

CS 663: Digital Image Processing

Assignment -2

Question – 3

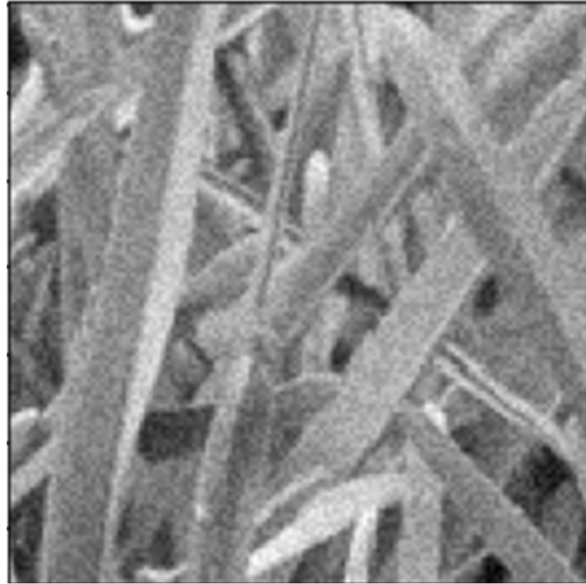
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Question – 3) Image 1 – Grass.png



Noisy Image

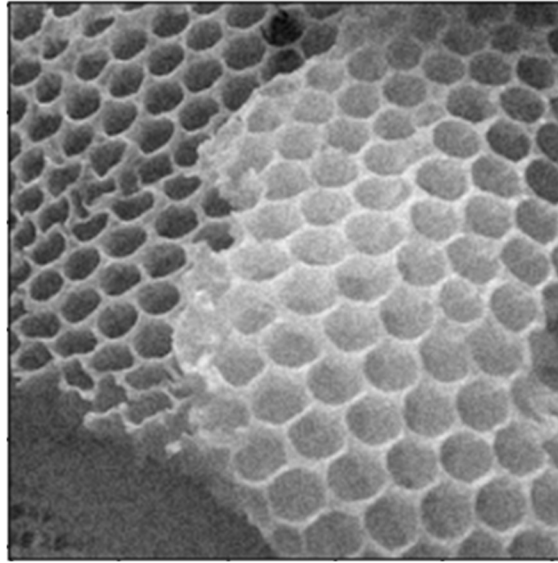


Original Image

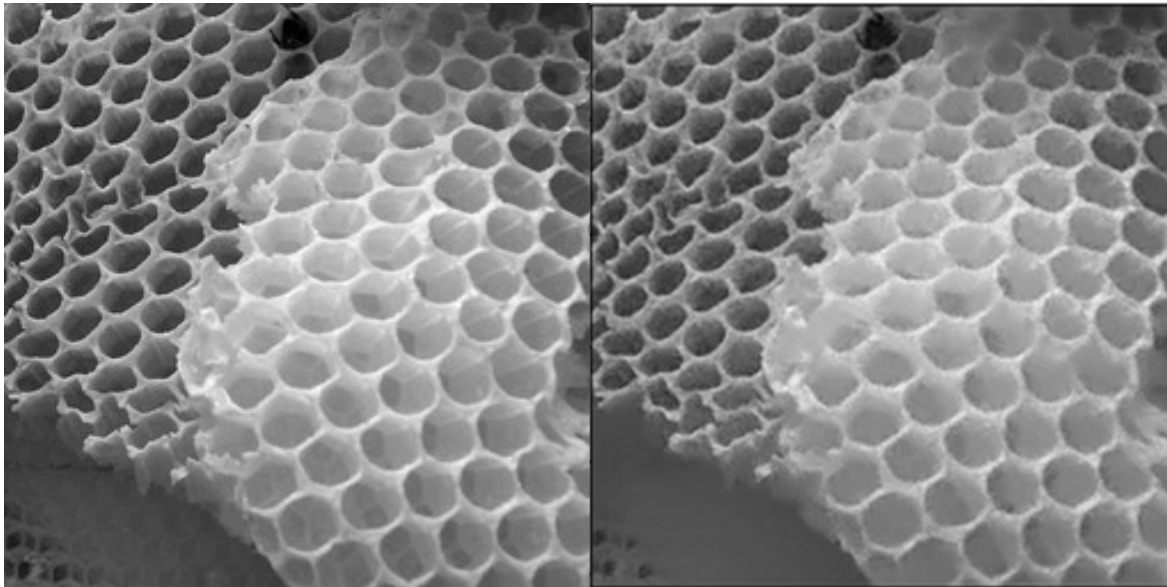
Filtered Image

Sigma Value	RMSD
0.14	146.15566155070664
0.15	146.15611631932723
0.16 (Optimal)	146.15658592921397
0.17	146.15704705405426

Question – 3) Image 2 – honeyCombReal.png



Noisy Image



Original Image

Filtered Image

Sigma Value	RMSD
0.12	137.70814505878434
0.13	137.70836566527439
0.14 (Optimal)	137.7086749752224
0.15	137.70907799246163

Question – 3) Image 3 – barbara.png



Noisy Image



Original Image

Filtered Image

Sigma Value	RMSD
0.12	78.7121468428544
0.13	78.7121468428544
0.14 (Optimal)	78.7121468428544
0.15	78.7121468428544

Remarks:

- I was not able to find a minima for RMSD in the images.
- The RMSD value was continuously decreasing with decrease in the sigma value, although the filtered image was visually getting noisier.
- Hence, I have reported a sigma value for which the image visually seemed to be closest to the original image and have also reported the RMSD value for that particular optimal sigma.