import cv2

import matplotlib.pyplot as plt

config\_file= 'F:/Saman/ssd\_mobilenet\_v3\_large\_coco\_2020\_01\_14.pbtxt'

frozen\_model= 'F:/Saman/frozen\_inference\_graph.pb'

model=cv2.dnn\_DetectionModel(frozen\_model,config\_file)

classLabels=[]

file\_name='F:/Saman/Labels.txt'

with open(file\_name,'rt') as fpt:

classLabels=fpt.read().rstrip('\n').split('\n')

print(classLabels)

print(len(classLabels))

model.setInputSize(320,320)

model.setInputScale(1.0/127.5)

model.setInputMean((127.5,127.5,127.5))

model.setInputSwapRB(True)

#read an image

img=cv2.imread('F:/Saman/ik.jpg')

plt.imshow(img)

plt.imshow(cv2.cvtColor(img,cv2.COLOR\_BGR2RGB))

ClassIndex, confidence, bbox=model.detect(img,confThreshold=0.5)

print(ClassIndex)

font\_scale=3

font=cv2.FONT\_HERSHEY\_PLAIN

for ClassInd, conf, boxes in zip(ClassIndex.flatten(), confidence.flatten(), bbox):

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

#cv2.putText(img, text, (text\_offset\_x, text\_offset\_y), font, fontScale=font\_scale, color=(0, 0, 0), thickness=1)

cv2.rectangle(img,boxes,(255, 0, 0), 2)

cv2.putText(img,classLabels[ClassInd-1],(boxes[0]+10,boxes[1]+40), font, fontScale=font\_scale,color=(0, 255, 0), thickness=3)

plt.imshow(cv2.cvtColor(img, cv2.COLOR\_BGR2RGB))

#for video

cap=cv2.VideoCapture("F:/Saman/bicycle.mp4")

if not cap.isOpened():

cap=cv2.VideoCapture(0)

if not cap.isOpened():

raise IOError("Cannot open Video")

font\_scale=3

font=cv2.FONT\_HERSHEY\_PLAIN

while True:

ret,frame = cap.read()

ClassIndex, confidence, bbox=model.detect(frame,confThreshold=0.55)

print(ClassIndex)

if(len(ClassIndex)!=0):

for ClassInd, conf, boxes in zip(ClassIndex.flatten(),confidence.flatten(), bbox):

if(ClassInd <= 80):

cv2.rectangle(frame,boxes,(255,0,0),2)

cv2.putText(frame,classLabels[ClassInd - 1],(boxes[0]+10,boxes[1]+40),font,fontScale=font\_scale,color=(0,255,0),thickness=3)

cv2.imshow('Object Detection Tutorial', frame)

if cv2.waitKey(2) & OxFF == ord('q'):

break

cap.release()

cv2.destroyAllwindows()





