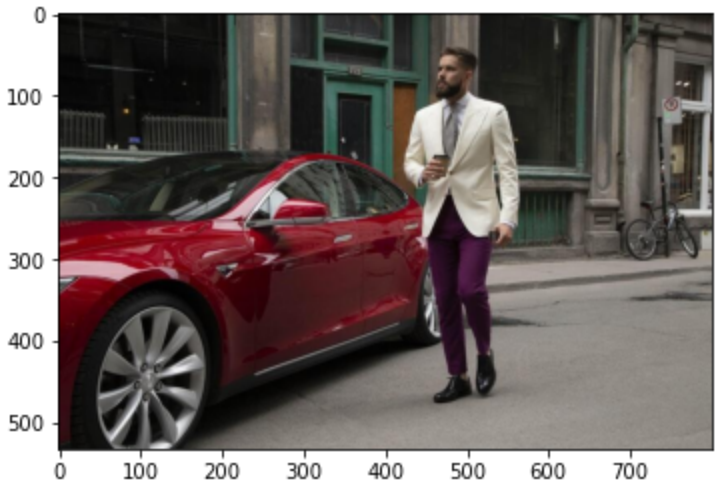
In [1]:
```
import cv2
import matplotlib.pyplot as plt
```

In [2]:
```
img = cv2.imread('car_person (1).jpg')
```

In [3]:
```
cv2.imshow('Image',img)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [4]:
```
plt.imshow(cv2.cvtColor(img,cv2.COLOR_BGR2RGB))
plt.show()
```



In [5]:
```
img.shape
```

Out[5]:
```
(533, 800, 3)
```

In [6]:
```
ClassNames = []
Classfile = 'coco (1).names'
with open(Classfile,'r') as f:
    ClassNames = f.read().rstrip('\n').split('\n')
```

In [7]:
```
ClassNames
```

Out[7]:
```
['person',
 'bicycle',
 'car',
 'motorbike',
 'aeroplane',
 'bus',
 'train',
 'truck',
 'boat',
 'traffic light',
 'fire hydrant',
 'stop sign',
 'parking meter',
 'bench',
 'bird',
```

```
'dog',
'horse',
'sheep',
'cow',
'elephant',
'bear',
'zebra',
'giraffe',
'backpack',
'umbrella',
'handbag',
'tie',
'suitcase',
'frisbee',
'skis',
'snowboard',
'sports ball',
'kite',
'baseball bat',
'baseball glove',
'skateboard',
'surfboard',
'tennis racket',
'bottle',
'wine glass',
'cup',
'fork',
'knife',
'spoon',
'bowl',
'banana',
'apple',
'sandwich',
'orange',
'broccoli',
'carrot',
'hot dog',
'pizza',
'donut',
'cake',
'chair',
'sofa',
'pottedplant',
'bed',
'diningtable',
'toilet',
'tvmonitor',
'laptop',
'mouse',
'remote',
'keyboard',
'cell phone',
'microwave',
'oven',
'toaster',
'sink',
'refrigerator',
'book',
'clock',
'vase',
'scissors',
'teddy bear',
'hair drier',
'toothbrush']
```

In [8]:

```
len(ClassNames)
```

Out[8]: 80

In [9]:
```
model = "ssd_mobilenet_v3_large_coco_2020_01_14 (1).pbtxt"
weights = "frozen_inference_graph.pb"
```

In [10]:
```
net = cv2.dnn_DetectionModel(weights,model)
```

scaling all images across Mean

In [11]:
```
net.setInputSize(320,320)
net.setInputScale(1/127.5)
net.setInputMean((127.5,127.5,127.5))
net.setInputSwapRB(True)
```

Out[11]:
```
< cv2.dnn.Model 0000021CE2739130>
```

Model gives three things

Class_,conf,boundarybox

In [12]:
```
class_,conf,bbox = net.detect(img,confThreshold=0.5)
```

In [13]:
```
print(class_,bbox,conf)
```

```
[3 1 2] [[  0 166 456 364]
 [425  52 142 423]
 [686 210 106  98]] [0.6784532  0.67048925 0.61249626]
```

In [14]:
```
ClassNames[2]
```

Out[14]:
```
'car'
```

In [15]:
```
for cl,conf,bb in zip(class_.flatten(),conf.flatten(),bbox):
    cv2.rectangle(img,bb,color=(0,255,0),thickness=3)
    cv2.putText(img,ClassNames[cl-1],(bb[0],bb[1]+25),cv2.FONT_HERSHEY_COMPLEX,0.7,(0,255,
    cv2.putText(img,str((conf*100)//1)+'%',(bb[0],bb[1]+50),cv2.FONT_HERSHEY_COMPLEX,0.5,(
```

In [ ]:
```
cv2.imshow('Image',img)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

In [ ]:
```

```