

Chapter14: Use OpenCV to add expressions to face

In this lesson. The key to the program is to import the Python PIL package, which is a common graphics processing tool in Python.

Note: The way to import the library in Python2 and Python3 is different:

```
import Image #python2
```

```
from PIL import Image #python3
```

The eyes and cigarettes in the expression are the same picture, so we only need to perform face position search once. The size of the expression needs to be set according to the size of the face. We need to use command:

```
resized_mask=mask.resize((w,h),Image.ANTIALIAS)
```

The source code of the program is located at:

/home/pi/yahboom/open_ar/thuglif_cam.py

```

1 """
2 Created on Tue Nov 6 01:18:45 2018
3 * @par Copyright (C): 2010-2019, Shenzhen Yahboom Tech
4 * @file
5 * @version V1.0
6 * @details
7 * @par History
8
9 @author: longfuSun
10 """
11 import cv2
12 from PIL import Image
13 import numpy as np
14 import time
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16
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18 maskPath = "mask.png"
19 cascPath = "123.xml"
20
21 faceCascade = cv2.CascadeClassifier(cascPath)
22
23 mask = Image.open(maskPath)
24
25 def thug_mask(image):
26
27
28     gray = cv2.cvtColor(image, cv2.COLOR_BGR2GRAY)
29     faces = faceCascade.detectMultiScale(gray, 1.15)
30
31     background = Image.fromarray(image)
32
33     for (x,y,w,h) in faces:
34
35         resized_mask = mask.resize((w,h), Image.ANTIALIAS)
36         offset = (x,y)
37
38         background.paste(resized_mask, offset, mask=resized_mask)
39
40
41     return np.asarray(background)
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```

The program runs as shown below:



The source code of the program is located at:

/home/pi/yahboom/open_ar/thuglif_photo.py

The function of another program in the same folder is to change the expression into a hat and put a hat on the face recognized by the camera.