# CS385 Computer Vision

## Lab-2: Spatial Filters

**(50+50) =100 points**

### Task 1:

A box filter is a simple low-pass filter that smoothens or blurs an image or signal by averaging the pixel values within a rectangular neighborhood, often represented as a square or rectangular-shaped kernel. Implement the box filer operation from scratch without using built-in functions. Verify that the results with those obtained using the built-in functions. Apply it to different gray/colour images (from the images given). Analyze the effect of changing the filter size. Also analyze the filtering with different noise level/filter size.

### Task 2:

A median filter is another type of filter used in image processing for noise reduction and smoothing. Unlike a box filter that computes the average of pixel values in a neighborhood, a median filter replaces each pixel value with the median value of the pixels in its neighborhood. Implement the median filer operation from scratch without using built-in functions. Verify that the results match those obtained using the built-in functions. Apply it to different gray/colour images (from the images given. Also analyze the filtering with different noise level/filter size.

Submission:

Demonstrate your work . Also submit as a single file the code and results.

https://u.pcloud.com/#page=puplink&code=xWakZbfsRKyj22wjgyUdoicmaehHihIK7