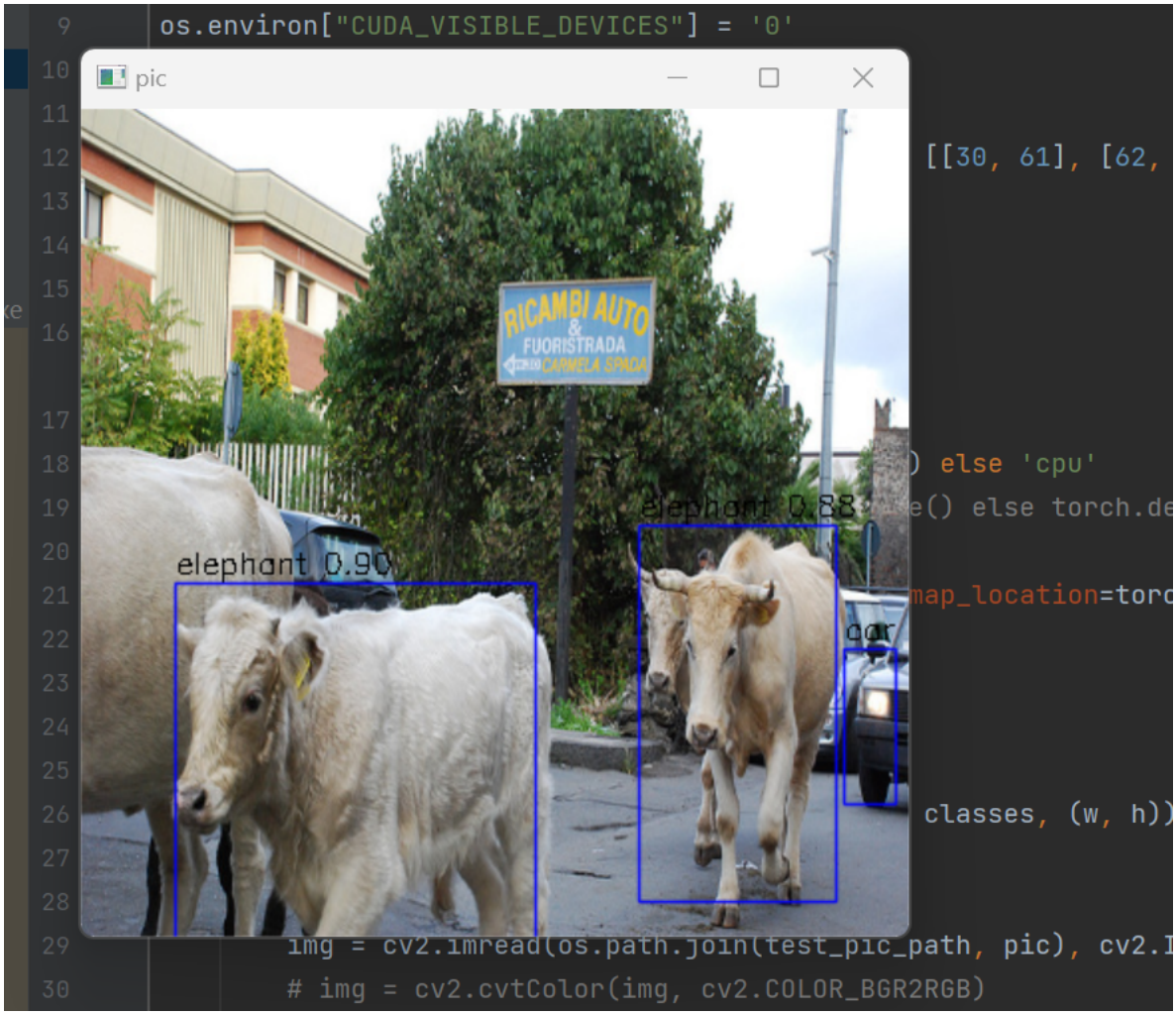
训练过程：

```
epoch[0|100] iter[30|29316] loss=2.6721 avg_iou=0.3511
epoch[0|100] iter[40|29316] loss=2.5964 avg_iou=0.2176
epoch[0|100] iter[50|29316] loss=2.3816 avg_iou=0.1547
epoch[0|100] iter[60|29316] loss=2.2620 avg_iou=0.5035
epoch[0|100] iter[70|29316] loss=2.0445 avg_iou=0.0719
epoch[0|100] iter[80|29316] loss=2.1227 avg_iou=0.4630
epoch[0|100] iter[90|29316] loss=2.0814 avg_iou=0.3415
epoch[0|100] iter[100|29316] loss=2.0293 avg_iou=0.1486
epoch[0|100] iter[110|29316] loss=1.9472 avg_iou=0.2785
epoch[0|100] iter[120|29316] loss=1.5366 avg_iou=0.3695
epoch[0|100] iter[130|29316] loss=1.7767 avg_iou=0.5709
epoch[0|100] iter[140|29316] loss=1.4854 avg_iou=0.0823
epoch[0|100] iter[150|29316] loss=1.2176 avg_iou=0.0912
epoch[0|100] iter[160|29316] loss=1.1757 avg_iou=0.3578
epoch[0|100] iter[170|29316] loss=1.2255 avg_iou=0.1678
epoch[0|100] iter[180|29316] loss=1.7330 avg_iou=0.4987
epoch[0|100] iter[190|29316] loss=1.2984 avg_iou=0.4200
```

测试过程：

我们组首先使用原代码的测试部分进行测试，测试结果如下：



之后我们修改图片的输入源，将视频帧进行输入，让模型识别视频中的物体

核心代码：

```
    #将图片的输入源换成视频
    video_path = "test_1.mp4"  # 替换为你的输入视频路径
    cap = cv2.VideoCapture(video_path)

    frame_width = int(cap.get(3))
    frame_height = int(cap.get(4))
    out = cv2.VideoWriter('output_video.mp4', cv2.VideoWriter_fourcc(*'XVID'),
30, (frame_width, frame_height))


    while True:
        ret, frame = cap.read()
        if not ret:
            break
        # cv2.imshow('pic',frame)
        # cv2.waitKey(0)
        img=frame
```

```
                for x1, y1, x2, y2, conf, cls_conf, cls_pred in detections:
                    x1, y1, x2, y2 = int(x1), int(y1), int(x2), int(y2)
                    cv2.rectangle(img, (x1, y1), (x2, y2), (255, 0, 0), 1, cv2.LINE_AA)
                    mess = '%s %.2f' % (classes_name[int(cls_pred)], conf)
                    cv2.putText(img, mess, (x1, y1 - 5), cv2.FONT_HERSHEY_SIMPLEX, 0.5, (0, 0, 0), 1)
                cv2.imshow('pic', img)
                cv2.waitKey(1)          改为按照视频播放
    if cv2.waitKey(1) & 0xFF == ord('q'):
        break
```

效果展示:

见附件