import cv2

import matplotlib.pyplot as plt

config\_file = 'ssd\_mobilenet\_v3\_large\_coco\_2020\_01\_14.pbtxt'

frozen\_model = 'frozen\_inference\_graph.pb'

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

classLabels = []

file\_name = 'labels.txt'

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

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

print(len(classLabels))

model.setInputSize(320,320)

model.setInputScale(1.0/127.5)

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

model.setInputSwapRB(True)

img = cv2.imread('bicycle1.jpg')

plt.imshow(img)

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

ClassIndex, confidece, 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(), confidece.flatten(), bbox):

cv2.rectangle(img, boxes,(225,0,0),2)

cv2.putText(img, classLabels[ClassInd-1], (boxes[0]+10, boxes[1]+40), font, fontScale=font\_scale, color = (0,225,0), thickness = 3)

# Video

cap = cv2.VideoCapture("video1.mp4")

if not cap.isOpened():

cap = cv2.VideoCapture(0)

if not cap.isOpened():

raise IOError('Cannot open the file')

font\_scale = 3

font = cv2.FONT\_HERSHEY\_PLAIN

while True:

ret, frame = cap.read()

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

print(ClassIndex)

if(len(ClassIndex)!=0):

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

if(ClassInd<=80):

cv2.rectangle(frame, boxes,(225, 0, 0), 2 )

cv2.putText(frame, classLabels[ClassInd-1], (boxes[0]+10, boxes[1]+40), font, fontScale = font\_scale, color = (0,225,0), thickness = 3)

cv2.imshow('object detection',frame)

if cv2.waitKey(2) & 0xFF == ord('q'):

break

cap.release()

cv2.destroyALLWindows()