CS 663 Home Work Assignment 2

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Contents

1 Question-8

1.1 Image 1

Figure 1: Original image1 given.

Figure 2: Golbal Histogram equalised image.

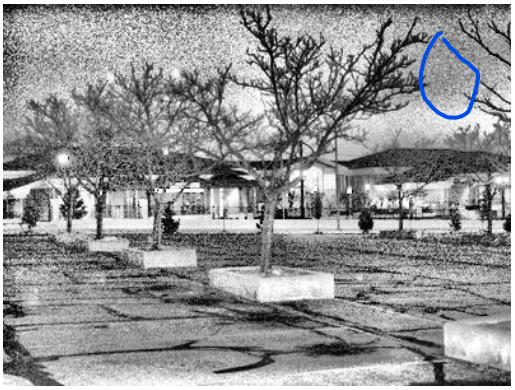

Figure 3: Local equalised histogram image of window size 71 x 71.

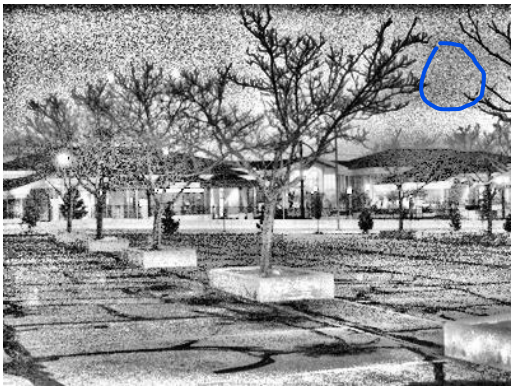

Figure 4: Local equalised histogram image of window size 51 x 51.

Figure 5: Local equalised histogram image of window size 31 x 31.

Figure 6: Local equalised histogram image of window size 7 x 7.

1.2 Image 2

Figure 7: Original image1 given.

Figure 8: Golbal Histogram equalised image.

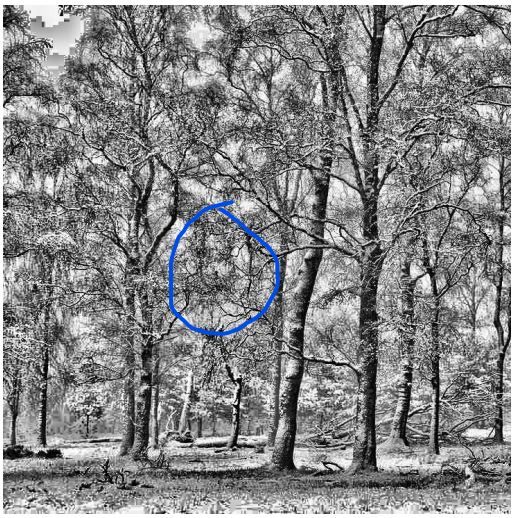

Figure 9: Local equalised histogram image of window size 71 x 71.

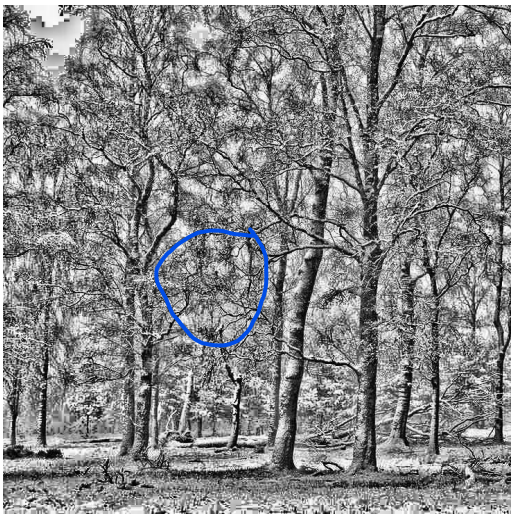

Figure 10: Local equalised histogram image of window size 51 x 51.

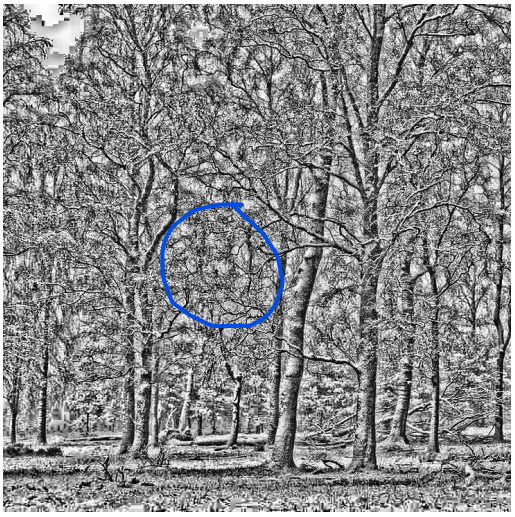

Figure 11: Local equalised histogram image of window size 31 x 31.

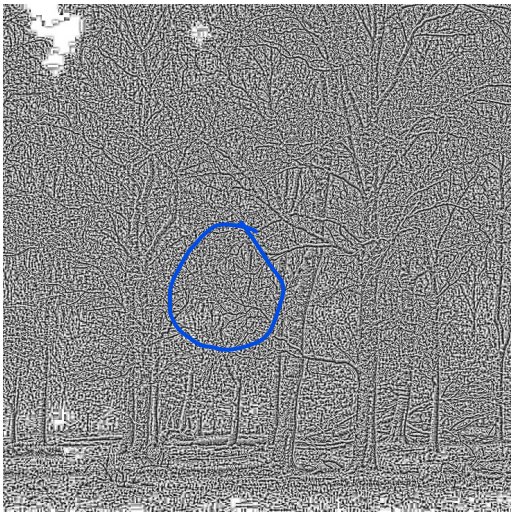

Figure 12: Local equalised histogram image of window size 7 x 7.

1.3 Comments

We can see the regions marked in blue (The right corner sky in image 1 and the central region between two trees in image2) show a high contrast in local histograms.
The local histogram takes a square matrix of given window size and does local histogram equalisation and takes central pixel intensity as intensity value at corresponding pixel of final image. So we scale the values of intensities in the window to fit whole range so they give give you a great picture of contrast when you look of contrasts of small variations which might be ignored when done globally.
For example in the first image We can see the small variations in **sky** and **branches of trees** could be seen with high contrast in local histograms. However very small window size like 7 since it has less values highligts very small change also leading to more dotted image.
In the second image we can see the lower the window size it gives high contrast between branches and also gives branches of backside trees also more clearly but the whole image may not look good as each small window might be scaled by a different factor leading to a bad look.