

Face special effects

1. Experimental purpose

Realize the car's face detection and draw the corresponding face special effects

2. Experimental path source code

Enter the car's system, end the car program, enter "ip (ip is the car's ip): 8888" in the browser, enter the password "yahboom"

Then log in

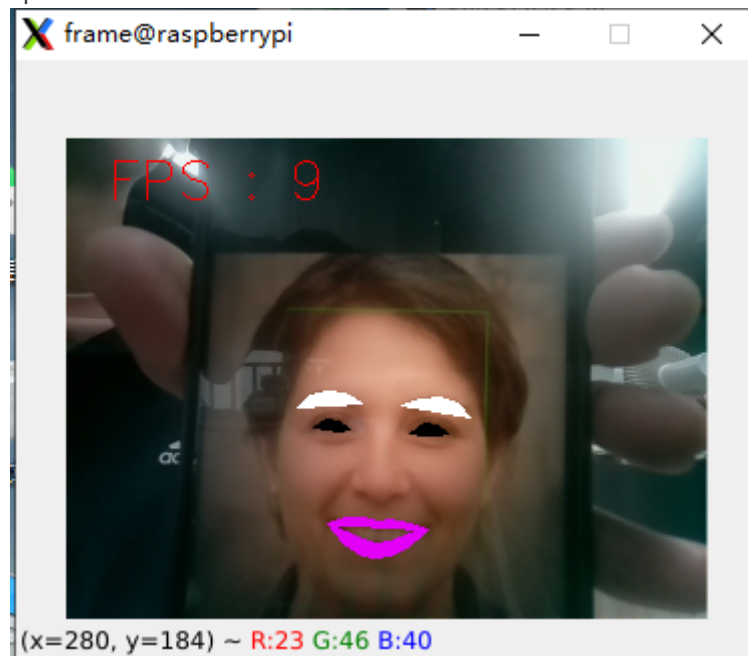
Enter the path **Rider-pi_class/5.AI Visual Recognition Course/12. Facial special effects** and run **13_Face_effects.ipynb**.

Or enter the command in the terminal and start the python script directly

```
cd /home/pi/Rider-pi_class/5.AI Visual Recognition Course/12. Facial special effects
python3 FaceLandmarks_USB.py
```

3. Experimental phenomenon

After running the source code, you can see that the car will detect faces and add corresponding special effects to faces.



4. Analysis of the main program source code

```
if __name__ == '__main__':
    capture = cv.VideoCapture(0)
    capture.set(6, cv.VideoWriter_fourcc('M', 'J', 'P', 'G'))
    capture.set(cv.CAP_PROP_FRAME_WIDTH, 320)
    capture.set(cv.CAP_PROP_FRAME_HEIGHT, 240)
    print("capture get FPS : ", capture.get(cv.CAP_PROP_FPS))
```

```

pTime, cTime = 0, 0
dat_file = "./file/shape_predictor_68_face_landmarks.dat"
landmarks = FaceLandmarks(dat_file)
while capture.isOpened():
    ret, frame = capture.read()
    # frame = cv.flip(frame, 1)
    frame = landmarks.get_face(frame, draw=False)
    frame = landmarks.prettify_face(frame, eye=True, lips=True,
eyebrow=True, draw=True)
    if cv.waitKey(1) & 0xFF == ord('q'): break
    cTime = time.time()
    fps = 1 / (cTime - pTime)
    pTime = cTime
    text = "FPS : " + str(int(fps))
    cv.putText(frame, text, (20, 30), cv.FONT_HERSHEY_SIMPLEX, 0.9, (0, 0,
255), 1)
    cv.imshow('frame', frame)

    #Display the image on the LCD screen
    b, g, r = cv.split(frame)
    image = cv.merge((r, g, b))
    imgok = Image.fromarray(image)
    display.ShowImage(imgok)

capture.release()
cv.destroyAllWindows()

```

The car calls the detected face model and uses special effects to display the recognized face on the computer screen and the car's screen.