```
Train on 28709 samples, validate on 7178 samples
Epoch 1/50
28709/28709 [==============================] - 60s - loss: 1.2122 - acc: 0.5381 - val_loss: 1.1148 - val_acc: 0.5699
Epoch 2/50
28709/28709 [==============================] - 60s - loss: 1.1985 - acc: 0.5453 - val_loss: 1.1135 - val_acc: 0.5718
Epoch 3/50
28709/28709 [==============================] - 61s - loss: 1.1933 - acc: 0.5462 - val_loss: 1.0703 - val_acc: 0.5896
Epoch 4/50
28709/28709 [==============================] - 61s - loss: 1.1834 - acc: 0.5506 - val_loss: 1.0733 - val_acc: 0.5888
Epoch 5/50
28709/28709 [==============================] - 61s - loss: 1.1774 - acc: 0.5517 - val_loss: 1.0667 - val_acc: 0.5901
Epoch 6/50
28709/28709 [==============================] - 62s - loss: 1.1759 - acc: 0.5544 - val_loss: 1.0734 - val_acc: 0.5922
Epoch 7/50
28709/28709 [==============================] - 61s - loss: 1.1616 - acc: 0.5583 - val_loss: 1.0461 - val_acc: 0.5960
Epoch 8/50
28709/28709 [==============================] - 60s - loss: 1.1553 - acc: 0.5615 - val_loss: 1.0575 - val_acc: 0.5955
Epoch 9/50
28709/28709 [==============================] - 62s - loss: 1.1471 - acc: 0.5652 - val_loss: 1.0549 - val_acc: 0.5986
Epoch 10/50
28709/28709 [==============================] - 61s - loss: 1.1423 - acc: 0.5691 - val_loss: 1.0609 - val_acc: 0.5936
Epoch 11/50
28709/28709 [==============================] - 61s - loss: 1.1369 - acc: 0.5687 - val_loss: 1.0191 - val_acc: 0.6088
Epoch 12/50
28709/28709 [==============================] - 61s - loss: 1.1313 - acc: 0.5714 - val_loss: 1.0163 - val_acc: 0.6116
Epoch 13/50
28709/28709 [==============================] - 67s - loss: 1.1262 - acc: 0.5737 - val_loss: 1.0043 - val_acc: 0.6098
Epoch 14/50
28709/28709 [==============================] - 62s - loss: 1.1192 - acc: 0.5746 - val_loss: 1.0192 - val_acc: 0.6101
Epoch 15/50
28709/28709 [==============================] - 61s - loss: 1.1189 - acc: 0.5745 - val_loss: 0.9656 - val_acc: 0.6285
Epoch 16/50
28709/28709 [==============================] - 61s - loss: 1.1153 - acc: 0.5745 - val_loss: 0.9788 - val_acc: 0.6282
Epoch 17/50
28709/28709 [==============================] - 61s - loss: 1.1053 - acc: 0.5814 - val_loss: 1.0089 - val_acc: 0.6057
Epoch 18/50
28709/28709 [==============================] - 62s - loss: 1.1013 - acc: 0.5842 - val_loss: 0.9815 - val_acc: 0.6240
Epoch 19/50
28709/28709 [==============================] - 62s - loss: 1.0989 - acc: 0.5833 - val_loss: 0.9745 - val_acc: 0.6236
Epoch 20/50
28709/28709 [==============================] - 61s - loss: 1.0949 - acc: 0.5836 - val_loss: 0.9712 - val_acc: 0.6337
Epoch 21/50
28709/28709 [==============================] - 61s - loss: 1.0901 - acc: 0.5871 - val_loss: 0.9529 - val_acc: 0.6344
Epoch 22/50
28709/28709 [==============================] - 61s - loss: 1.0911 - acc: 0.5911 - val_loss: 0.9188 - val_acc: 0.6507
Epoch 23/50
28709/28709 [==============================] - 61s - loss: 1.0805 - acc: 0.5924 - val_loss: 0.9514 - val_acc: 0.6330
Epoch 24/50
28709/28709 [==============================] - 62s - loss: 1.0725 - acc: 0.5950 - val_loss: 0.9300 - val_acc: 0.6384
Epoch 25/50
28709/28709 [==============================] - 62s - loss: 1.0730 - acc: 0.5957 - val_loss: 0.9906 - val_acc: 0.6169
Epoch 26/50
28709/28709 [==============================] - 61s - loss: 1.0792 - acc: 0.5964 - val_loss: 0.9155 - val_acc: 0.6513
Epoch 27/50
28709/28709 [==============================] - 61s - loss: 1.0699 - acc: 0.5949 - val_loss: 0.9084 - val_acc: 0.6518
Epoch 28/50
28709/28709 [==============================] - 62s - loss: 1.0696 - acc: 0.5946 - val_loss: 0.9295 - val_acc: 0.6435
Epoch 29/50
28709/28709 [==============================] - 62s - loss: 1.0681 - acc: 0.5996 - val_loss: 0.9001 - val_acc: 0.6545
Epoch 30/50
28709/28709 [==============================] - 61s - loss: 1.0603 - acc: 0.6028 - val_loss: 0.9119 - val_acc: 0.6483
Epoch 31/50
28709/28709 [==============================] - 62s - loss: 1.0556 - acc: 0.6027 - val_loss: 0.9271 - val_acc: 0.6512
Epoch 32/50
28709/28709 [==============================] - 61s - loss: 1.0604 - acc: 0.6005 - val_loss: 0.9325 - val_acc: 0.6453
Epoch 33/50
28709/28709 [==============================] - 62s - loss: 1.0511 - acc: 0.6014 - val_loss: 0.8907 - val_acc: 0.6634
Epoch 34/50
28709/28709 [==============================] - 61s - loss: 1.0592 - acc: 0.6028 - val_loss: 0.9119 - val_acc: 0.6540
Epoch 35/50
28709/28709 [==============================] - 60s - loss: 1.0510 - acc: 0.6046 - val_loss: 0.9344 - val_acc: 0.6462
Epoch 36/50
28709/28709 [==============================] - 60s - loss: 1.0505 - acc: 0.6035 - val_loss: 0.8739 - val_acc: 0.6652
Epoch 37/50
28709/28709 [==============================] - 60s - loss: 1.0491 - acc: 0.6057 - val_loss: 0.9065 - val_acc: 0.6531
```

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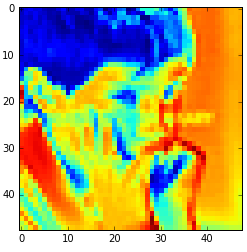
Epoch 38/50
28709/28709 [==============================] - 60s - loss: 1.0455 - acc: 0.6075 - val_loss: 0.8779 - val_acc: 0.6721
Epoch 39/50
28709/28709 [==============================] - 60s - loss: 1.0385 - acc: 0.6071 - val_loss: 0.8592 - val_acc: 0.6740
Epoch 40/50
28709/28709 [==============================] - 60s - loss: 1.0421 - acc: 0.6083 - val_loss: 0.8975 - val_acc: 0.6558
Epoch 41/50
28709/28709 [==============================] - 60s - loss: 1.0315 - acc: 0.6103 - val_loss: 0.8622 - val_acc: 0.6720
Epoch 42/50
28709/28709 [==============================] - 60s - loss: 1.0363 - acc: 0.6111 - val_loss: 0.8419 - val_acc: 0.6775
Epoch 43/50
28709/28709 [==============================] - 61s - loss: 1.0312 - acc: 0.6126 - val_loss: 0.8594 - val_acc: 0.6811
Epoch 44/50
28709/28709 [==============================] - 62s - loss: 1.0345 - acc: 0.6106 - val_loss: 0.8479 - val_acc: 0.6832
Epoch 45/50
28709/28709 [==============================] - 60s - loss: 1.0270 - acc: 0.6125 - val_loss: 0.8933 - val_acc: 0.6572
Epoch 46/50
28709/28709 [==============================] - 60s - loss: 1.0281 - acc: 0.6140 - val_loss: 0.8527 - val_acc: 0.6799
Epoch 47/50
28709/28709 [==============================] - 60s - loss: 1.0207 - acc: 0.6125 - val_loss: 0.8486 - val_acc: 0.6818
Epoch 48/50
28709/28709 [==============================] - 61s - loss: 1.0238 - acc: 0.6134 - val_loss: 0.8737 - val_acc: 0.6656
Epoch 49/50
28709/28709 [==============================] - 62s - loss: 1.0228 - acc: 0.6132 - val_loss: 0.8902 - val_acc: 0.6625
Epoch 50/50
28709/28709 [==============================] - 60s - loss: 1.0176 - acc: 0.6161 - val_loss: 0.8253 - val_acc: 0.6854
```

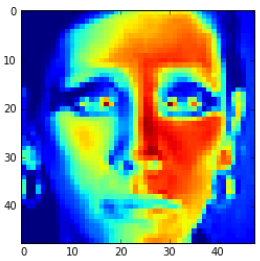
Test results:

```
('Test Accuracy: ', 0.8495945945945946)
```

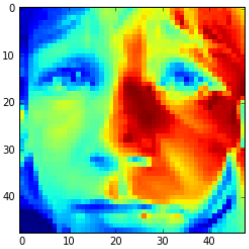
```
[6]
[[ 0.  0.  0.  0.  0.  0.  1.]]
```



```
[3]
[[ 0.  0.  0.  1.  0.  0.  0.]]
```



```
[2]
[[ 0.  0.  1.  0.  0.  0.  0.]]
```



```
[0]
[[ 1.  0.  0.  0.  0.  0.  0.]]
```