A Guide to the Object Detection Exercise Using YOLO Model by Soumava Dey

Abstract: Object detection is an emerging technique in the field of Computer Vision that enables us to detect and recognize objects in an image or video. Object detection can be used to count objects in a scene and track their precise locations using localization method. Like other computer vision tasks, deep learning has proven to be an exemplary method to perform object detection in AI world which enable computer to carry out image classification and localization functions together in order to detect both class and the corresponding location of a given image.

“You Only Look Once” (YOLO) is a popular detection algorithm because it achieves high accuracy while also being able to run in real-time. This algorithm “only looks once” at the image in the sense that it requires only one forward propagation pass through the network to make predictions. After non-max suppression, it then outputs recognized objects together with the bounding boxes. Benefits of YOLO: a) It’s state-of-art model with ability to perform real-time processing quickly, YOLO accesses to the whole image in predicting boundaries, b) with the additional context, YOLO demonstrates fewer false positives in background areas, c) YOLO detects one object per grid cell lead to enforcing spatial diversity in making predictions.