

Face recognition

2018年6月9日 星期六 19:59

1. 从 <https://github.com/davidsandberg/facenet/wiki/pre-trained-models> 上下载model
2. 将自己的数据集裁剪规则：
`python align_dataset_mtcnn.py C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set_160 --image_size 160 --margin 32 --random_order --gpu_memory_fraction 0.25`
3. 将test从data_set_160中剪切到当前路径
4. test中nao.png是数据集中Naomi, YahagiHonoka.png不在数据集中
5. 运行python文件, 指令如下:
`python recognition_images.py --model <dir_contains_model> --i <path_for_image> --ds <path_for_data_set>`

在数据集中测试:

```
python recognition_images.py --model C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180601-152131 --i C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\test\nao.png --ds C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set_160
```

```
PS C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine> python recognition_images.py --model C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180402-114759 --i C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\test\nao.png --ds C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set_160
E:\Python36\lib\site-packages\h5py\_init_.py:36: FutureWarning: Conversion of the second argument of issubdtype from `float` to `np.floating` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
  from ._conv import register_converters as _register_converters
Model directory: C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180402-114759
Metagraph file: model-20180402-114759.meta
Checkpoint file: model-20180402-114759.ckpt-275
2018-06-09 20:11:46.604034: W T:\src\github\tensorflow\tensorflow\core\graph\graph_constructor.cc:1244] Importing a graph with a lower producer version 24 into an existing graph with producer version 26. Shape inference will have run different parts of the graph with different producer versions.
The image might be ['Naomi']
The distance is 0.939866395751401
```

成功识别出人脸, 但distance比较大

不在数据集中测试:

```
python recognition_images.py --model C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180402-114759 --i C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\test\YahagiHonoka.png --ds C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set_160
```

```
PS C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine> python recognition_images.py --model C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180402-114759 --i C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\test\YahagiHonoka.png --ds C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\data_set_160
E:\Python36\lib\site-packages\h5py\_init_.py:36: FutureWarning: Conversion of the second argument of issubdtype from `float` to `np.floating` is deprecated. In future, it will be treated as `np.float64 == np.dtype(float).type`.
  from ._conv import register_converters as _register_converters
Model directory: C:\Users\Administrator\Desktop\ComputerVision\Facenet\mine\20180402-114759
Metagraph file: model-20180402-114759.meta
Checkpoint file: model-20180402-114759.ckpt-275
2018-06-09 20:15:46.148509: W T:\src\github\tensorflow\tensorflow\core\graph\graph_constructor.cc:1244] Importing a graph with a lower producer version 24 into an existing graph with producer version 26. Shape inference will have run different parts of the graph with different producer versions.
could not match faces in the data set.
The nearest distance is 1.0031697088031732
```

反思: 虽然识别出了在数据集中的人脸, 但distance较大, 而不在数据集中的图像的distance也不是很大, 两者差距小, 很可能会出现将不在数据集中的人脸识别为数据集中的人脸。

应该是因为没有根据自己的数据集对facenet给出的预训练模型进行进一步训练。导致它对我的数据集识别度不高。