Computer Vision - Assignment 4

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Deadline: 08/11/2017 11:55 PM

Total marks - 10

Task: Object detection (autorickshaw) in images. There are a total of 800 images. Use the first 600 images for Training a detector and the rest 200 for testing.

The data and bounding boxes (labels) can be downloaded from the link:
http://cvit.iiit.ac.in/autorickshaw_detection/files/auto_det_chal_train_7oct.zip

Note that you cannot post this data online. This can be used in the report with due reference.

The evaluation metric is **Intersection Over Union** for object detection. You can use the function - http://in.mathworks.com/help/vision/ref/bboxoverlapratio.html

Train_ID.m - extract features (any) and trains a classifier (can be SVM) or can be based a Nearest Neighbor or any other algorithm . (3 marks)

Test_ID.m - extract features from the Test images and predict the bouding box. (2 marks)

Latex report in BMVC format describing the approcah (2 marks).

Ranking - The results generated from Test.m from all the students will be compared and ranked. On the basis of performance of the technique marks out of a total of 3 will be awarded based on: 3 * 1 / (rank of a method).

Note:

1. Make sure that Train and Test files are self contained. Share the feature code if you use any. HOG+SVM based pedestrian detector, can be used here. However, given the availability of the trivial code and simplicity, this will be considered as a baseline method and minimal marks will be awarded across all categories above.

2. No pre-trained deep neural networks for training... You can use features from a network if you wish to. This should be clearly discussed in the report.