

```
# Install necessary libraries
!pip install -U torch torchvision torchaudio
!pip install opencv-python-headless
!pip install matplotlib numpy
!git clone https://github.com/ultralytics/yolov5 # Clone YOLOv5 repository
%cd yolov5
!pip install -r requirements.txt # Install YOLOv5 dependencies
```

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Installing collected packages: ultralytics-thop, thop, ultralytics
Successfully installed thop-0.1.1.post2209072238 ultralytics-8.3.119 ultralytics-thop-2.0.14
```

```
import cv2
import torch
from IPython.display import Image, display
```

```
model = torch.hub.load('ultralytics/yolov5', 'yolov5s') # Load YOLOv5 small model
```


```
Using cache found in /root/.cache/torch/hub/ultralytics_yolov5_master
YOLOv5 2025-4-28 Python-3.11.12 torch-2.7.0+cu126 CPU
```

```
Downloading https://github.com/ultralytics/yolov5/releases/download/v7.0/yolov5s.pt to yolov5s.pt...
100% [██████████] 14.1M/14.1M [00:00<00:00, 115MB/s]
```


```
Fusing layers...
```

YOLOv5s summary: 213 layers, 7225885 parameters, 0 gradients, 16.4 GFLOPs
Adding AutoShape...


```
from google.colab import files
uploaded = files.upload() # Upload your image here
```

 Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving avp1.png to avp1.png

```
from google.colab import files
uploaded = files.upload() # Upload your image here
```


 Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving rdi.png to rdi.png

```
img_path = list(uploaded.keys())[0] # Get uploaded image file name
results = model(img_path) # Run object detection on the image
results.show() # Display the detected objects in the image
```

 /root/.cache/torch/hub/ultralytics_yolov5_master/models/common.py:906: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. with amp.autocast.autocast):




```
img_path = list(uploaded.keys())[0] # Get uploaded image file name
results = model(img_path) # Run object detection on the image
results.show() # Display the detected objects in the image
```

 /root/.cache/torch/hub/ultralytics_yolov5_master/models/common.py:906: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. with amp.autocast.autocast):



```
from google.colab import files
from google.colab.patches import cv2_imshow # Import cv2_imshow
# Upload the video file (for testing)
uploaded = files.upload() # Upload your video file
video_path = list(uploaded.keys())[0] # Get uploaded video file name
```

 Choose Files No file chosen Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving Cars in Highway Traffic.mn4 to Cars in Highway Traffic (1).mn4

```
# Open the video file using OpenCV
cap = cv2.VideoCapture(video_path)
```

```
while cap.isOpened():
    ret, frame = cap.read() # Read a frame from the video

    if not ret:
        break # Exit the loop if no frame is read (end of video)
```

```
# Run YOLOv5 object detection on the frame
results = model(frame)

# Render results (bounding boxes, labels, etc.)
results.render() # This adds boxes and labels to the frame

# Display the resulting frame
cv2.imshow(frame) # Show the frame with detections using cv2.imshow

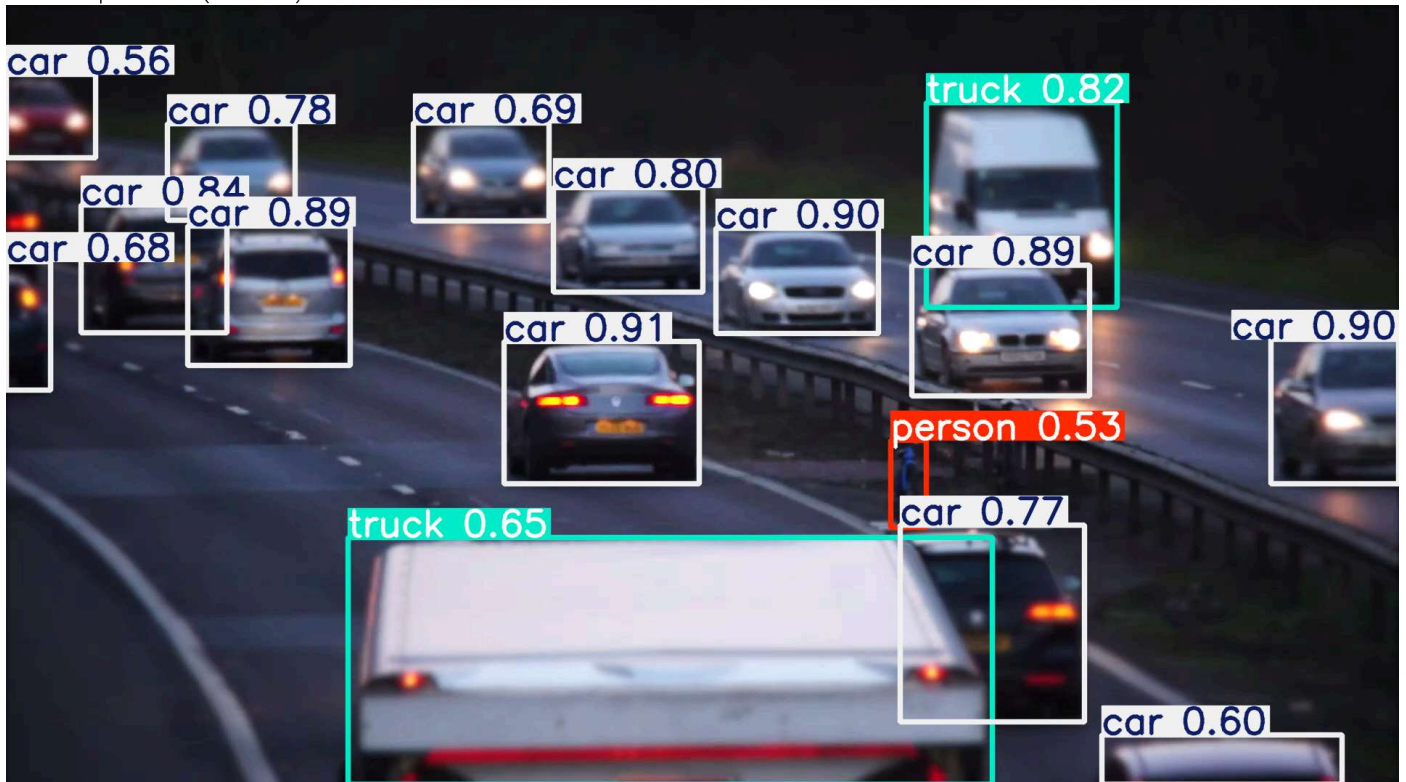
# Break the loop if the user presses the 'q' key
if cv2.waitKey(1) & 0xFF == ord('q'):
    break

# Release the video capture object and close all OpenCV windows
cap.release()
cv2.destroyAllWindows()
```

[↗](#) /root/.cache/torch/hub/ultralytics_yolov5_master/models/common.py:906: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. with amp.autocast(autocast):



/root/.cache/torch/hub/ultralytics_yolov5_master/models/common.py:906: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. with amp.autocast(autocast):



/root/.cache/torch/hub/ultralytics_yolov5_master/models/common.py:906: FutureWarning: `torch.cuda.amp.autocast(args...)` is deprecated. with amp.autocast(autocast):

