from google.colab.patches import cv2_imshow input=cv2.imread('/content/truck.jpeg') cv2_imshow(input)





Start coding or generate with AI.

```
# Simple Colab-friendly military object detection using YOLOv5u
# This version is specifically designed to work in Google Colab
# Install required packages if needed
!pip install ultralytics opencv-python
# Import libraries
from ultralytics import YOLO
from google.colab.patches import cv2_imshow # Special display function for Colab
import numpy as np
# Load the improved YOLOv5u model
model = YOLO('yolov5su.pt')
# Define military class mapping
military_classes = {
                            # person -> civilian
   0: 'civilian'.
   2: 'civilian_vehicle', # car -> civilian vehicle
   7: 'military_vehicle',  # truck -> military vehicle
   16: 'weapon'
                            # dog -> mapped as weapon for demo
}
# Color mapping for visualization
colors = {
    'civilian': (0, 255, 0),
                                     # Green
    'civilian_vehicle': (0, 255, 0), # Green
    'military_vehicle': (255, 0, 0), # Blue
    'weapon': (0, 0, 255)
}
def detect_military_objects(image_path, conf=0.25):
    """Detect military objects in an image""
        # Run inference - must provide a path for Colab
        results = model(image_path, conf=conf)
       # Get original image
        original_img = cv2.imread(image_path)
        if original_img is None:
           print(f"Warning: Could not read image at {image_path}")
            # Let's use the plotted results directly
           img_with_boxes = results[0].plot()
           return img_with_boxes, []
        # Create a copy to draw on
        img = original_img.copy()
        # List to store detections
        detections = []
        # Process each detection from first result
        for box in results[0].boxes:
           # Get class index and confidence
           cls_id = int(box.cls[0].item())
           conf = float(box.conf[0].item())
           # Only keep military-relevant classes
           if cls_id not in military_classes:
                continue
           # Get box coordinates
           x1, y1, x2, y2 = [int(x.item()) for x in box.xyxy[0]]
```

```
# Convert class to military class
            mil_class = military_classes.get(cls_id, "unknown")
            # Add to detections
            detections.append({
                'class': mil_class,
                'confidence': conf.
                'box': [x1, y1, x2, y2]
            })
            # Draw on image
            color = colors.get(mil_class, (0, 255, 0))
            cv2.rectangle(img, (x1, y1), (x2, y2), color, 2)
            # Add label
            label = f"{mil_class} {conf:.2f}"
            cv2.putText(img, label, (x1, y1-10), cv2.FONT_HERSHEY_SIMPLEX, 0.5, color, 2)
        # Print detection summary
        print(f"Detected {len(detections)} military objects:")
        for cls in set(d['class'] for d in detections):
            count = sum(1 for d in detections if d['class'] == cls)
            print(f"- {cls}: {count}")
        # Save the result
        output_path = 'military_detection_result.jpg'
        cv2.imwrite(output_path, img)
        print(f"Result saved to {output_path}")
        return img, detections
    except Exception as e:
       print(f"Error in detection: {e}")
        # Use alternative approach to return something
        fallback_results = model(image_path)
        return fallback_results[0].plot(), []
# Simple function to demonstrate and test the detection
print("Simple Military Object Detector for Colab")
# Method 1: Upload an image through Colab
from google.colab import files
print("Please upload an image...")
uploaded = files.upload()
# Process the uploaded image
for filename in uploaded.keys():
   print(f"Processing {filename}...")
    img, detections = detect_military_objects(filename)
   # Display the result
    print("Displaying result:")
   cv2 imshow(img)
# Alternative direct approach for troubleshooting
print("\nAlternative method (direct approach):")
print("This approach bypasses any custom functions")
for filename in uploaded.keys():
   # Direct approach
   results = model(filename)
    r = results[0]
   print(f"Direct detection found {len(r.boxes)} objects")
    # Display result using built-in plotting
   im_array = r.plot()
   cv2_imshow(im_array)
   # Save the direct result
    cv2.imwrite("direct_detection_result.jpg", im_array)
    print("Direct result saved to direct detection result.jpg")
```

```
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