



Machine Learning Internship Session 3

Face Recognition - Coding Sheet

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

```
import cv2
import time

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(1)
#cam.set(3, 480) # set video width
#cam.set(4, 480) # set video height

# Define min window size to be recognized as a face

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 ( conf > 30):
        id = names[id]
        confidence = " {0}%".format(conf)

    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