

```
from google.colab import drive
drive.mount('/content/drive')

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.

# Import required modules
import cv2 as cv
import math
import time
from google.colab.patches import cv2_imshow
# import argparse

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

    net.setInput(blob)
    detections = net.forward()
    bboxes = []
    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)
            bboxes.append([x1, y1, x2, y2])
            cv.rectangle(frameOpencvDnn, (x1, y1), (x2, y2), (0, 255, 0), int(round(frameWidth * 0.02)))
    return frameOpencvDnn, bboxes

faceProto = "/content/drive/MyDrive/DS/opencv_face_detector.pbtxt"
faceModel = "/content/drive/MyDrive/DS/opencv_face_detector_uint8.pb"

ageProto = "/content/drive/MyDrive/DS/age_deploy.prototxt"
ageModel = "/content/drive/MyDrive/DS/age_net.caffemodel"

genderProto = "/content/drive/MyDrive/DS/gender_deploy.prototxt"
genderModel = "/content/drive/MyDrive/DS/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']

# Load network
ageNet = cv.dnn.readNet(ageModel, ageProto)
genderNet = cv.dnn.readNet(genderModel, genderProto)
faceNet = cv.dnn.readNet(faceModel, faceProto)

padding = 20
```

```
def age_gender_detector(frame):
    # Read frame
    t = time.time()
    frameFace, bboxes = getFaceBox(faceNet, frame)
    for bbox in bboxes:
        # print(bbox)
        face = frame[max(0,bbox[1]-padding):min(bbox[3]+padding,frame.shape[0]-1),max(0,bbox[0]-padding):min(bbox[2]+padding,frame.shape[1]-1)]
        blob = cv.dnn.blobFromImage(face, 1.0, (227, 227), MODEL_MEAN_VALUES, swapRB=False)
        genderNet.setInput(blob)
        genderPreds = genderNet.forward()
        gender = genderList[genderPreds[0].argmax()]
        # print("Gender Output : {}".format(genderPreds))
        print("Gender : {}, conf = {:.3f}".format(gender, genderPreds[0].max()))

        ageNet.setInput(blob)
        agePreds = ageNet.forward()
        age = ageList[agePreds[0].argmax()]
        print("Age Output : {}".format(agePreds))
        print("Age : {}, conf = {:.3f}".format(age, agePreds[0].max()))

        label = "{} , {}".format(gender, age)
        cv.putText(frameFace, label, (bbox[0], bbox[1]-10), cv.FONT_HERSHEY_SIMPLEX, 0.8, (0,255,0), 2)
    return frameFace

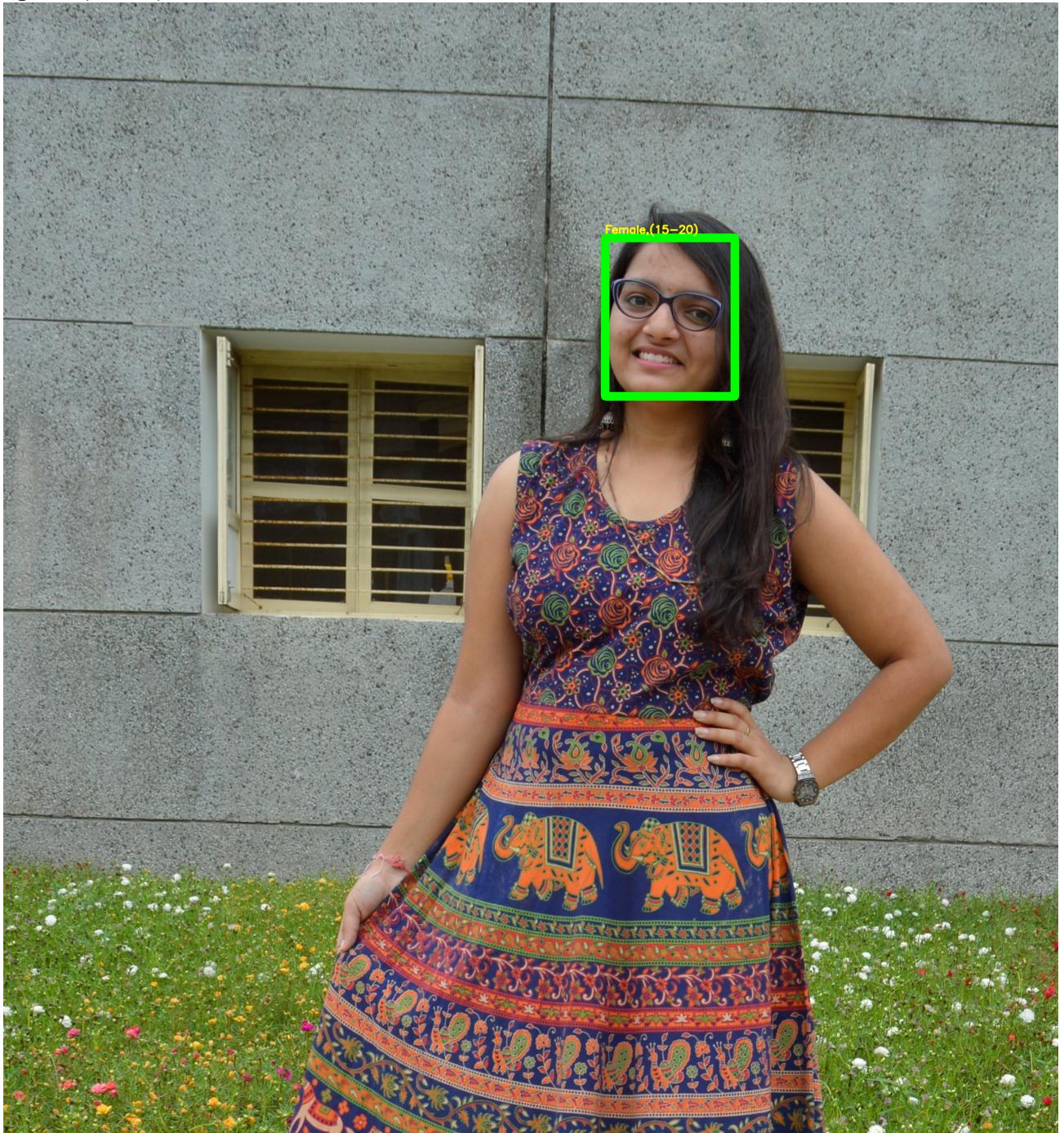
input = cv.imread("/content/drive/MyDrive/DS/18it138_katha.jpg")
output = age_gender_detector(input)
cv2.imshow(output)
```

Gender : Female, conf = 0.999

Age Output : [[1.34485435e-05 4.65614212e-05 3.08214047e-04 8.04427683e-01

1.87882617e-01 6.47758925e-03 5.17962675e-04 3.25923495e-04]]

Age : (15-20), conf = 0.804



✓ 44s completed at 12:56 PM

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