loss: 8.6519 - val_acc: 0.3457

Epoch 00815: val_loss did not improve
Epoch 816/1000
 - 92s - loss: 0.4557 - acc: 0.8428 - val_loss: 7.3372 - val_acc: 0.3661

Epoch 00816: val_loss did not improve
Epoch 817/1000
 - 92s - loss: 0.4417 - acc: 0.8480 - val_loss: 7.2384 - val_acc: 0.3937

Epoch 00817: val_loss did not improve
Epoch 818/1000
 - 92s - loss: 0.4514 - acc: 0.8470 - val_loss: 5.5557 - val_acc: 0.4247

Epoch 00818: val_loss did not improve
Epoch 819/1000
 - 92s - loss: 0.4536 - acc: 0.8419 - val_loss: 6.8928 - val_acc: 0.3888

Epoch 00819: val_loss did not improve
Epoch 820/1000
 - 93s - loss: 0.4520 - acc: 0.8460 - val_loss: 6.3532 - val_acc: 0.4016

Epoch 00820: val_loss did not improve
Epoch 821/1000
 - 92s - loss: 0.4337 - acc: 0.8507 - val_loss: 7.2582 - val_acc: 0.3569

Epoch 00821: val_loss did not improve
Epoch 822/1000
 - 92s - loss: 0.4422 - acc: 0.8475 - val_loss: 7.7995 - val_acc: 0.3378

Epoch 00822: val_loss did not improve
Epoch 823/1000
 - 93s - loss: 0.4487 - acc: 0.8479 - val_loss: 8.3833 - val_acc: 0.3470

Epoch 00823: val_loss did not improve
Epoch 824/1000
 - 93s - loss: 0.4579 - acc: 0.8418 - val_loss: 8.1361 - val_acc: 0.3586

Epoch 00824: val_loss did not improve
Epoch 825/1000
 - 93s - loss: 0.4409 - acc: 0.8457 - val_loss: 6.1100 - val_acc: 0.4375

Epoch 00825: val_loss did not improve
Epoch 826/1000
 - 92s - loss: 0.4421 - acc: 0.8512 - val_loss: 7.1183 - val_acc: 0.3862

Epoch 00826: val_loss did not improve
Epoch 827/1000
 - 92s - loss: 0.4442 - acc: 0.8461 - val_loss: 8.1911 - val_acc: 0.3497

Epoch 00827: val_loss did not improve
Epoch 828/1000
 - 92s - loss: 0.4518 - acc: 0.8481 - val_loss: 6.7554 - val_acc: 0.3977
```

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Epoch 00828: val_loss did not improve
Epoch 829/1000
 - 93s - loss: 0.4635 - acc: 0.8438 - val_loss: 6.5961 - val_acc: 0.3822

Epoch 00829: val_loss did not improve
Epoch 830/1000
 - 92s - loss: 0.4413 - acc: 0.8513 - val_loss: 8.0871 - val_acc: 0.3421

Epoch 00830: val_loss did not improve
Epoch 831/1000
 - 92s - loss: 0.4472 - acc: 0.8473 - val_loss: 7.7839 - val_acc: 0.3704

Epoch 00831: val_loss did not improve
Epoch 832/1000
 - 92s - loss: 0.4470 - acc: 0.8468 - val_loss: 8.5176 - val_acc: 0.3270

Epoch 00832: val_loss did not improve
Epoch 833/1000
 - 92s - loss: 0.4473 - acc: 0.8452 - val_loss: 7.7166 - val_acc: 0.3563

Epoch 00833: val_loss did not improve
Epoch 834/1000
 - 92s - loss: 0.4563 - acc: 0.8433 - val_loss: 6.7521 - val_acc: 0.4003

Epoch 00834: val_loss did not improve
Epoch 835/1000
 - 92s - loss: 0.4536 - acc: 0.8465 - val_loss: 7.1109 - val_acc: 0.3714

Epoch 00835: val_loss did not improve
Epoch 836/1000
 - 93s - loss: 0.4473 - acc: 0.8460 - val_loss: 5.9840 - val_acc: 0.4053

Epoch 00836: val_loss did not improve
Epoch 837/1000
 - 92s - loss: 0.4495 - acc: 0.8444 - val_loss: 7.8730 - val_acc: 0.3447

Epoch 00837: val_loss did not improve
Epoch 838/1000
 - 92s - loss: 0.4407 - acc: 0.8479 - val_loss: 7.9237 - val_acc: 0.3615

Epoch 00838: val_loss did not improve
Epoch 839/1000
 - 92s - loss: 0.4425 - acc: 0.8495 - val_loss: 7.0647 - val_acc: 0.3888

Epoch 00839: val_loss did not improve
Epoch 840/1000
 - 92s - loss: 0.4472 - acc: 0.8458 - val_loss: 7.0971 - val_acc: 0.3855

Epoch 00840: val_loss did not improve
Epoch 841/1000
 - 92s - loss: 0.4496 - acc: 0.8441 - val_loss: 6.8486 - val_acc: 0.3750

Epoch 00841: val_loss did not improve
Epoch 842/1000
 - 92s - loss: 0.4432 - acc: 0.8460 - val_loss: 7.8730 - val_acc: 0.3378

Epoch 00842: val_loss did not improve
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Epoch 843/1000
 - 92s - loss: 0.4426 - acc: 0.8515 - val_loss: 6.5224 - val_acc: 0.3789

Epoch 00843: val_loss did not improve
Epoch 844/1000
 - 93s - loss: 0.4610 - acc: 0.8411 - val_loss: 7.6846 - val_acc: 0.3428

Epoch 00844: val_loss did not improve
Epoch 845/1000
 - 93s - loss: 0.4636 - acc: 0.8394 - val_loss: 7.6481 - val_acc: 0.3694

Epoch 00845: val_loss did not improve
Epoch 846/1000
 - 92s - loss: 0.4486 - acc: 0.8450 - val_loss: 6.8414 - val_acc: 0.4016

Epoch 00846: val_loss did not improve
Epoch 847/1000
 - 92s - loss: 0.4315 - acc: 0.8516 - val_loss: 7.9818 - val_acc: 0.3480

Epoch 00847: val_loss did not improve
Epoch 848/1000
 - 92s - loss: 0.4434 - acc: 0.8486 - val_loss: 8.0390 - val_acc: 0.3431

Epoch 00848: val_loss did not improve
Epoch 849/1000
 - 93s - loss: 0.4527 - acc: 0.8430 - val_loss: 7.7419 - val_acc: 0.3658

Epoch 00849: val_loss did not improve
Epoch 850/1000
 - 93s - loss: 0.4488 - acc: 0.8448 - val_loss: 5.9570 - val_acc: 0.4250

Epoch 00850: val_loss did not improve
Epoch 851/1000
 - 93s - loss: 0.4518 - acc: 0.8450 - val_loss: 7.3156 - val_acc: 0.3579

Epoch 00851: val_loss did not improve
Epoch 852/1000
 - 92s - loss: 0.4496 - acc: 0.8428 - val_loss: 8.0986 - val_acc: 0.3414

Epoch 00852: val_loss did not improve
Epoch 853/1000
 - 92s - loss: 0.4366 - acc: 0.8515 - val_loss: 7.5226 - val_acc: 0.3803

Epoch 00853: val_loss did not improve
Epoch 854/1000
 - 92s - loss: 0.4533 - acc: 0.8449 - val_loss: 6.3097 - val_acc: 0.4023

Epoch 00854: val_loss did not improve
Epoch 855/1000
 - 92s - loss: 0.4461 - acc: 0.8456 - val_loss: 8.4588 - val_acc: 0.3510

Epoch 00855: val_loss did not improve
Epoch 856/1000
 - 92s - loss: 0.4465 - acc: 0.8456 - val_loss: 5.7350 - val_acc: 0.4263

Epoch 00856: val_loss did not improve
Epoch 857/1000
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 - 92s - loss: 0.4469 - acc: 0.8493 - val_loss: 7.6329 - val_acc: 0.3753


Epoch 00857: val_loss did not improve
Epoch 858/1000
 - 92s - loss: 0.4460 - acc: 0.8476 - val_loss: 8.0807 - val_acc: 0.3655


Epoch 00858: val_loss did not improve
Epoch 859/1000
 - 92s - loss: 0.4542 - acc: 0.8457 - val_loss: 8.4043 - val_acc: 0.3391


Epoch 00859: val_loss did not improve
Epoch 860/1000
 - 92s - loss: 0.4344 - acc: 0.8483 - val_loss: 6.8845 - val_acc: 0.3888


Epoch 00860: val_loss did not improve
Epoch 861/1000
 - 92s - loss: 0.4535 - acc: 0.8470 - val_loss: 5.9055 - val_acc: 0.4276


Epoch 00861: val_loss did not improve
Epoch 862/1000
 - 93s - loss: 0.4507 - acc: 0.8435 - val_loss: 7.9813 - val_acc: 0.3579


Epoch 00862: val_loss did not improve
Epoch 863/1000
 - 93s - loss: 0.4426 - acc: 0.8470 - val_loss: 6.7728 - val_acc: 0.3941


Epoch 00863: val_loss did not improve
Epoch 864/1000
 - 92s - loss: 0.4389 - acc: 0.8497 - val_loss: 7.5168 - val_acc: 0.3786


Epoch 00864: val_loss did not improve
Epoch 865/1000
 - 92s - loss: 0.4512 - acc: 0.8428 - val_loss: 6.4029 - val_acc: 0.4174


Epoch 00865: val_loss did not improve
Epoch 866/1000
 - 92s - loss: 0.4429 - acc: 0.8455 - val_loss: 7.7465 - val_acc: 0.3740


Epoch 00866: val_loss did not improve
Epoch 867/1000
 - 93s - loss: 0.4530 - acc: 0.8451 - val_loss: 7.5289 - val_acc: 0.3862


Epoch 00867: val_loss did not improve
Epoch 868/1000
 - 93s - loss: 0.4433 - acc: 0.8456 - val_loss: 7.0058 - val_acc: 0.3822


Epoch 00868: val_loss did not improve
Epoch 869/1000
 - 93s - loss: 0.4450 - acc: 0.8499 - val_loss: 7.1530 - val_acc: 0.3599


Epoch 00869: val_loss did not improve
Epoch 870/1000
 - 93s - loss: 0.4534 - acc: 0.8476 - val_loss: 7.1896 - val_acc: 0.3622


Epoch 00870: val_loss did not improve
Epoch 871/1000
 - 92s - loss: 0.4367 - acc: 0.8473 - val_loss: 7.9855 - val_acc: 0.3566
```

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Epoch 00871: val_loss did not improve
Epoch 872/1000
 - 92s - loss: 0.4492 - acc: 0.8499 - val_loss: 7.9872 - val_acc: 0.3612

Epoch 00872: val_loss did not improve
Epoch 873/1000
 - 93s - loss: 0.4583 - acc: 0.8417 - val_loss: 7.4644 - val_acc: 0.3711

Epoch 00873: val_loss did not improve
Epoch 874/1000
 - 92s - loss: 0.4398 - acc: 0.8488 - val_loss: 7.6788 - val_acc: 0.3523

Epoch 00874: val_loss did not improve
Epoch 875/1000
 - 92s - loss: 0.4467 - acc: 0.8435 - val_loss: 8.8980 - val_acc: 0.3276

Epoch 00875: val_loss did not improve
Epoch 876/1000
 - 92s - loss: 0.4434 - acc: 0.8487 - val_loss: 8.0150 - val_acc: 0.3421

Epoch 00876: val_loss did not improve
Epoch 877/1000
 - 92s - loss: 0.4516 - acc: 0.8453 - val_loss: 8.4937 - val_acc: 0.3299

Epoch 00877: val_loss did not improve
Epoch 878/1000
 - 92s - loss: 0.4522 - acc: 0.8447 - val_loss: 7.0128 - val_acc: 0.3770

Epoch 00878: val_loss did not improve
Epoch 879/1000
 - 93s - loss: 0.4532 - acc: 0.8416 - val_loss: 8.6470 - val_acc: 0.3385

Epoch 00879: val_loss did not improve
Epoch 880/1000
 - 92s - loss: 0.4413 - acc: 0.8442 - val_loss: 6.9130 - val_acc: 0.3859

Epoch 00880: val_loss did not improve
Epoch 881/1000
 - 92s - loss: 0.4542 - acc: 0.8456 - val_loss: 7.6604 - val_acc: 0.3691

Epoch 00881: val_loss did not improve
Epoch 882/1000
 - 93s - loss: 0.4463 - acc: 0.8470 - val_loss: 7.1375 - val_acc: 0.3826

Epoch 00882: val_loss did not improve
Epoch 883/1000
 - 93s - loss: 0.4580 - acc: 0.8424 - val_loss: 7.9106 - val_acc: 0.3786

Epoch 00883: val_loss did not improve
Epoch 884/1000
 - 92s - loss: 0.4558 - acc: 0.8437 - val_loss: 7.1358 - val_acc: 0.3888

Epoch 00884: val_loss did not improve
Epoch 885/1000
 - 92s - loss: 0.4514 - acc: 0.8444 - val_loss: 7.3359 - val_acc: 0.3816
```

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Epoch 00885: val_loss did not improve
Epoch 886/1000
 - 93s - loss: 0.4565 - acc: 0.8447 - val_loss: 6.9816 - val_acc: 0.3734

Epoch 00886: val_loss did not improve
Epoch 887/1000
 - 93s - loss: 0.4530 - acc: 0.8465 - val_loss: 7.8425 - val_acc: 0.3589

Epoch 00887: val_loss did not improve
Epoch 888/1000
 - 93s - loss: 0.4481 - acc: 0.8453 - val_loss: 6.8521 - val_acc: 0.3957

Epoch 00888: val_loss did not improve
Epoch 889/1000
 - 93s - loss: 0.4563 - acc: 0.8426 - val_loss: 5.8714 - val_acc: 0.4253

Epoch 00889: val_loss did not improve
Epoch 890/1000
 - 92s - loss: 0.4524 - acc: 0.8465 - val_loss: 7.6030 - val_acc: 0.3747

Epoch 00890: val_loss did not improve
Epoch 891/1000
 - 92s - loss: 0.4453 - acc: 0.8447 - val_loss: 7.4554 - val_acc: 0.3536

Epoch 00891: val_loss did not improve
Epoch 892/1000
 - 93s - loss: 0.4393 - acc: 0.8454 - val_loss: 7.0315 - val_acc: 0.3714

Epoch 00892: val_loss did not improve
Epoch 893/1000
 - 93s - loss: 0.4413 - acc: 0.8487 - val_loss: 6.8882 - val_acc: 0.3993

Epoch 00893: val_loss did not improve
Epoch 894/1000
 - 94s - loss: 0.4413 - acc: 0.8512 - val_loss: 7.5630 - val_acc: 0.3612

Epoch 00894: val_loss did not improve
Epoch 895/1000
 - 93s - loss: 0.4408 - acc: 0.8470 - val_loss: 7.9068 - val_acc: 0.3661

Epoch 00895: val_loss did not improve
Epoch 896/1000
 - 93s - loss: 0.4523 - acc: 0.8440 - val_loss: 8.3474 - val_acc: 0.3454

Epoch 00896: val_loss did not improve
Epoch 897/1000
 - 92s - loss: 0.4483 - acc: 0.8458 - val_loss: 8.4137 - val_acc: 0.3523

Epoch 00897: val_loss did not improve
Epoch 898/1000
 - 92s - loss: 0.4515 - acc: 0.8475 - val_loss: 7.6832 - val_acc: 0.3612

Epoch 00898: val_loss did not improve
Epoch 899/1000
 - 93s - loss: 0.4551 - acc: 0.8444 - val_loss: 7.2271 - val_acc: 0.3783

Epoch 00899: val_loss did not improve
```

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Epoch 900/1000
 - 92s - loss: 0.4368 - acc: 0.8469 - val_loss: 8.9018 - val_acc: 0.2862

Epoch 00900: val_loss did not improve
Epoch 901/1000
 - 93s - loss: 0.4447 - acc: 0.8452 - val_loss: 7.2589 - val_acc: 0.3734

Epoch 00901: val_loss did not improve
Epoch 902/1000
 - 92s - loss: 0.4595 - acc: 0.8437 - val_loss: 7.7096 - val_acc: 0.3447

Epoch 00902: val_loss did not improve
Epoch 903/1000
 - 92s - loss: 0.4462 - acc: 0.8484 - val_loss: 4.0466 - val_acc: 0.4908

Epoch 00903: val_loss did not improve
Epoch 904/1000
 - 92s - loss: 0.4480 - acc: 0.8452 - val_loss: 6.3923 - val_acc: 0.3914

Epoch 00904: val_loss did not improve
Epoch 905/1000
 - 92s - loss: 0.4535 - acc: 0.8447 - val_loss: 7.0689 - val_acc: 0.3980

Epoch 00905: val_loss did not improve
Epoch 906/1000
 - 93s - loss: 0.4294 - acc: 0.8524 - val_loss: 7.2315 - val_acc: 0.3924

Epoch 00906: val_loss did not improve
Epoch 907/1000
 - 93s - loss: 0.4610 - acc: 0.8429 - val_loss: 7.0152 - val_acc: 0.3832

Epoch 00907: val_loss did not improve
Epoch 908/1000
 - 93s - loss: 0.4350 - acc: 0.8490 - val_loss: 8.2932 - val_acc: 0.3595

Epoch 00908: val_loss did not improve
Epoch 909/1000
 - 92s - loss: 0.4533 - acc: 0.8446 - val_loss: 7.6268 - val_acc: 0.3668

Epoch 00909: val_loss did not improve
Epoch 910/1000
 - 92s - loss: 0.4423 - acc: 0.8480 - val_loss: 7.0057 - val_acc: 0.3766

Epoch 00910: val_loss did not improve
Epoch 911/1000
 - 93s - loss: 0.4160 - acc: 0.8525 - val_loss: 8.1611 - val_acc: 0.3359

Epoch 00911: val_loss did not improve
Epoch 912/1000
 - 93s - loss: 0.4542 - acc: 0.8422 - val_loss: 7.2308 - val_acc: 0.3793

Epoch 00912: val_loss did not improve
Epoch 913/1000
 - 92s - loss: 0.4550 - acc: 0.8447 - val_loss: 7.9415 - val_acc: 0.3563

Epoch 00913: val_loss did not improve
Epoch 914/1000
```

```
 - 92s - loss: 0.4372 - acc: 0.8452 - val_loss: 7.9616 - val_acc: 0.3799


Epoch 00914: val_loss did not improve
Epoch 915/1000
 - 92s - loss: 0.4469 - acc: 0.8484 - val_loss: 8.9017 - val_acc: 0.3454


Epoch 00915: val_loss did not improve
Epoch 916/1000
 - 92s - loss: 0.4541 - acc: 0.8456 - val_loss: 8.2920 - val_acc: 0.3457


Epoch 00916: val_loss did not improve
Epoch 917/1000
 - 92s - loss: 0.4600 - acc: 0.8406 - val_loss: 8.5205 - val_acc: 0.3145


Epoch 00917: val_loss did not improve
Epoch 918/1000
 - 92s - loss: 0.4569 - acc: 0.8491 - val_loss: 8.6792 - val_acc: 0.3197


Epoch 00918: val_loss did not improve
Epoch 919/1000
 - 93s - loss: 0.4495 - acc: 0.8407 - val_loss: 7.0462 - val_acc: 0.3974


Epoch 00919: val_loss did not improve
Epoch 920/1000
 - 92s - loss: 0.4461 - acc: 0.8468 - val_loss: 5.5112 - val_acc: 0.4424


Epoch 00920: val_loss did not improve
Epoch 921/1000
 - 93s - loss: 0.4542 - acc: 0.8455 - val_loss: 6.4495 - val_acc: 0.3918


Epoch 00921: val_loss did not improve
Epoch 922/1000
 - 92s - loss: 0.4516 - acc: 0.8459 - val_loss: 8.1850 - val_acc: 0.3533


Epoch 00922: val_loss did not improve
Epoch 923/1000
 - 93s - loss: 0.4496 - acc: 0.8465 - val_loss: 7.2573 - val_acc: 0.4030


Epoch 00923: val_loss did not improve
Epoch 924/1000
 - 92s - loss: 0.4377 - acc: 0.8500 - val_loss: 8.2966 - val_acc: 0.3493


Epoch 00924: val_loss did not improve
Epoch 925/1000
 - 92s - loss: 0.4541 - acc: 0.8430 - val_loss: 6.7958 - val_acc: 0.3964


Epoch 00925: val_loss did not improve
Epoch 926/1000
 - 92s - loss: 0.4501 - acc: 0.8445 - val_loss: 8.4106 - val_acc: 0.3408


Epoch 00926: val_loss did not improve
Epoch 927/1000
 - 92s - loss: 0.4492 - acc: 0.8455 - val_loss: 5.7161 - val_acc: 0.4533


Epoch 00927: val_loss did not improve
Epoch 928/1000
 - 92s - loss: 0.4472 - acc: 0.8450 - val_loss: 7.3967 - val_acc: 0.3569
```

```
Epoch 00928: val_loss did not improve
Epoch 929/1000
 - 92s - loss: 0.4387 - acc: 0.8511 - val_loss: 8.2907 - val_acc: 0.3609


Epoch 00929: val_loss did not improve
Epoch 930/1000
 - 92s - loss: 0.4462 - acc: 0.8486 - val_loss: 5.3996 - val_acc: 0.4566


Epoch 00930: val_loss did not improve
Epoch 931/1000
 - 93s - loss: 0.4609 - acc: 0.8401 - val_loss: 7.7308 - val_acc: 0.3812


Epoch 00931: val_loss did not improve
Epoch 932/1000
 - 92s - loss: 0.4478 - acc: 0.8480 - val_loss: 7.1218 - val_acc: 0.3658


Epoch 00932: val_loss did not improve
Epoch 933/1000
 - 93s - loss: 0.4473 - acc: 0.8452 - val_loss: 6.9717 - val_acc: 0.3987


Epoch 00933: val_loss did not improve
Epoch 934/1000
 - 93s - loss: 0.4503 - acc: 0.8466 - val_loss: 8.8146 - val_acc: 0.3076


Epoch 00934: val_loss did not improve
Epoch 935/1000
 - 92s - loss: 0.4490 - acc: 0.8481 - val_loss: 7.4909 - val_acc: 0.3697


Epoch 00935: val_loss did not improve
Epoch 936/1000
 - 92s - loss: 0.4356 - acc: 0.8471 - val_loss: 5.5233 - val_acc: 0.4618


Epoch 00936: val_loss did not improve
Epoch 937/1000
 - 93s - loss: 0.4434 - acc: 0.8488 - val_loss: 6.3024 - val_acc: 0.4158


Epoch 00937: val_loss did not improve
Epoch 938/1000
 - 93s - loss: 0.4351 - acc: 0.8468 - val_loss: 7.5756 - val_acc: 0.3513


Epoch 00938: val_loss did not improve
Epoch 939/1000
 - 93s - loss: 0.4437 - acc: 0.8488 - val_loss: 5.9582 - val_acc: 0.4280


Epoch 00939: val_loss did not improve
Epoch 940/1000
 - 93s - loss: 0.4378 - acc: 0.8456 - val_loss: 7.0539 - val_acc: 0.4046


Epoch 00940: val_loss did not improve
Epoch 941/1000
 - 92s - loss: 0.4510 - acc: 0.8449 - val_loss: 6.6949 - val_acc: 0.4033


Epoch 00941: val_loss did not improve
Epoch 942/1000
 - 92s - loss: 0.4565 - acc: 0.8428 - val_loss: 7.6687 - val_acc: 0.3658
```

```
Epoch 00942: val_loss did not improve
Epoch 943/1000
 - 92s - loss: 0.4490 - acc: 0.8465 - val_loss: 8.5909 - val_acc: 0.3549

Epoch 00943: val_loss did not improve
Epoch 944/1000
 - 92s - loss: 0.4587 - acc: 0.8475 - val_loss: 7.3341 - val_acc: 0.3694

Epoch 00944: val_loss did not improve
Epoch 945/1000
 - 92s - loss: 0.4505 - acc: 0.8447 - val_loss: 7.5141 - val_acc: 0.3638

Epoch 00945: val_loss did not improve
Epoch 946/1000
 - 92s - loss: 0.4459 - acc: 0.8473 - val_loss: 7.6193 - val_acc: 0.3760

Epoch 00946: val_loss did not improve
Epoch 947/1000
 - 92s - loss: 0.4527 - acc: 0.8442 - val_loss: 8.4148 - val_acc: 0.3444

Epoch 00947: val_loss did not improve
Epoch 948/1000
 - 92s - loss: 0.4571 - acc: 0.8465 - val_loss: 7.3133 - val_acc: 0.3658

Epoch 00948: val_loss did not improve
Epoch 949/1000
 - 92s - loss: 0.4526 - acc: 0.8449 - val_loss: 6.5715 - val_acc: 0.4135

Epoch 00949: val_loss did not improve
Epoch 950/1000
 - 92s - loss: 0.4540 - acc: 0.8455 - val_loss: 6.9645 - val_acc: 0.4059

Epoch 00950: val_loss did not improve
Epoch 951/1000
 - 92s - loss: 0.4411 - acc: 0.8493 - val_loss: 6.7446 - val_acc: 0.3875

Epoch 00951: val_loss did not improve
Epoch 952/1000
 - 92s - loss: 0.4582 - acc: 0.8470 - val_loss: 7.8041 - val_acc: 0.3563

Epoch 00952: val_loss did not improve
Epoch 953/1000
 - 92s - loss: 0.4567 - acc: 0.8426 - val_loss: 7.6045 - val_acc: 0.3855

Epoch 00953: val_loss did not improve
Epoch 954/1000
 - 92s - loss: 0.4528 - acc: 0.8449 - val_loss: 6.7010 - val_acc: 0.3990

Epoch 00954: val_loss did not improve
Epoch 955/1000
 - 93s - loss: 0.4461 - acc: 0.8467 - val_loss: 6.6981 - val_acc: 0.3928

Epoch 00955: val_loss did not improve
Epoch 956/1000
 - 93s - loss: 0.4414 - acc: 0.8489 - val_loss: 7.2455 - val_acc: 0.3839

Epoch 00956: val_loss did not improve
```

```
Epoch 957/1000
 - 92s - loss: 0.4422 - acc: 0.8459 - val_loss: 7.4804 - val_acc: 0.3727

Epoch 00957: val_loss did not improve
Epoch 958/1000
 - 92s - loss: 0.4443 - acc: 0.8465 - val_loss: 7.4216 - val_acc: 0.3776

Epoch 00958: val_loss did not improve
Epoch 959/1000
 - 92s - loss: 0.4496 - acc: 0.8471 - val_loss: 8.5025 - val_acc: 0.3516

Epoch 00959: val_loss did not improve
Epoch 960/1000
 - 92s - loss: 0.4577 - acc: 0.8415 - val_loss: 7.6533 - val_acc: 0.3882

Epoch 00960: val_loss did not improve
Epoch 961/1000
 - 92s - loss: 0.4555 - acc: 0.8456 - val_loss: 7.8043 - val_acc: 0.3615

Epoch 00961: val_loss did not improve
Epoch 962/1000
 - 92s - loss: 0.4490 - acc: 0.8456 - val_loss: 6.5561 - val_acc: 0.4023

Epoch 00962: val_loss did not improve
Epoch 963/1000
 - 92s - loss: 0.4506 - acc: 0.8473 - val_loss: 7.1634 - val_acc: 0.3862

Epoch 00963: val_loss did not improve
Epoch 964/1000
 - 93s - loss: 0.4502 - acc: 0.8446 - val_loss: 7.5893 - val_acc: 0.3484

Epoch 00964: val_loss did not improve
Epoch 965/1000
 - 93s - loss: 0.4498 - acc: 0.8477 - val_loss: 6.5229 - val_acc: 0.4039

Epoch 00965: val_loss did not improve
Epoch 966/1000
 - 93s - loss: 0.4548 - acc: 0.8415 - val_loss: 5.6507 - val_acc: 0.4424

Epoch 00966: val_loss did not improve
Epoch 967/1000
 - 93s - loss: 0.4365 - acc: 0.8474 - val_loss: 6.7831 - val_acc: 0.3750

Epoch 00967: val_loss did not improve
Epoch 968/1000
 - 92s - loss: 0.4519 - acc: 0.8459 - val_loss: 6.3124 - val_acc: 0.3987

Epoch 00968: val_loss did not improve
Epoch 969/1000
 - 93s - loss: 0.4377 - acc: 0.8465 - val_loss: 6.0654 - val_acc: 0.4135

Epoch 00969: val_loss did not improve
Epoch 970/1000
 - 92s - loss: 0.4522 - acc: 0.8473 - val_loss: 6.8261 - val_acc: 0.4016

Epoch 00970: val_loss did not improve
Epoch 971/1000
```

```
                  - 92s - loss: 0.4422 - acc: 0.8462 - val_loss: 6.4847 - val_acc: 0.4049

       Epoch 00971: val_loss did not improve
       Epoch 972/1000
                  - 92s - loss: 0.4627 - acc: 0.8402 - val_loss: 8.0201 - val_acc: 0.3266

       Epoch 00972: val_loss did not improve
       Epoch 973/1000
                  - 92s - loss: 0.4402 - acc: 0.8465 - val_loss: 7.7228 - val_acc: 0.3625

       Epoch 00973: val_loss did not improve
       Epoch 974/1000
                  - 92s - loss: 0.4436 - acc: 0.8486 - val_loss: 3.6779 - val_acc: 0.5039

       Epoch 00974: val_loss did not improve
       Epoch 975/1000
                  - 92s - loss: 0.4391 - acc: 0.8498 - val_loss: 7.3658 - val_acc: 0.3674

       Epoch 00975: val_loss did not improve
       Epoch 976/1000
                  - 92s - loss: 0.4538 - acc: 0.8437 - val_loss: 7.3728 - val_acc: 0.3757

       Epoch 00976: val_loss did not improve
       Epoch 977/1000
                  - 93s - loss: 0.4584 - acc: 0.8447 - val_loss: 7.2529 - val_acc: 0.3842

       Epoch 00977: val_loss did not improve
       Epoch 978/1000
                  - 92s - loss: 0.4454 - acc: 0.8486 - val_loss: 7.3455 - val_acc: 0.3641

       Epoch 00978: val_loss did not improve
       Epoch 979/1000
                  - 93s - loss: 0.4525 - acc: 0.8447 - val_loss: 6.5823 - val_acc: 0.4122

       Epoch 00979: val_loss did not improve
       Epoch 980/1000
                  - 93s - loss: 0.4391 - acc: 0.8442 - val_loss: 7.6239 - val_acc: 0.3875

       Epoch 00980: val_loss did not improve
       Epoch 981/1000
                  - 92s - loss: 0.4422 - acc: 0.8501 - val_loss: 6.2170 - val_acc: 0.4148

       Epoch 00981: val_loss did not improve
       Epoch 982/1000
                  - 92s - loss: 0.4282 - acc: 0.8554 - val_loss: 7.2747 - val_acc: 0.3714

       Epoch 00982: val_loss did not improve
       Epoch 983/1000
                  - 92s - loss: 0.4535 - acc: 0.8455 - val_loss: 6.7441 - val_acc: 0.4086

       Epoch 00983: val_loss did not improve
       Epoch 984/1000
                  - 93s - loss: 0.4498 - acc: 0.8504 - val_loss: 6.9593 - val_acc: 0.3967

       Epoch 00984: val_loss did not improve
       Epoch 985/1000
                  - 93s - loss: 0.4497 - acc: 0.8476 - val_loss: 6.3420 - val_acc: 0.4112
```

```
Epoch 00985: val_loss did not improve
Epoch 986/1000
 - 93s - loss: 0.4472 - acc: 0.8492 - val_loss: 6.9533 - val_acc: 0.3796


Epoch 00986: val_loss did not improve
Epoch 987/1000
 - 93s - loss: 0.4505 - acc: 0.8473 - val_loss: 7.6918 - val_acc: 0.3707


Epoch 00987: val_loss did not improve
Epoch 988/1000
 - 93s - loss: 0.4474 - acc: 0.8486 - val_loss: 6.9423 - val_acc: 0.3780


Epoch 00988: val_loss did not improve
Epoch 989/1000
 - 93s - loss: 0.4470 - acc: 0.8479 - val_loss: 7.3201 - val_acc: 0.3681


Epoch 00989: val_loss did not improve
Epoch 990/1000
 - 93s - loss: 0.4453 - acc: 0.8456 - val_loss: 9.5424 - val_acc: 0.2918


Epoch 00990: val_loss did not improve
Epoch 991/1000
 - 93s - loss: 0.4453 - acc: 0.8493 - val_loss: 8.1242 - val_acc: 0.3345


Epoch 00991: val_loss did not improve
Epoch 992/1000
 - 92s - loss: 0.4434 - acc: 0.8440 - val_loss: 7.6954 - val_acc: 0.3928


Epoch 00992: val_loss did not improve
Epoch 993/1000
 - 92s - loss: 0.4261 - acc: 0.8536 - val_loss: 7.4176 - val_acc: 0.3872


Epoch 00993: val_loss did not improve
Epoch 994/1000
 - 92s - loss: 0.4482 - acc: 0.8478 - val_loss: 8.1871 - val_acc: 0.3214


Epoch 00994: val_loss did not improve
Epoch 995/1000
 - 92s - loss: 0.4450 - acc: 0.8463 - val_loss: 5.9460 - val_acc: 0.3914


Epoch 00995: val_loss did not improve
Epoch 996/1000
 - 92s - loss: 0.4477 - acc: 0.8426 - val_loss: 6.5682 - val_acc: 0.4191


Epoch 00996: val_loss did not improve
Epoch 997/1000
 - 92s - loss: 0.4485 - acc: 0.8486 - val_loss: 7.7274 - val_acc: 0.3661


Epoch 00997: val_loss did not improve
Epoch 998/1000
 - 92s - loss: 0.4575 - acc: 0.8428 - val_loss: 6.1798 - val_acc: 0.4141


Epoch 00998: val_loss did not improve
Epoch 999/1000
 - 93s - loss: 0.4554 - acc: 0.8481 - val_loss: 7.2580 - val_acc: 0.3586
```

```
         Epoch 00999: val_loss did not improve
         Epoch 1000/1000
          - 92s - loss: 0.4510 - acc: 0.8468 - val_loss: 8.1652 - val_acc: 0.3595

         Epoch 01000: val_loss did not improve
```

In [18]:
```python
import matplotlib.pyplot as plt
import numpy as py

print (history)

# history for accuracy
plt.plot(history.history['acc'])
plt.plot(history.history['val_acc'])
plt.title('model accuracy')
plt.ylabel('accuracy')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()

#  history for loss
plt.plot(history.history['loss'])
plt.plot(history.history['val_loss'])
plt.title('model loss')
plt.ylabel('loss')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()

p = model.predict(test_tensors)
#print (p)
z=np.argmax(p,axis=1)
#print("z = ", z)
for i in range(1,15):
    img = np.squeeze(np.array(test_tensors[i]))
    displayImage(img)
    print("Predicted class", getClass(z[i]))
    print ("Actual Class", getClass(test_targets[i]))

def predict_distraction():
    # get index of predicted distraction for each image in test set
    distraction_predictions = [np.argmax(model.predict(np.expand_dims(tensor,
axis=0))) for tensor in test_tensors]

    # report test accuracy
    test_accuracy = 100*np.sum(np.array(distraction_predictions)==np.argmax(te
st_targets, axis=0))/len(distraction_predictions)
    print('Test accuracy: %.4f%%' % test_accuracy)
    return test_accuracy

predict_distraction()
```

`<keras.callbacks.History object at 0x000001D0C9540D30>`
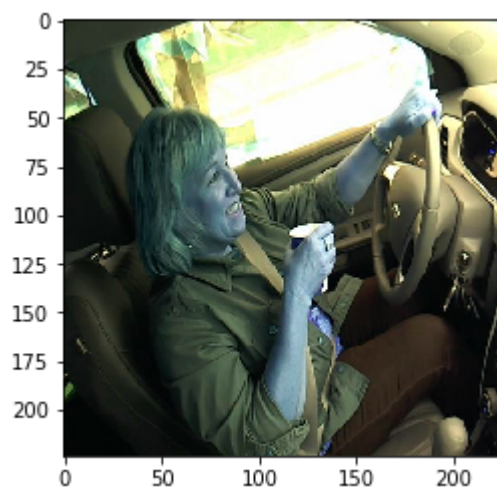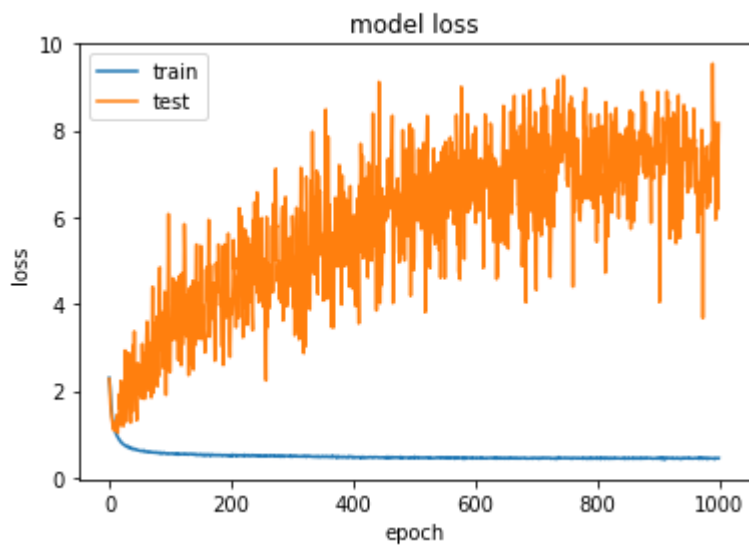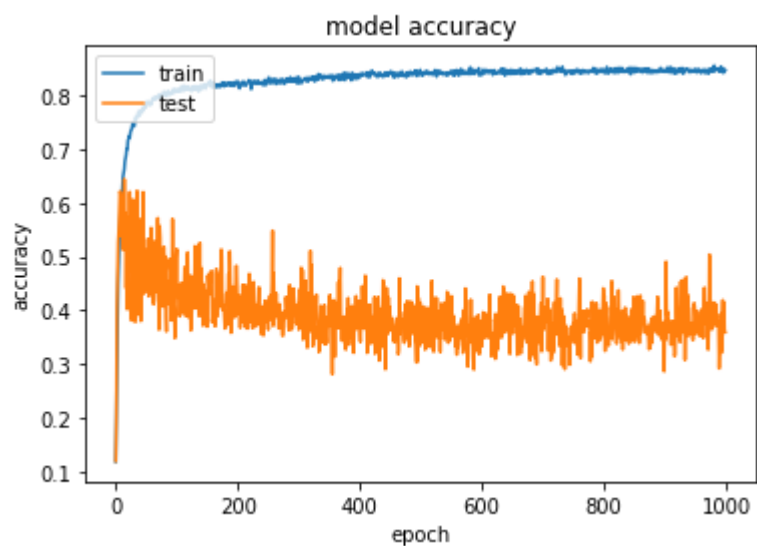

```
Predicted class drinking
Actual Class drinking
```
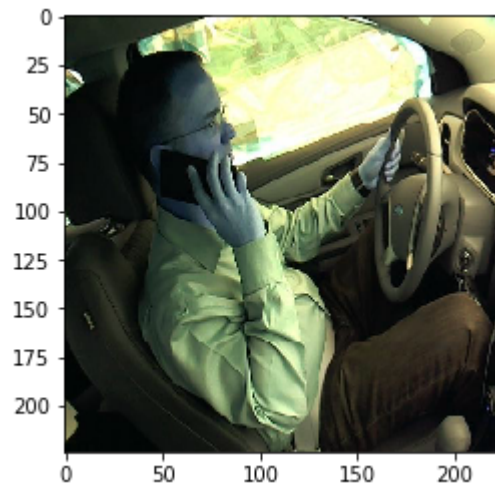
Predicted class talking on the phone - right
Actual Class talking on the phone - right
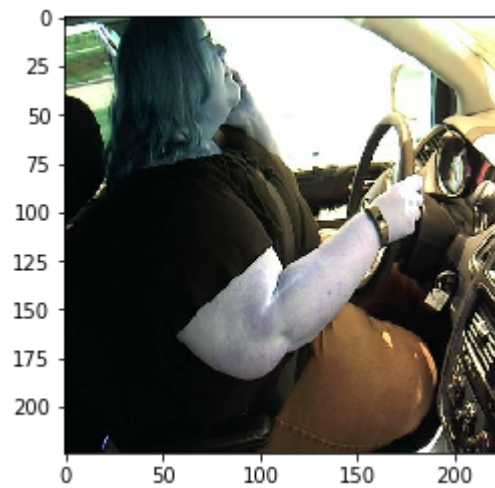
Predicted class talking on the phone - left
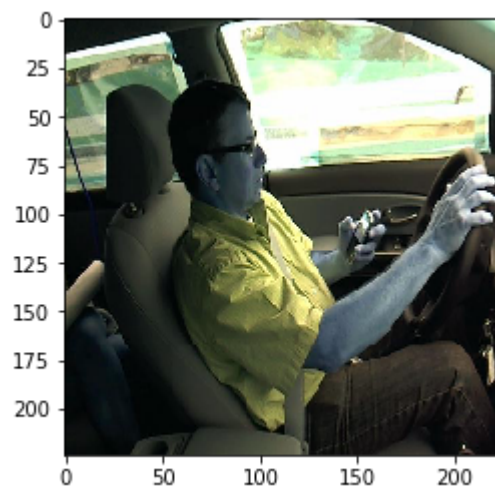Actual Class talking on the phone - left
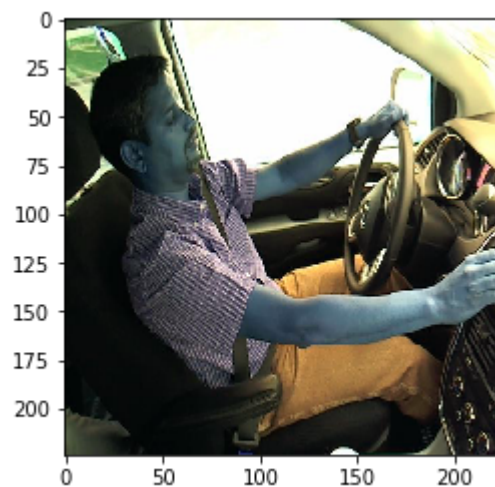
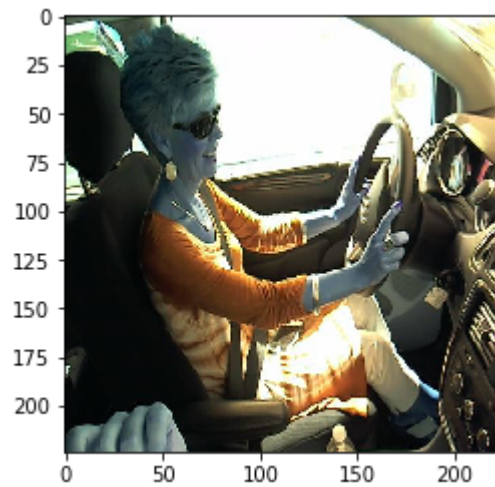Predicted class hair and makeup
Actual Class operating the radio
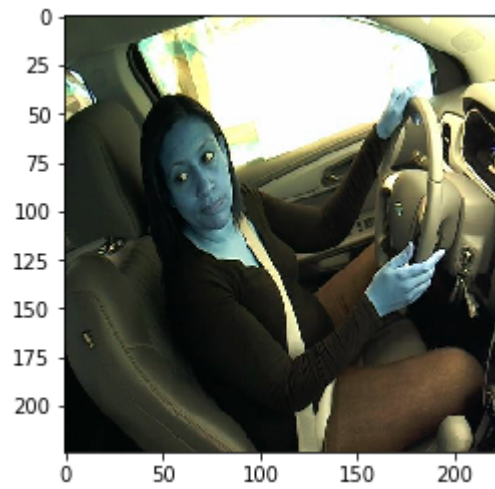
Predicted class talking on the phone - right
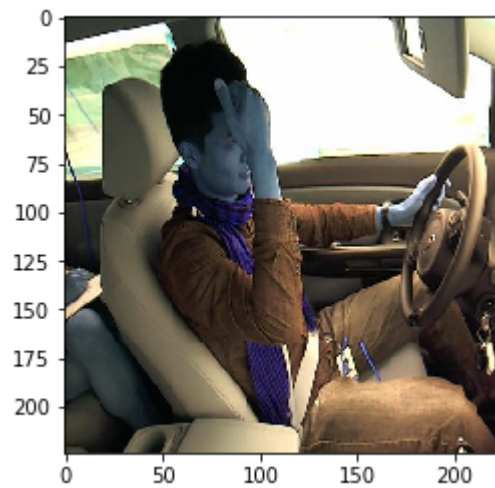Actual Class talking to passenger
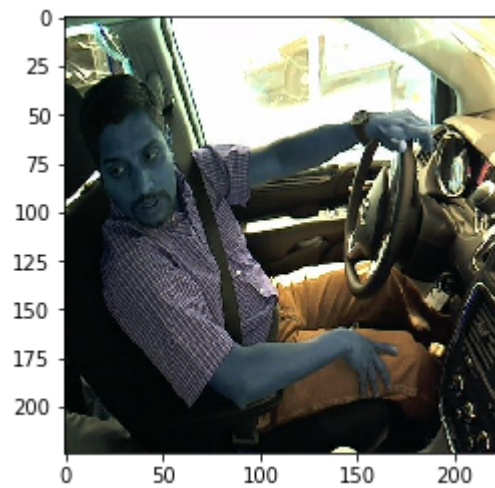
Predicted class hair and makeup
Actual Class talking to passenger

Predicted class talking on the phone - left
Actual Class texting - left

Predicted class safe driving
Actual Class safe driving

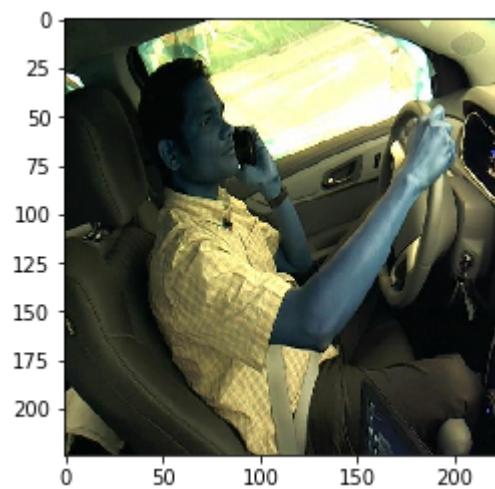Predicted class hair and makeup
Actual Class hair and makeup
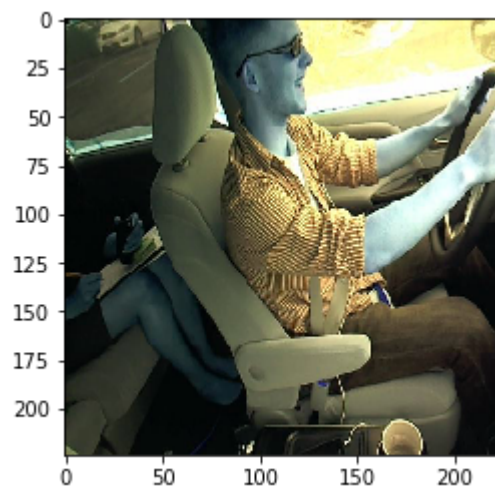
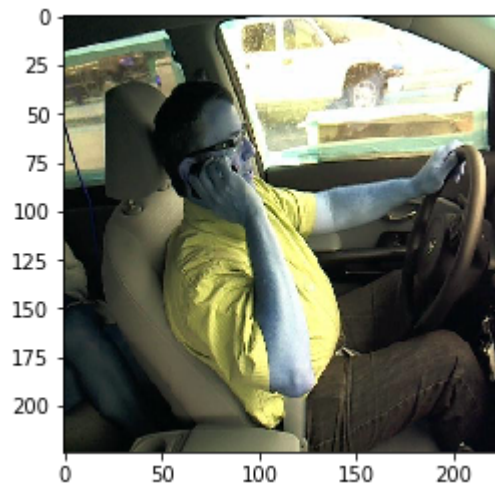Predicted class talking on the phone - left
Actual Class safe driving
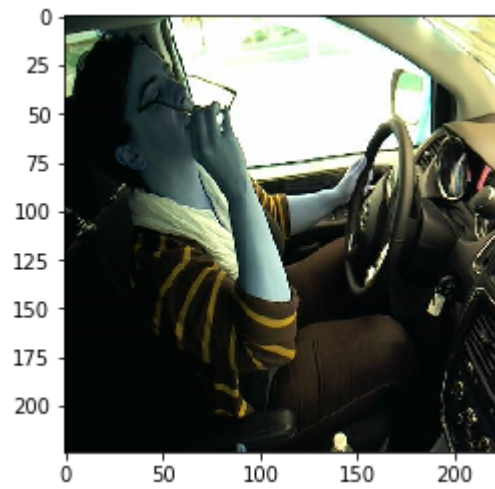
Predicted class hair and makeup
Actual Class hair and makeup
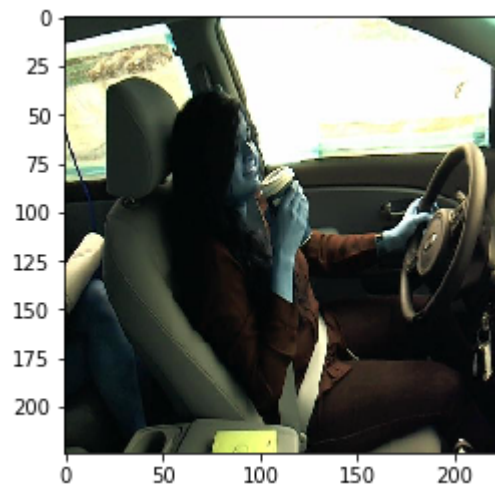
Predicted class drinking
Actual Class drinking

Predicted class drinking
Actual Class talking on the phone - left

```
Predicted class talking on the phone - right
Actual Class talking on the phone - right
Test accuracy: 0.0526%
```

Out[18]: 0.052631578947368418