Homework 13

Object Detection with YOLO

Description

In this assignment, you will apply a YOLOv3 model for object detection on images using Keras. Please follow the steps described in the article [1].

Tasks

The specific steps for this HW are:

Part A (Submission deadline by the end of the class):

1. Download and save the pre-trained model weights.

Part B (Submission by coming Friday 11:59 PM):

1. Create the YOLOv3 model.
2. Make a prediction on **three** images of your choice (e.g., images of people, animals, objects etc.) and report the model's output.
3. What is the purpose of the non-max suppression?
4. You notice that the non-max suppression of the model is 0.5. Please repeat step 3 using the following values for non-max suppression: (i) 0.3, and (ii) 0.8. What do you observe?

Submission Guidelines

- Submit your working code in Teams (**both as an .ipynb and a .pdf file**)
- Upload any .zip file or folder if your code refers to the paths of those files.
- **A pdf of your report (name: HW11-Report-Firstname-Lastname.pdf) with your output and comments**

References

1. "Object Detection with YOLOv3 in Keras," https://machinelearningmastery.com/how-to-perform-object-detection-with-yolov3-in-keras/