Sabancı University
Faculty of Engineering and Natural Sciences
EE 417 Computer Vision/ EE569 3D Vision Fall 2020

Assigned: Nov. 20, 2020
Due : Nov. 26, 2020 by 23:55

Assignment #2 : Comparison of Edge Detectors

In this computational assignment, you will detect the edges in an image using the following methods and compare their relative performances in MATLAB environment.

1st Derivative Edge Detectors:

- Prewitt
- Roberts
- Canny

2nd Derivative Edge Detector:

- Laplacian of Gaussian (LoG)

Explore the MATLAB's **edge** function implemented in Image Processing Toolbox.
Do the followings:

- Create your own images or download them from the internet.
- Write a Matlab script/function where you can read the images into the Matlab's workspace.
- Call the **edge** function with various edge detectors such as 'prewitt', 'roberts', 'canny' and 'log'. E.g. edge(I, 'canny')
- Plot the original image and the edge detection result in different figures and comment on them.
- Compare performances of these edge detectors on various images.
- Provide a discussion about your results.

- Please submit a zip file which includes editable version of your report (i.e., MS Word *.docx or latex files (along with your figures)), pdf file of your report, MATLAB .m files, input image files as a .mat file.

- Please also put your MATLAB codes to the appendix of your report.