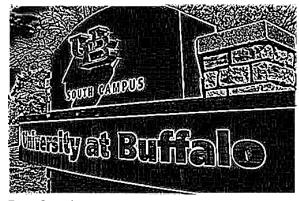
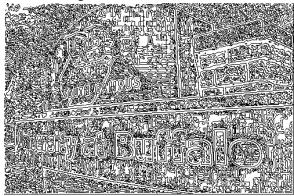
## 1) Edge Detection

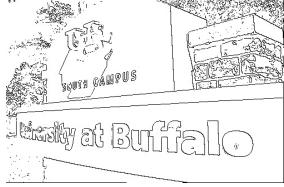
a. DoG:



b. Zero Crossing:



c. Strong Edges in zero crossing of DoG that have the support of the first derivative:



d. LoG zero crossing Edges:



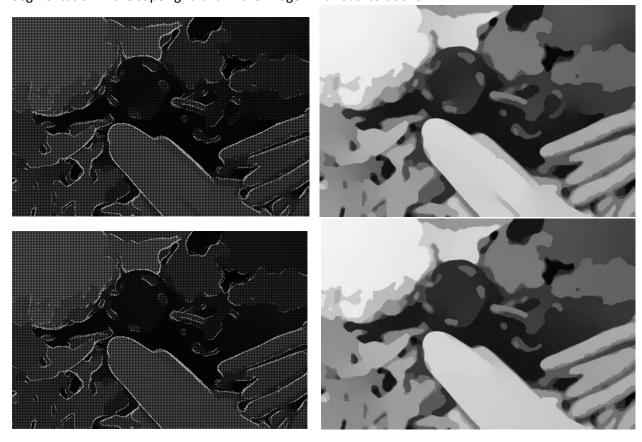
e. The images obtained above in c and d are slightly different as the shape of the Gaussian/kernels used in both cases are different. We can approximate DoG to LoG by reducing the difference between the 2 sigma values to a very low value (<1.6).

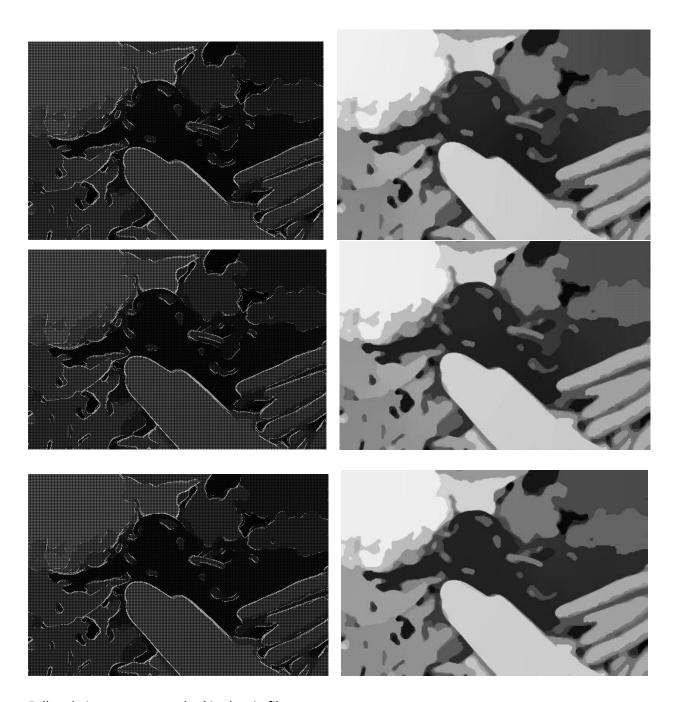
## 2) Segmentation:

a. Cut Edges:



b. Segmentation in the super-grid and in the image in various iterations:





Full scale images are attached in the zip file.

The thresholds were selected such that optimum segmentation is done and we get better and quicker segmentations.

T1's value was chosen such that we get optimum cut edges upon which we can work to get the segments

T2's value was chosen in order to merge the segments the right way by melting the proper weak edge boundaries

T3 was chosen such that the segmentation done using T2 is backed and to speed up the process.