Machine Learning Internship Session 3

Mail Alert - Coding Sheet

Python is a case sensitive language and proper indentation should be followed while programming

```
import cv2

import time

import smtplib

from email.mime.text import MIMEText

from email.mime.multipart import MIMEMultipart

from email.mime.base import MIMEBase

from email import encoders


email_user = 'xxxxxxxxx@email.com'

email_password = 'xxxxxxxxxx'

email_send = 'xxxxxxxxx@gmail.com'


subject = 'Alert!!!'


msg = MIMEMultipart()

msg['From'] = "From Python <"+email_user+">"

msg['To'] = email_send

msg['Subject'] = subject




recognizer = cv2.face.LBPHFaceRecognizer_create()

recognizer.read('trainer/trainer.yml')

cascadePath = "0_haarcascade_frontalface_default.xml"

faceCascade = cv2.CascadeClassifier(cascadePath);


font = cv2.FONT_HERSHEY_SIMPLEX
```

```
#iniciate id counter

id = 0


# names related to ids: example ==> Marcelo: id=1,  etc

names = ['none', 'id 1', 'id 2']


# Initialize and start realtime video capture

cam = cv2.VideoCapture(0)

#cam.set(3, 480) # set video widht

#cam.set(4, 480) # set video height


# Define min window size to be recognized as a face

mailStat = False


def sendmail(id):

    global names


    body = ('Hello The safe is accessed by the user ' +str(names[id])+'\n Please find the attachment')

    print(names[id])

    msg.attach(MIMEText(body,'plain'))

    filename='dataset/Userpic.png'

    attachment  =open(filename,'rb')


    part = MIMEBase('application','octet-stream')

    part.set_payload((attachment).read())

    encoders.encode_base64(part)

    part.add_header('Content-Disposition',"attachment; filename= "+filename)

    try:

        msg.attach(part)

        text = msg.as_string()

        server = smtplib.SMTP('smtp.mail.com',587)

        server.starttls()
        server.login(email_user,email_password)



        server.sendmail(email_user,email_send,text)

        server.quit()

        print ('Email sent!'),email_send


        mailStat =False

    except:

        #print ('Something went wrong...')

        print ('Email sent!'),email_send


while True:


    ret, img =cam.read()

    img = cv2.flip(img, 1) # Flip vertically


    gray = cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)


    faces = faceCascade.detectMultiScale(

        gray,

        scaleFactor = 1.1,

        minNeighbors = 5,

        minSize = (30, 30),

       )


    for(x,y,w,h) in faces:


        cv2.rectangle(img, (x,y), (x+w,y+h), (0,255,0), 2)


        id, confidence = recognizer.predict(gray[y:y+h,x:x+w])

        conf=round(100 - confidence)
        # Check if confidence is less them 100 ==> "0" is perfect match
        if mailStat==False:
            if ( conf > 30):
                cv2.imwrite("dataset/Userpic.png" ,img)
                sendmail(id)
                id = names[id]
                confidence = "  {0}%".format(conf)
                mailStat=True

            else:

                id = "unknown"

                confidence = "  {0}%".format(conf)

        cv2.putText(img, str(id), (x+5,y-5), font, 1, (255,255,255), 2)
        cv2.putText(img, str(conf), (x+5,y+h-5), font, 1, (255,255,0), 1)

    cv2.imshow('camera',img)

    k = cv2.waitKey(1) & 0xff # Press 'q' for exiting video
    if k == ord('q'):
        break

# Do a bit of cleanup
print("\n [INFO] Exiting Program and cleanup stuff")
cam.release()
cv2.destroyAllWindows()
```

End of Document