Assignment 1

Object Detection

Dataset

Training data consists of an “img” folder, that contains the images and an “annotation.xml” file, which contains:

1. Label of the data: cow/dog
2. Bounding box coordinates: xmin/xmax, ymin/ymax

Task

The task is to create an object detection system which classifies the object and return a set of bounding box coordinates. You can use any publicly available pretrained pipeline and make modifications on top of it and finetune.

Submission

1. All your code needs to be uploaded to GitHub. It will be evaluated from there. Kaggle submission instructions will be provided soon.
2. You need to analyse your solution on “COCO evaluation metric” provided by the Tensorflow object detection API: https://github.com/tensorflow/models/blob/master/research/object_detection/metrics/coco_evaluation.py
3. You will need to write a report. Use CVPR template for writing the report. The sections for the report would be: Introduction, Related Work, Proposed Model, Experiments, and Conclusion, and References. The report would be checked for plagiarism.

Evaluation

1. 40%: Accuracy on COCO evaluation metric as suggested above. We will evaluate on a held out test dataset. The groups with top 10% accuracy would get 100% of these marks and the last 10% of groups would get 0%. Intermediate groups would be scaled and get the marks accordingly.
2. 20%: Quality of the report
3. 40%: Viva, which will evaluate the understanding of various modifications made to any existing architecture, and the novelty/impact of any new/proposed modifications.

Team

You can work in the groups of 2. However, managing the team is your own responsibility. Each member should be able to answer the questions independently from any part of the submission.

Deadline

February 28, Midnight.