Assignment 5

Sangeeta Yadav (15318)

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1 Code details

I have download the pre-trained network FasterRCNN and YOLO for object detection task. All the source codes are available here. "yolocode.ipynb" and "fasterrcnn.ipynb" contains the code for Yolo and FasterRCNN. I have taken 7 images as mentioned in the "img_url" list in the source code. Here, I am showing the results for only 2 images for a reference.

Figure 1: Object detection with FasterRCNN (left) and YOLO (right)

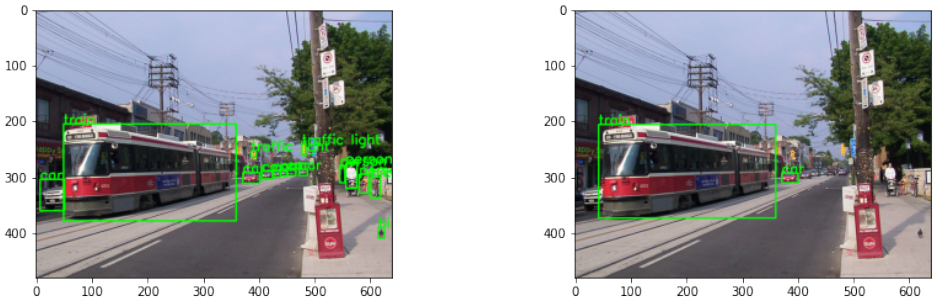

Figure 2: Object detection with FasterRCNN (left) and YOLO (right)

2 Observations

- FasterRCNN takes longer time than Yolo for inference
- Yolo detects less number of objects than FasterRCNN
- FaterRCNN is more accurate than Yolo
- YOLO has difficulty detecting objects that are small and close to each other because of having only 2 anchor boxes
- As seen in Fig. [1], [2], Yolo doesn't generalize well when objects in the image show rare aspects of ratio whereas Faster RCNN on the other hand, detects small objects well since it has nine anchors in a single grid