CSL 462/618 - Computer Vision – Dr. Abhinav Dhall
Assignment 2
Total Marks - 10
Submission Deadline - 11:55 AM Sep 11 Monday on Moodle.
Late submission policy - 10% deduction, if submitted within 24 hours post the deadline. Post 24 hours the assignment shall not be evaluated and 0 marks will be awarded.

Plagiarism
Higher-level discussion is OK, however, this is an individual assignment. Code and report will be checked for plagiarism and negative marks will be awarded in case of plagiarism.

Task - Implement the following -
1. MyCannyEdgeDetector(image, threshold) - Takes as first parameter a color image matrix. The second parameter is the threshold. The function returns and displays the output of the your own cannyedge detection implementation. Note the Matlab inbuilt edge() function cannot be used in this. You have to follow the steps of the algorithm and implement. You may use imread, imshow, conv2. Non maximal suppression and hysterisys should be performed in separate smaller functions, which are called internally by MyCannyEdgeDetector().
Marks – 3

2. MyCompareOutput(image, threshold) - Takes as first parameter a color image matrix. The second parameter is the threshold. The function compares the output of MyCannyEdgeDetector() with the Matlab edge function. Use the same threshold value for the two functions. Use the PSNR and Euclidean distance measures. The function output are - a colored difference map of the inbuilt and your Canny detector output. A blockwise summary matrix (divide image into 3 x 3 non-overlapping) of the distances between the Matlab inbuilt and MyCannyEdgeDetector outputs. Discuss the observations from the distance calculation results in the report.
Marks - 2

3 MyDetectInterest(image, threshold) - Takes as first parameter a color image matrix. The second parameter is the threshold. Use the output of MyCannyEdgeDetector() and detect interest points in it. Note that it mandatory to use the MyCannyEdgeDetector() output. Display the corners detected on the original input image and save it too. Offcourse, we cannot use the corner() and similar inbuilt Matlab functions.
Marks - 2

Please make 3 individual .m files for the three task above, where the file and function name are same. Naming convention TaskName_UniID()

Report- 2 Marks in BMVC extended abstract Latex format only.