

How to Create a Customized Haarcascade.xml – OpenCV Using Linux

Run in Linux shell

```
sudo apt-get install aptitude
```

```
sudo apt-get install git
```

```
cd anaconda3
```

```
mkdir classifier
```

```
mkdir negative_images
```

```
mkdir positive_images
```

```
mkdir samples
```

```
git clone https://github.com/mrnugget/opencv-haar-classifier-training
```

Copy the following file to anaconda3 directory (Python3):

```
https://github.com/RubensZimbres/Repo-2018/blob/master/OpenCV/Mergevec3.py
```

(for Python 2:

```
https://github.com/mrnugget/opencv-haar-classifier-training/blob/master/tools/mergevec.py  
)
```

Put your negative images in negative_images directory

Put your positive images in positive_images directory

Run the following code in Spyder that will resize all your images in folders and convert to grayscale:

```
https://github.com/RubensZimbres/Repo-2018/blob/master/OpenCV/open\_resize\_IMG
```

```

1 import cv2
2 import os
3
4 folder= '/home/theone/anaconda3/positive_images'
5
6 for filename in os.listdir(folder):
7     img = cv2.imread(os.path.join(folder,filename), cv2.IMREAD_GRAYSCALE)
8     img2=cv2.resize(img,(50,50))
9     cv2.imwrite('/home/theone/anaconda3/positive_images/'+filename,img2)
10
11 folder= '/home/theone/anaconda3/negative_images'
12
13 for filename in os.listdir(folder):
14     img = cv2.imread(os.path.join(folder,filename), cv2.IMREAD_GRAYSCALE)
15     img2=cv2.resize(img,(50,50))
16     cv2.imwrite('/home/theone/anaconda3/negative_images/'+filename,img2)
17

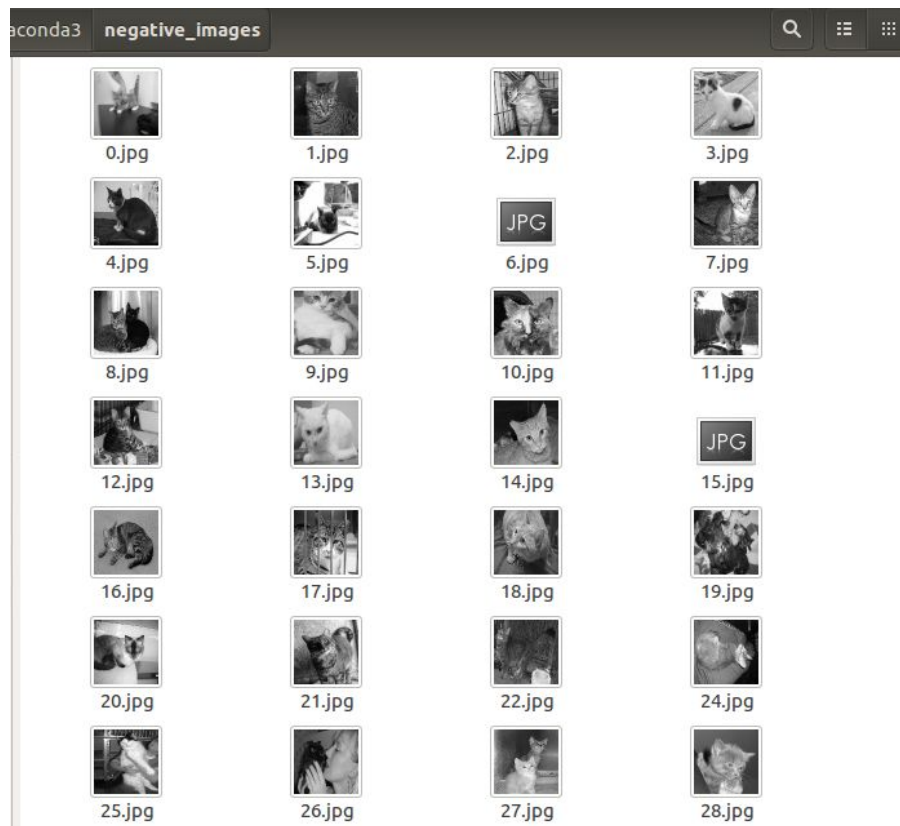
```

Run:

```
find ./negative_images -iname "*.jpg" > negatives.txt
```

```
find ./positive_images -iname "*.jpg" > positives.tx
```

Your images folder will look like this:

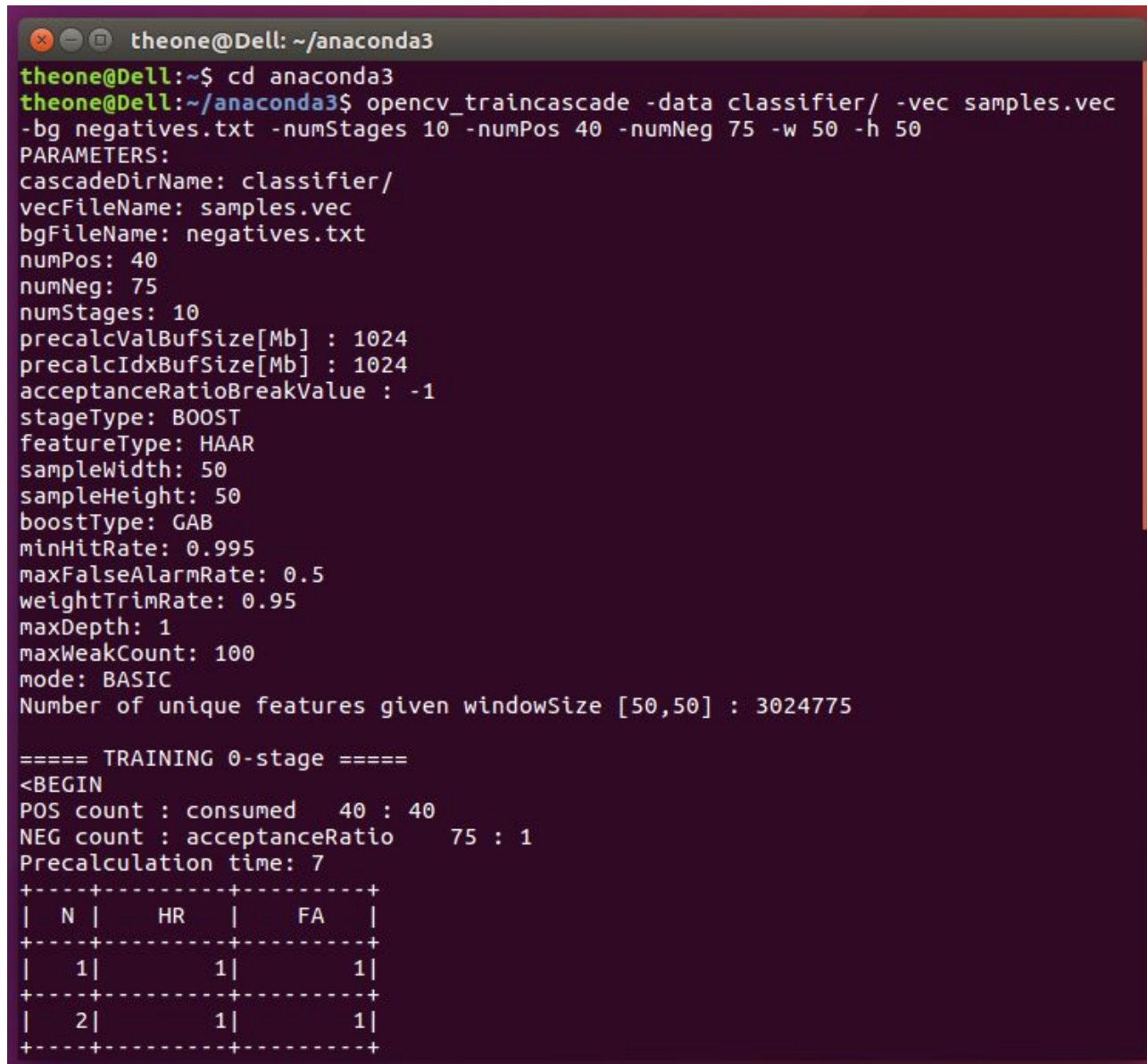


Run in Linux shell:

```
perl opencv-haar-classifier-training/bin/createsamples.pl positives.txt negatives.txt  
samples 75 "opencv_createsamples -bgcolor 0 bgthresh 0 -maxxangle 1.1 -maxyangle 1.1  
-maxzangle 0.5 -maxidev 40 -w 50 -h 50"
```

```
python mergevec3.py -v samples/ -o samples.vec
```

```
opencv_traincascade -data classifier/ -vec samples.vec -bg negatives.txt -numStages 10  
-numPos 40 -numNeg 75 -w 50 -h 50
```



```
theone@Dell: ~/anaconda3  
theone@Dell:~$ cd anaconda3  
theone@Dell:~/anaconda3$ opencv_traincascade -data classifier/ -vec samples.vec  
-bg negatives.txt -numStages 10 -numPos 40 -numNeg 75 -w 50 -h 50  
PARAMETERS:  
cascadeDirName: classifier/  
vecFileName: samples.vec  
bgFileName: negatives.txt  
numPos: 40  
numNeg: 75  
numStages: 10  
precalcValBufSize[Mb] : 1024  
precalcIdxBufSize[Mb] : 1024  
acceptanceRatioBreakValue : -1  
stageType: BOOST  
featureType: HAAR  
sampleWidth: 50  
sampleHeight: 50  
boostType: GAB  
minHitRate: 0.995  
maxFalseAlarmRate: 0.5  
weightTrimRate: 0.95  
maxDepth: 1  
maxWeakCount: 100  
mode: BASIC  
Number of unique features given windowSize [50,50] : 3024775  
  
===== TRAINING 0-stage =====  
<BEGIN  
POS count : consumed    40 : 40  
NEG count : acceptanceRatio    75 : 1  
Precalculation time: 7  
+-----+-----+-----+  
|  N  |      HR      |      FA      |  
+-----+-----+-----+  
|   1 |           1 |           1 |  
+-----+-----+-----+  
|   2 |           1 |           1 |  
+-----+-----+-----+
```

YOU'RE DONE !

Your haarcascade file is at classifier directory:

anaconda3

classifier



cascade.xml



params.xml



stage0.xml



stage1.xml



stage2.xml