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

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```
ROOT_DIR = "/content/drive/MyDrive/Segmentaion"
```

```
 %cd {ROOT_DIR}
```

```
/content/drive/MyDrive/Segmentaion
```

```
%ls
```

```
 PT1.jpg   runs/                            ultralytics1/   yolov8n.pt
 PT2.jpg  'Segmentation | LAI | KTG.ipynb'   VT1.mp4         yolov8n-seg.pt
```

```
%cd ultralytics1
```

```
/content/drive/MyDrive/Segmentaion/ultralytics1
```

```
!pip install -r /content/drive/MyDrive/Segmentaion/ultralytics1/examples/YOLOv8-Action-Recognition/requirements.txt
```

```
Requirement already satisfied: ultralytics in /usr/local/lib/python3.10/dist-packages (from -r /content/drive/MyDrive/Segmentaion/ultral
Requirement already satisfied: transformers in /usr/local/lib/python3.10/dist-packages (from -r /content/drive/MyDrive/Segmentaion/ultra
Requirement already satisfied: numpy<2.0.0,>=1.23.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics->-r /content/drive/MyDr
Requirement already satisfied: matplotlib>=3.3.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics->-r /content/drive/MyDrive
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Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (from transformers->-r /content/drive/MyDrive/Segment
Requirement already satisfied: huggingface-hub<1.0,>=0.23.2 in /usr/local/lib/python3.10/dist-packages (from transformers->-r /content/d
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Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.3.0->ultralytics->-r /con
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Requirement already satisfied: tzdata>=2022.1 in /usr/local/lib/python3.10/dist-packages (from pandas>=1.1.4->ultralytics->-r /content/d
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics->
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics->-r /content/
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics->-r /co
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests>=2.23.0->ultralytics->-r /co
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Requirement already satisfied: jinja2 in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics->-r /content/drive/MyDr
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib>=3.3.0->ultral
Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.10/dist-packages (from jinja2->torch>=1.8.0->ultralytics->-r /c
Requirement already satisfied: mpmath<1.4,>=1.1.0 in /usr/local/lib/python3.10/dist-packages (from sympy->torch>=1.8.0->ultralytics->-r
```

```
!pip install ultralytics
```

```
Requirement already satisfied: ultralytics in /usr/local/lib/python3.10/dist-packages (8.2.100)
Requirement already satisfied: numpy<2.0.0,>=1.23.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (1.26.4)
Requirement already satisfied: matplotlib>=3.3.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (3.7.1)
Requirement already satisfied: opencv-python>=4.6.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (4.10.0.84)
Requirement already satisfied: pillow>=7.1.2 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (10.4.0)
Requirement already satisfied: pyyaml>=5.3.1 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (6.0.2)
Requirement already satisfied: requests>=2.23.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (2.32.3)
```

```
Requirement already satisfied: scipy>=1.4.1 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (1.13.1)
Requirement already satisfied: torch>=1.8.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (2.4.1+cu121)
Requirement already satisfied: torchvision>=0.9.0 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (0.19.1+cu121)
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Requirement already satisfied: psutil in /usr/local/lib/python3.10/dist-packages (from ultralytics) (5.9.5)
Requirement already satisfied: py-cpuinfo in /usr/local/lib/python3.10/dist-packages (from ultralytics) (9.0.0)
Requirement already satisfied: pandas>=1.1.4 in /usr/local/lib/python3.10/dist-packages (from ultralytics) (2.1.4)
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Requirement already satisfied: sympy in /usr/local/lib/python3.10/dist-packages (from torch>=1.8.0->ultralytics) (1.13.3)
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Requirement already satisfied: mpmath<1.4,>=1.1.0 in /usr/local/lib/python3.10/dist-packages (from sympy->torch>=1.8.0->ultralytics) (1.
```

```
%cd {ROOT_DIR}
```

```
/content/drive/MyDrive/Segmentaion
```

```
!pip install Ipython
```

```
Requirement already satisfied: Ipython in /usr/local/lib/python3.10/dist-packages (7.34.0)
Requirement already satisfied: setuptools>=18.5 in /usr/local/lib/python3.10/dist-packages (from Ipython) (71.0.4)
Requirement already satisfied: jedi>=0.16 in /usr/local/lib/python3.10/dist-packages (from Ipython) (0.19.1)
Requirement already satisfied: decorator in /usr/local/lib/python3.10/dist-packages (from Ipython) (4.4.2)
Requirement already satisfied: pickleshare in /usr/local/lib/python3.10/dist-packages (from Ipython) (0.7.5)
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Requirement already satisfied: prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from Ipython) (3
Requirement already satisfied: pygments in /usr/local/lib/python3.10/dist-packages (from Ipython) (2.18.0)
Requirement already satisfied: backcall in /usr/local/lib/python3.10/dist-packages (from Ipython) (0.2.0)
Requirement already satisfied: matplotlib-inline in /usr/local/lib/python3.10/dist-packages (from Ipython) (0.1.7)
Requirement already satisfied: pexpect>4.3 in /usr/local/lib/python3.10/dist-packages (from Ipython) (4.9.0)
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Requirement already satisfied: ptyprocess>=0.5 in /usr/local/lib/python3.10/dist-packages (from pexpect>4.3->Ipython) (0.7.0)
Requirement already satisfied: wcwidth in /usr/local/lib/python3.10/dist-packages (from prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0->Ip
```
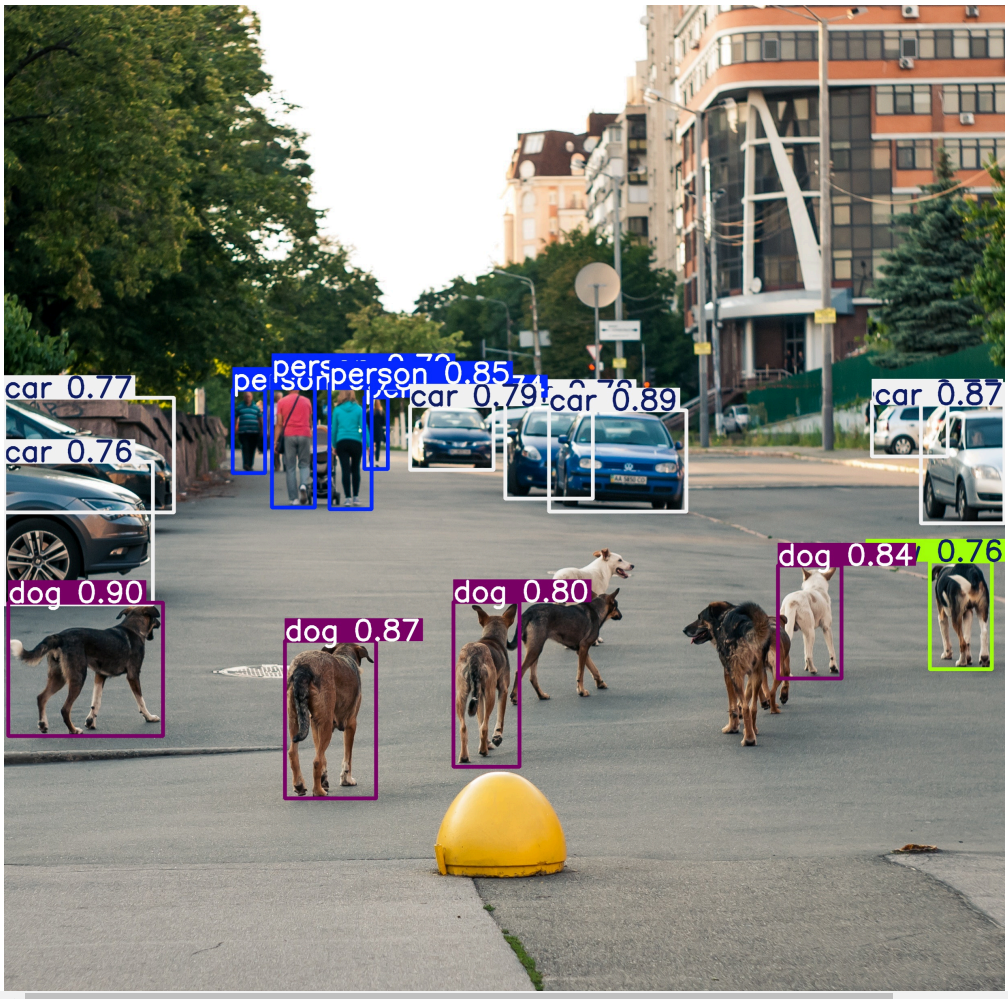

```
import matplotlib.pyplot as plt
from IPython.display import Image as imgshow
import os
```

```
!yolo task=detect mode=predict model=yolov8n.pt conf=0.7 source="/content/drive/MyDrive/Segmentaion/PT2.jpg" save=True
```

```
Ultralytics YOLOv8.2.100 🚀 Python-3.10.12 torch-2.4.1+cu121 CPU (Intel Xeon 2.20GHz)
YOLOv8n summary (fused): 168 layers, 3,151,904 parameters, 0 gradients, 8.7 GFLOPs

image 1/1 /content/drive/MyDrive/Segmentaion/PT2.jpg: 640x640 4 persons, 7 cars, 4 dogs, 1 cow, 251.3ms
Speed: 7.3ms preprocess, 251.3ms inference, 2.0ms postprocess per image at shape (1, 3, 640, 640)
Results saved to runs/detect/predict15
💡 Learn more at https://docs.ultralytics.com/modes/predict
```

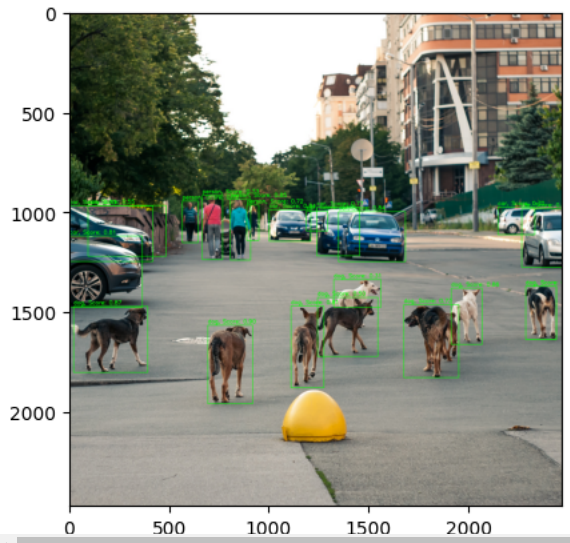
```
imgshow(os.path.join(ROOT_DIR,"runs/detect/predict/PT2.jpg"), width = 750)
```




```
import cv2
import numpy as np
from PIL import Image
import matplotlib.pyplot as plt
from ultralytics import YOLO


def plot_bboxes(image, boxes, class_names, scores=None):
    for i, box in enumerate(boxes):
        x1, y1, x2, y2 = box
        cv2.rectangle(image, (int(x1), int(y1)), (int(x2), int(y2)), (0, 255, 0), 2)
        label = f"{class_names[i]}"
        if scores is not None:
            label += f", Score: {scores[i]:.2f}"

        cv2.putText(image, label, (int(x1), int(y1) - 10), cv2.FONT_HERSHEY_SIMPLEX, 0.9, (0, 255, 0), 2)

model = YOLO("yolov8n.pt")
image = Image.open("/content/drive/MyDrive/Segmentaion/PT2.jpg")
image = np.asarray(image)
image = image.copy()
results = model(image)
boxes = results[0].boxes.xyxy.cpu().numpy()
class_ids = results[0].boxes.cls.cpu().numpy().astype(int).tolist()
scores = results[0].boxes.conf.cpu().numpy().tolist()
class_names = model.names
print("Objects detected:")
for i, class_id in enumerate(class_ids):
    print(f"{i}: {class_names[class_id]} (Class ID: {class_id}, Score: {scores[i]:.2f})")

dog_class_id = None
for key, value in class_names.items():
    if value == 'dog':
        dog_class_id = key
        break
for i, class_id in enumerate(class_ids):
```

```
        if class_names[class_id] == 'cow':
            class_ids[i] = dog_class_id
            print(f"Object {i} ('cow') was automatically replaced with 'dog'.")

    modified_class_names = [class_names[class_id] for class_id in class_ids]
    plot_bboxes(image, boxes, modified_class_names, scores)
    plt.imshow(image)
    plt.show()
```

```
0: 640x640 4 persons, 9 cars, 8 dogs, 1 cow, 341.8ms
Speed: 6.2ms preprocess, 341.8ms inference, 2.0ms postprocess per image at shape (1, 3, 640, 640)
Objects detected:
0: dog (Class ID: 16, Score: 0.90)
1: car (Class ID: 2, Score: 0.89)
2: dog (Class ID: 16, Score: 0.87)
3: dog (Class ID: 16, Score: 0.86)
4: person (Class ID: 0, Score: 0.85)
5: car (Class ID: 2, Score: 0.84)
6: car (Class ID: 2, Score: 0.84)
7: dog (Class ID: 16, Score: 0.81)
8: car (Class ID: 2, Score: 0.81)
9: car (Class ID: 2, Score: 0.77)
10: car (Class ID: 2, Score: 0.73)
11: person (Class ID: 0, Score: 0.73)
12: dog (Class ID: 16, Score: 0.73)
13: person (Class ID: 0, Score: 0.72)
14: person (Class ID: 0, Score: 0.72)
15: cow (Class ID: 19, Score: 0.72)
16: car (Class ID: 2, Score: 0.70)
17: car (Class ID: 2, Score: 0.60)
18: dog (Class ID: 16, Score: 0.56)
19: car (Class ID: 2, Score: 0.55)
20: dog (Class ID: 16, Score: 0.50)
21: dog (Class ID: 16, Score: 0.31)
Object 15 ('cow') was automatically replaced with 'dog'.
```




```
model = YOLO("yolov8n.pt")
```

```
!yolo task=detect mode=predict model=yolov8n.pt conf=0.1 source="/content/drive/MyDrive/Segmentaion/VT1.mp4" save=True
```

```
video 1/1 (frame 236/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 29 persons, 4 cars, 1 truck, 1 backpack, 2 umbrellas, 2
video 1/1 (frame 237/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 2 cars, 2 backpacks, 1 umbrella, 1 handbag,
video 1/1 (frame 238/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 29 persons, 4 cars, 2 umbrellas, 1 handbag, 140.5ms
video 1/1 (frame 239/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 40 persons, 2 cars, 3 umbrellas, 3 handbags, 1 potted p
video 1/1 (frame 240/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 33 persons, 3 cars, 2 umbrellas, 1 handbag, 1 chair, 1
video 1/1 (frame 241/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 4 cars, 1 bench, 1 backpack, 3 umbrellas, 1
video 1/1 (frame 242/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 30 persons, 3 cars, 3 umbrellas, 1 potted plant, 139.4m
video 1/1 (frame 243/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 36 persons, 2 cars, 3 umbrellas, 1 handbag, 1 potted pl
video 1/1 (frame 244/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 32 persons, 1 car, 3 umbrellas, 1 potted plant, 145.2ms
video 1/1 (frame 245/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 3 cars, 2 umbrellas, 1 potted plant, 140.8m
video 1/1 (frame 246/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 30 persons, 1 car, 3 umbrellas, 1 potted plant, 149.6ms
video 1/1 (frame 247/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 29 persons, 2 cars, 2 umbrellas, 1 handbag, 2 potted pl
video 1/1 (frame 248/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 29 persons, 2 cars, 5 umbrellas, 2 handbags, 1 chair, 2
video 1/1 (frame 249/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 3 cars, 3 umbrellas, 1 handbag, 1 potted pl
video 1/1 (frame 250/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 4 cars, 3 umbrellas, 1 handbag, 2 potted pl
video 1/1 (frame 251/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 26 persons, 3 cars, 5 umbrellas, 1 handbag, 1 potted pl
video 1/1 (frame 252/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 27 persons, 3 cars, 3 umbrellas, 3 handbags, 2 potted p
video 1/1 (frame 253/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 25 persons, 6 cars, 1 umbrella, 2 handbags, 2 potted pl
video 1/1 (frame 254/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 22 persons, 4 cars, 2 umbrellas, 1 handbag, 1 potted pl
video 1/1 (frame 255/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 21 persons, 5 cars, 1 potted plant, 142.4ms
video 1/1 (frame 256/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 22 persons, 5 cars, 1 umbrella, 140.8ms
video 1/1 (frame 257/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 25 persons, 5 cars, 2 umbrellas, 1 potted plant, 143.9m
video 1/1 (frame 258/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 21 persons, 5 cars, 5 umbrellas, 215.8ms
video 1/1 (frame 259/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 24 persons, 6 cars, 6 umbrellas, 216.2ms
video 1/1 (frame 260/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 21 persons, 7 cars, 8 umbrellas, 219.3ms
video 1/1 (frame 261/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 30 persons, 6 cars, 2 backpacks, 5 umbrellas, 229.6ms
video 1/1 (frame 262/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 25 persons, 6 cars, 3 umbrellas, 213.1ms
video 1/1 (frame 263/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 32 persons, 6 cars, 3 umbrellas, 227.3ms
video 1/1 (frame 264/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 27 persons, 7 cars, 5 umbrellas, 235.1ms
video 1/1 (frame 265/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 28 persons, 4 cars, 4 umbrellas, 207.5ms
video 1/1 (frame 266/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 24 persons, 4 cars, 10 umbrellas, 222.9ms
video 1/1 (frame 267/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 22 persons, 3 cars, 8 umbrellas, 1 handbag, 235.7ms
video 1/1 (frame 268/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 27 persons, 4 cars, 7 umbrellas, 227.1ms
video 1/1 (frame 269/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 23 persons, 3 cars, 1 backpack, 6 umbrellas, 2 handbags
video 1/1 (frame 270/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 22 persons, 2 cars, 1 backpack, 7 umbrellas, 2 handbags
video 1/1 (frame 271/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 25 persons, 2 cars, 1 backpack, 8 umbrellas, 170.6ms
video 1/1 (frame 272/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 29 persons, 3 cars, 1 backpack, 6 umbrellas, 148.1ms
Speed: 4.3ms preprocess, 166.6ms inference, 1.4ms postprocess per image at shape (1, 3, 384, 640)
Results saved to runs/detect/predict16
💡 Learn more at https://docs.ultralytics.com/modes/predict
```

```
from ultralytics import YOLO
import numpy as np
from PIL import Image
import cv2
from google.colab.patches import cv2_imshow
```

```
model = YOLO("yolov8n.pt")
```

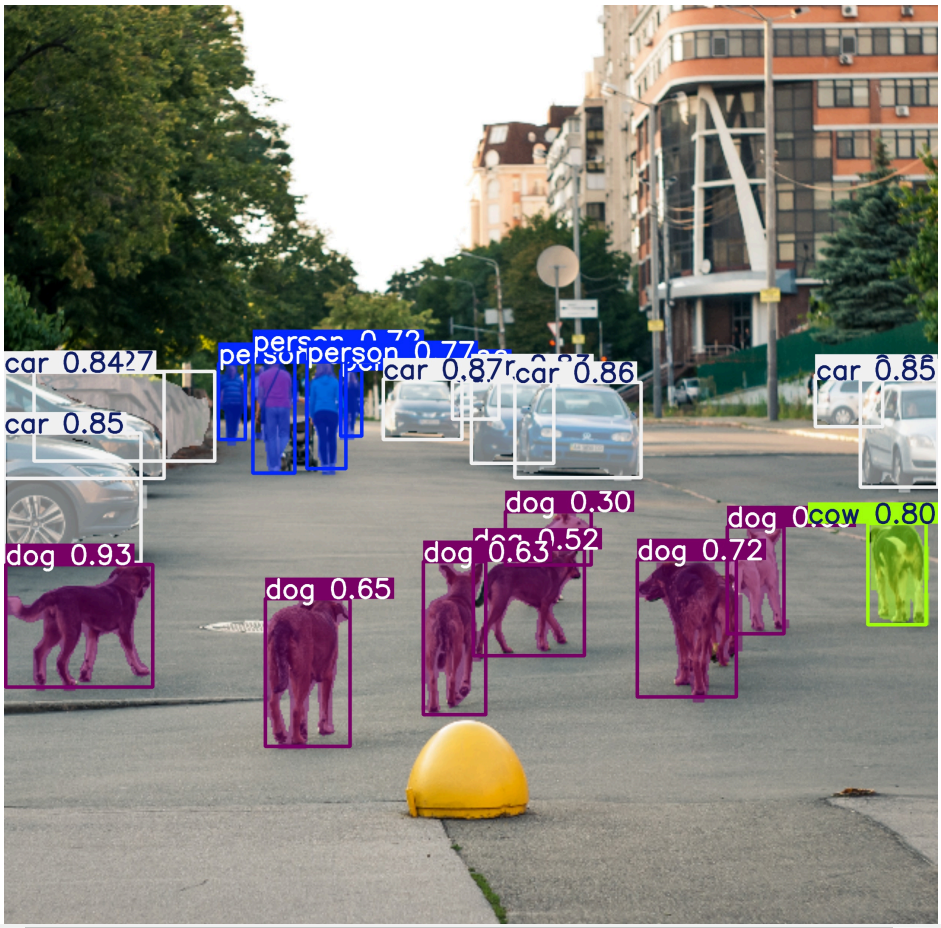
```
image = Image.open('PT2.jpg')
image = np.asarray(image)
results = model.predict(image)
```

```
0: 640x640 4 persons, 9 cars, 8 dogs, 1 cow, 219.2ms
Speed: 6.2ms preprocess, 219.2ms inference, 1.5ms postprocess per image at shape (1, 3, 640, 640)
```

```
!yolo task=segment mode=predict model='yolov8n-seg.pt' conf=0.98 source="PT2.jpg" save=True
```

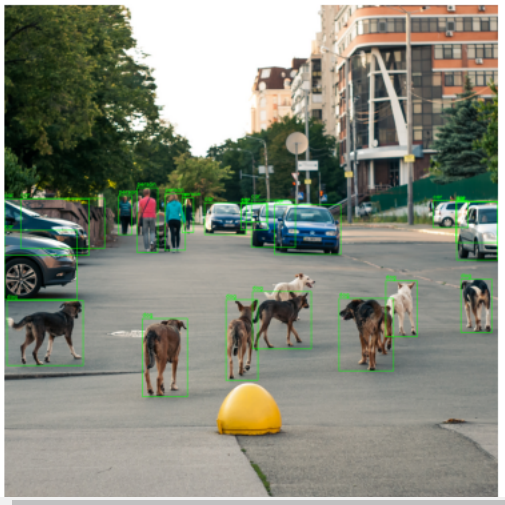
```
Ultralytics YOLOv8.2.100 🚀 Python-3.10.12 torch-2.4.1+cu121 CPU (Intel Xeon 2.20GHz)
YOLOv8n-seg summary (fused): 195 layers, 3,404,320 parameters, 0 gradients, 12.6 GFLOPs

image 1/1 /content/drive/MyDrive/Segmentaion/PT2.jpg: 640x640 (no detections), 545.5ms
Speed: 8.9ms preprocess, 545.5ms inference, 2.2ms postprocess per image at shape (1, 3, 640, 640)
Results saved to runs/segment/predict11
💡 Learn more at https://docs.ultralytics.com/modes/predict
```

```
imgshow(os.path.join(ROOT_DIR,'runs/segment/predict/PT2.jpg'), width = 700)
```




```
model = YOLO("yolov8n-seg.pt")
image = Image.open("/content/drive/MyDrive/Segmentaion/PT2.jpg")
image = np.asarray(image)
image = image.copy()
results = model(image)
class_ids = results[0].boxes.cls.cpu().numpy().astype(int).tolist()
scores = results[0].boxes.conf.cpu().numpy().tolist()
class_names = model.names
dog_class_id = None
for key, value in class_names.items():
    if value == 'dog':
        dog_class_id = key
        break
for i, class_id in enumerate(class_ids):
    if class_names[class_id] == 'cow':
        class_ids[i] = dog_class_id
modified_class_names = [class_names[class_id] for class_id in class_ids]
for i, class_name in enumerate(modified_class_names):
    print(f"Object {i}: {class_name} (Score: {scores[i]:.2f})")
for box, class_name in zip(results[0].boxes.xyxy.cpu().numpy(), modified_class_names):
    x1, y1, x2, y2 = box
    cv2.rectangle(image, (int(x1), int(y1)), (int(x2), int(y2)), (0, 255, 0), 2)
    cv2.putText(image, class_name, (int(x1), int(y1) - 10), cv2.FONT_HERSHEY_SIMPLEX, 0.9, (0, 255, 0), 2)
plt.imshow(image)
plt.axis('off')
plt.show()
```

```
0: 640x640 4 persons, 11 cars, 6 dogs, 1 cow, 418.6ms
Speed: 7.7ms preprocess, 418.6ms inference, 100.1ms postprocess per image at shape (1, 3, 640, 640)
Object 0: dog (Score: 0.91)
Object 1: car (Score: 0.87)
Object 2: car (Score: 0.86)
Object 3: dog (Score: 0.83)
Object 4: dog (Score: 0.83)
Object 5: car (Score: 0.83)
Object 6: car (Score: 0.82)
Object 7: car (Score: 0.81)
Object 8: dog (Score: 0.80)
Object 9: car (Score: 0.80)
Object 10: person (Score: 0.78)
Object 11: dog (Score: 0.77)
Object 12: car (Score: 0.72)
Object 13: dog (Score: 0.70)
Object 14: person (Score: 0.68)
Object 15: person (Score: 0.58)
Object 16: person (Score: 0.58)
Object 17: car (Score: 0.55)
Object 18: car (Score: 0.52)
Object 19: car (Score: 0.49)
Object 20: dog (Score: 0.40)
Object 21: car (Score: 0.39)
```



```
!yolo task=segment mode=predict conf=0.25 source="/content/drive/MyDrive/Segmentaion/VT1.mp4" save=True
```

```
video 1/1 (frame 251/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 9 persons, 1 car, 1 umbrella, 1 handbag, 1 potted plant
video 1/1 (frame 252/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 14 persons, 1 car, 1 potted plant, 183.4ms
video 1/1 (frame 253/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 17 persons, 1 car, 1 potted plant, 187.2ms
video 1/1 (frame 254/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 15 persons, 2 cars, 195.8ms
video 1/1 (frame 255/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 14 persons, 1 car, 184.2ms
video 1/1 (frame 256/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 13 persons, 2 cars, 184.8ms
video 1/1 (frame 257/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 14 persons, 2 cars, 196.1ms
video 1/1 (frame 258/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 14 persons, 2 cars, 267.9ms
video 1/1 (frame 259/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 15 persons, 2 cars, 305.6ms
video 1/1 (frame 260/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 13 persons, 3 cars, 292.5ms
video 1/1 (frame 261/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 12 persons, 3 cars, 296.8ms
video 1/1 (frame 262/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 11 persons, 2 cars, 273.5ms
video 1/1 (frame 263/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 12 persons, 3 cars, 306.0ms
video 1/1 (frame 264/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 13 persons, 4 cars, 342.7ms
video 1/1 (frame 265/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 12 persons, 1 car, 213.3ms
video 1/1 (frame 266/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 11 persons, 1 car, 192.6ms
video 1/1 (frame 267/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 12 persons, 1 car, 188.5ms
video 1/1 (frame 268/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 15 persons, 1 car, 190.8ms
video 1/1 (frame 269/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 16 persons, 2 cars, 190.0ms
video 1/1 (frame 270/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 14 persons, 1 car, 188.0ms
video 1/1 (frame 271/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 15 persons, 1 car, 192.9ms
video 1/1 (frame 272/272) /content/drive/MyDrive/Segmentaion/VT1.mp4: 384x640 15 persons, 2 cars, 203.7ms
Speed: 4.3ms preprocess, 213.1ms inference, 36.4ms postprocess per image at shape (1, 3, 384, 640)
Results saved to runs/segment/predict12
💡 Learn more at https://docs.ultralytics.com/modes/predict
```

```
def box_label(image, box, label='', color=(128, 128, 128), txt_color=(255, 255, 255)):
  lw = max(round(sum(image.shape) / 2 * 0.003), 2)
  p1, p2 = (int(box[0]), int(box[1])), (int(box[2]), int(box[3]))
  cv2.rectangle(image, p1, p2, color, thickness=lw, lineType=cv2.LINE_AA)
  if label:
    tf = max(lw - 1, 1)
    w, h = cv2.getTextSize(label, 0, fontScale=lw / 3, thickness=tf)[0]
    outside = p1[1] - h >= 3
    p2 = p1[0] + w, p1[1] - h - 3 if outside else p1[1] + h + 3
    cv2.rectangle(image, p1, p2, color, -1, cv2.LINE_AA)
    cv2.putText(image,
                label, (p1[0], p1[1] - 2 if outside else p1[1] + h + 2),
                0,
                lw / 3,
                txt_color,
                thickness=tf,
                lineType=cv2.LINE_AA)
```

```
def plot_bboxes(image, boxes, labels=[], colors=[], score=True, conf=None):
  if labels == []:
    labels = {0: u'__background__', 1: u'person', 2: u'bicycle',3: u'car', 4: u'motorcycle', 5: u'airplane', 6: u'bus', 7: u'train', 8: u'tru
  if colors == []:
    colors = [(89, 161, 197),(67, 161, 255),(19, 222, 24),(186, 55, 2),(167, 146, 11),(190, 76, 98),(130, 172, 179),(115, 209, 128),(204, 79,
  for box in boxes:
    if score :
      label = labels[int(box[-1])+1] + " " + str(round(100 * float(box[-2]),1)) + "%"
    else :
      label = labels[int(box[-1])+1]
    if conf :
      if box[-2] > conf:
        color = colors[int(box[-1])]
        box_label(image, box, label, color)
    else:
      color = colors[int(box[-1])]
      box_label(image, box, label, color)
  image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB)
  try:
    import google.colab
    IN_COLAB = True
```