CS558 - Computer Vision

Assignment 1

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All the necessary information has been provided in the pdf itself in the form of comments and markdowns. However, a brief description of the whole assignment is as follows:

* There are four functions (excluding main function) in the code:
  + generate\_gaussian\_filter(k, sigma) – generates gaussian filter with user specified k and sigma. Returns the gaussian filter.
  + filtering(img, filter\_ip) – applies convolution to image (img) with input filter (filter\_ip). Returns the convolved image.
  + apply\_sobel\_filter(img, kernel) – applies sobel filter and computes the magnitude and direction of gradient and returns those values.
  + NMS(del\_mag, del\_dir, low, high, weak, strong) – applies non-max suppression on the image acquired by the sobel filter. Takes in the the image from the sobel filter, its orientation and the thresholding values. The pdf includes a markdown that explains the thresholding.
* The main function provides the user to choose the gaussian filter parameters and provides a choice to view any one of the three images.