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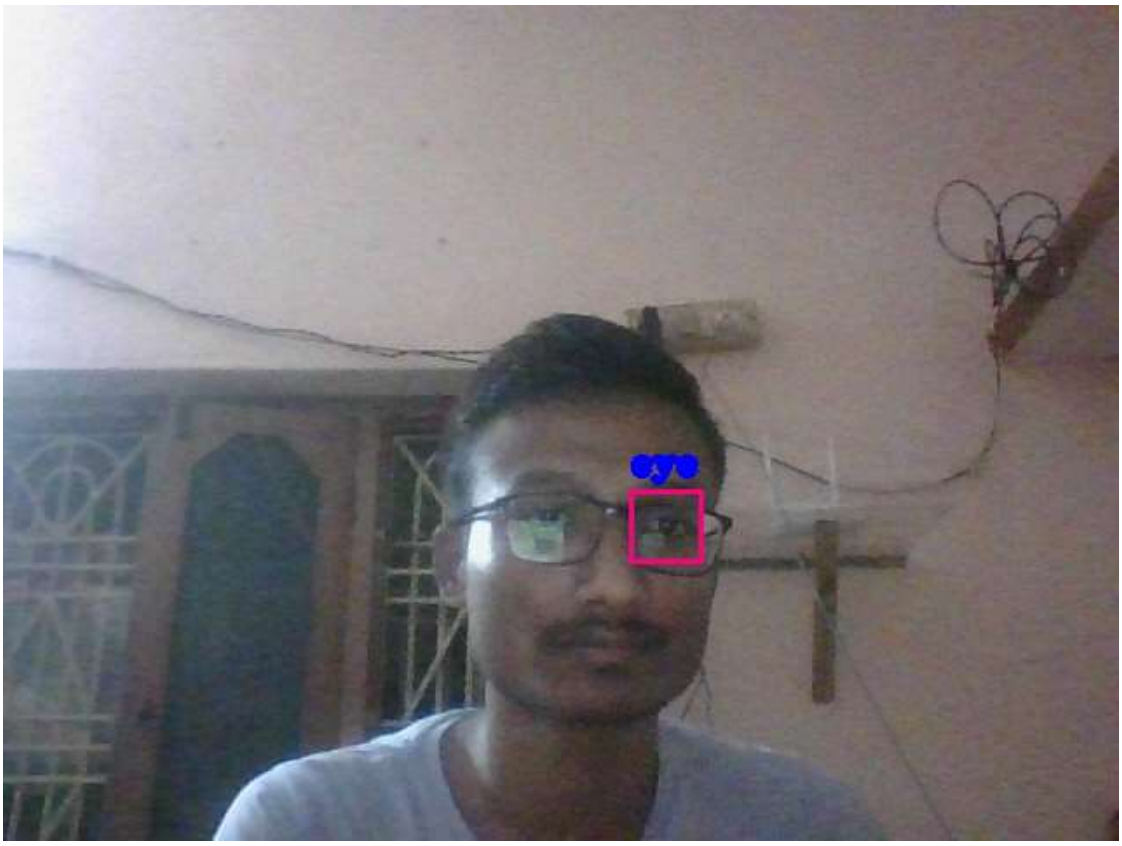
ASSIGNMENT_6:

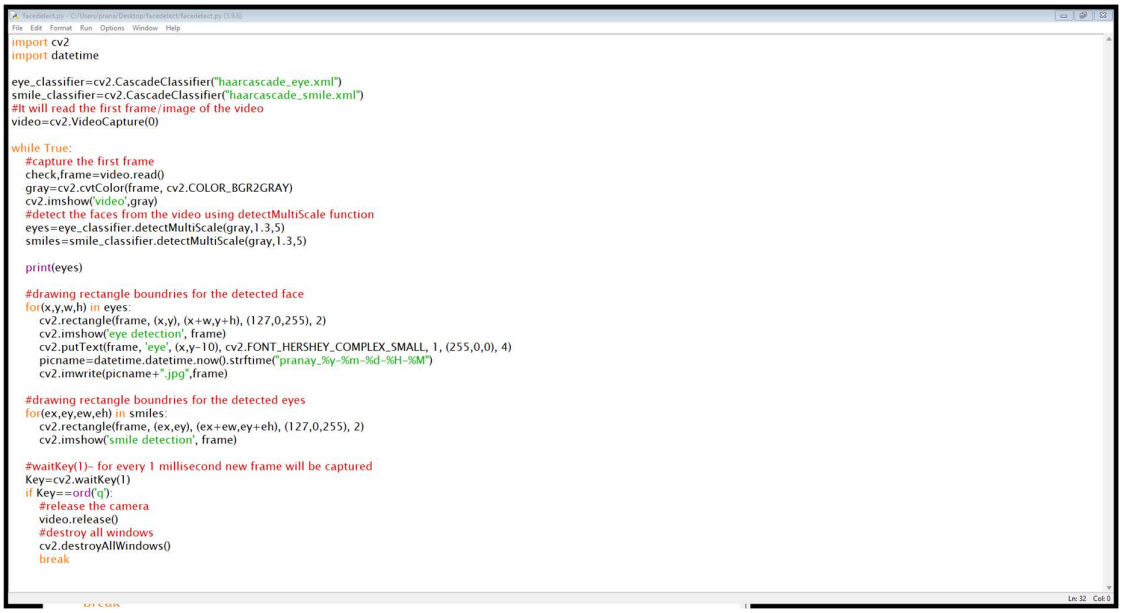
Develop a python code to detect smile and eye using Haar cascade classifier.

PYTHON CODE:

```
import cv2
import datetime

eye_classifier=cv2.CascadeClassifier("haarcascade_eye.xml")
smile_classifier=cv2.CascadeClassifier("haarcascade_smile.xml")
#It will read the first frame/image of the video
video=cv2.VideoCapture(0)

while True:
    #capture the first frame
    check,frame=video.read()
    gray=cv2.cvtColor(frame, cv2.COLOR_BGR2GRAY)
    cv2.imshow('video',gray)
    #detect the faces from the video using detectMultiScale function
    eyes=eye_classifier.detectMultiScale(gray,1.3,5)
    smiles=smile_classifier.detectMultiScale(gray,1.3,5)

    print(eyes)

    #drawing rectangle boundries for the detected face
    for(x,y,w,h) in eyes:
        cv2.rectangle(frame, (x,y), (x+w,y+h), (127,0,255), 2)
        cv2.imshow('eye detection', frame)
        cv2.putText(frame, 'eye', (x,y-10), cv2.FONT_HERSHEY_COMPLEX_SMALL, 1, (255,0,0), 4)
        picname=datetime.datetime.now().strftime("pranay_%y-%m-%d-%H-%M")
        cv2.imwrite(picname+".jpg",frame)
```

```
#drawing rectangle boundries for the detected eyes
for(ex,ey,ew,eh) in smiles:
    cv2.rectangle(frame, (ex,ey), (ex+ew,ey+eh), (127,0,255), 2)
    cv2.imshow('smile detection', frame)

#waitKey(1)- for every 1 millisecond new frame will be captured
Key=cv2.waitKey(1)
if Key==ord('q'):
    #release the camera
    video.release()
    #destroy all windows
    cv2.destroyAllWindows()
    break
```




facedetect.py - C:/Users/prana/Desktop/facedetect/facedetect.py (3.9.6)
File Edit Format Run Options Window Help
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Ln: 32 Col: 0