

YOLO / TinyYOLO Detection on Frame

You'll investigate the accuracy of the YOLOv4 pre-trained network in this quiz. You'll use a single frame from the MathWorksRt9 video included in with the course files. Open MATLAB and start a new script with the following code:

```
yolo = yolov4ObjectDetector("csp-darknet53-coco");  
yoloTiny = yolov4ObjectDetector("tiny-yolov4-coco");  
  
img = imread("Rt9Frame1.png");
```

1.Question 1

Apply the *yoloTiny* detector to the Rt9Frame1.png image with the default settings. How many objects are detected?

```
[bboxes,scores,labels] = detect(yoloTiny,img);  
imgYoloTiny = insertObjectAnnotation(img,"rectangle",bboxes,labels);  
imshow(imgYoloTiny)
```



2.Question 2

Look at the labels for the detections from question one. What objects are detected? **Select all that apply.**

3.Question 3

Apply the full YOLO detector (using csp-darknet53-coco) to the image using the default "Threshold" of 0.5. How many "Car" detections are there?

```
[bboxes,scores,labels] = detect(yolo,img);
imgYolo = insertObjectAnnotation(img,"rectangle",bboxes,labels);
imshow(imgYolo)
```



4.Question 4

Use the tiny YOLO detector, but decrease the detection threshold to 0.25. How many objects are detected?

```
[bboxes,scores,labels] = detect(yoloTiny,img,Threshold=0.25);
imgYoloTiny = insertObjectAnnotation(img,"rectangle",bboxes,labels);
imshow(imgYoloTiny)
```

