**Face Detection Code:**

import face\_recognition

import cv2

import os

from datetime import datetime

KNOWN\_FACES\_DIR = 'C:/Users/Fjwu/Desktop/knownFaces'

UNKNOWN\_FACES\_DIR = 'C:/Users/Fjwu/Desktop/unknownFaces'

known\_faces = []

known\_names = []

print('Processing Known Faces')

for name in os.listdir(KNOWN\_FACES\_DIR):

for filename in os.listdir(f'{KNOWN\_FACES\_DIR}/{name}'):

image = face\_recognition.load\_image\_file(f'{KNOWN\_FACES\_DIR}/{name}/{filename}')

encoding = face\_recognition.face\_encodings(image)[0]

known\_faces.append(encoding)

known\_names.append(name)

print('Processing UnKnown Faces')

for filename in os.listdir(UNKNOWN\_FACES\_DIR):

print(f'Filename = {filename}', end ='')

image = face\_recognition.load\_image\_file(f'{UNKNOWN\_FACES\_DIR}/{filename}')

encoding = face\_recognition.face\_encodings(image)

location = face\_recognition.face\_locations(image,model='cnn')

print(f', found {len(encoding)} face(s)')

for face\_encoding, face\_location in zip (encoding,location):

results = face\_recognition.compare\_faces(known\_faces,face\_encoding,0.6)

match = None

if True in results:

match = known\_names[results.index(True)]

print(f' - {match} from {results}')

top\_left = (face\_location[3],face\_location[0])

right\_bottom = (face\_location[1],face\_location[2])

cv2.rectangle(image,top\_left,right\_bottom,(0,0,255),2)

top\_left = (face\_location[3],face\_location[2])

right\_bottom = (face\_location[1],face\_location[2]+22)

cv2.rectangle(image,top\_left,right\_bottom,(255,255,0),cv2.FILLED)

cv2.putText(image,match,(face\_location[3]+10,face\_location[2]+15),cv2.FONT\_HERSHEY\_COMPLEX,0.5,(0,0,255),2)

with open ('C:/Users/Fjwu/Desktop/Book1.csv','a') as f:

now = datetime.now()

dtString =now.strftime('%H:%M:%S')

f.writelines(f'\n{match},\n{dtString}')

f.close()

cv2.imshow(filename,image)

cv2.waitKey(0)

cv2.destroyWindow(filename)

print('End of File')

**Output:**





