

```
import cv2
import math
import argparse
```

```
def highlightFace(net, frame, conf_threshold=0.7):
    frameOpencvDnn=frame.copy()
    frameHeight=frameOpencvDnn.shape[0]
    frameWidth=frameOpencvDnn.shape[1]
    blob=cv2.dnn.blobFromImage(frameOpencvDnn, 1.0, (300, 300), [104, 117, 123], True, False)

    net.setInput(blob)
    detections=net.forward()
    faceBoxes=[]
    for i in range(detections.shape[2]):
        confidence=detections[0,0,i,2]
        if confidence>conf_threshold:
            x1=int(detections[0,0,i,3]*frameWidth)
            y1=int(detections[0,0,i,4]*frameHeight)
            x2=int(detections[0,0,i,5]*frameWidth)
            y2=int(detections[0,0,i,6]*frameHeight)
            faceBoxes.append([x1,y1,x2,y2])
            cv2.rectangle(frameOpencvDnn, (x1,y1), (x2,y2), (0,255,0), int(round(frameHeight/150)), 8)
    return frameOpencvDnn,faceBoxes
```

```
parser=argparse.ArgumentParser()
parser.add_argument('--image')
```

```
args=parser.parse_args()
```

```
faceProto="opencv_face_detector.pbtxt"
faceModel="opencv_face_detector_uint8.pb"
ageProto="age_deploy.prototxt"
ageModel="age_net.caffemodel"
genderProto="gender_deploy.prototxt"
genderModel="gender_net.caffemodel"
```

```
MODEL_MEAN_VALUES=(78.4263377603, 87.7689143744, 114.895847746)
ageList=['(0-2)', '(4-6)', '(8-12)', '(15-20)', '(25-32)', '(38-43)', '(48-53)', '(60-100)']
genderList=['Male','Female']
```

```
faceNet=cv2.dnn.readNet(faceModel,faceProto)
ageNet=cv2.dnn.readNet(ageModel,ageProto)
genderNet=cv2.dnn.readNet(genderModel,genderProto)
```

```
video=cv2.VideoCapture(args.image if args.image else 0)
padding=20
while cv2.waitKey(1)<0 :
    hasFrame,frame=video.read()
    if not hasFrame:
        cv2.waitKey()
        break
```

```
resultImg,faceBoxes=highlightFace(faceNet,frame)
if not faceBoxes:
```

```

print("No face detected")

for faceBox in faceBoxes:
    face=frame[max(0,faceBox[1]-padding):
              min(faceBox[3]+padding,frame.shape[0]-1),max(0,faceBox[0]-padding)
              :min(faceBox[2]+padding, frame.shape[1]-1)]

    blob=cv2.dnn.blobFromImage(face, 1.0, (227,227), MODEL_MEAN_VALUES, swapRB=False)
    genderNet.setInput(blob)
    genderPreds=genderNet.forward()
    gender=genderList[genderPreds[0].argmax()]
    print(f'Gender: {gender}')

    ageNet.setInput(blob)
    agePreds=ageNet.forward()
    age=ageList[agePreds[0].argmax()]
    print(f'Age: {age[1:-1]} years')

    cv2.putText(resultImg, f'{gender}, {age}', (faceBox[0], faceBox[1]-10), cv2.FONT_HERSHEY_SIMPL
EX, 0.8, (0,255,255), 2, cv2.LINE_AA)
    cv2.imshow("Detecting age and gender", resultImg)

```

Output

```
C:\Users\risha\Desktop\Gender-and-Age-Detection>python detect.py --image kid1.jpg  
Gender: Male  
Age: 4-6 years
```

