Assignment Midpoint filter

Model Answer

The student should deliver a method of representing an image Using Midpoint filter equation

Deliverables:

1. The code should be readable, easy to understand and not copied or download from the internet and no use of ready-made function. (3 marks).
2. Algorithm for an Midpoint filter: Pick up the neighborhood place a window over them, takes the median of a window and the midpoint between the minimum and maximum pixel values in the same window. The resulting filtered pixel value is then assigned to the center of the window. (3 marks)
   Note: Different approaches that are logically correct are accepted.
3. The code should output the original noisy image and apply the following equation to obtain the output image. (2 marks)

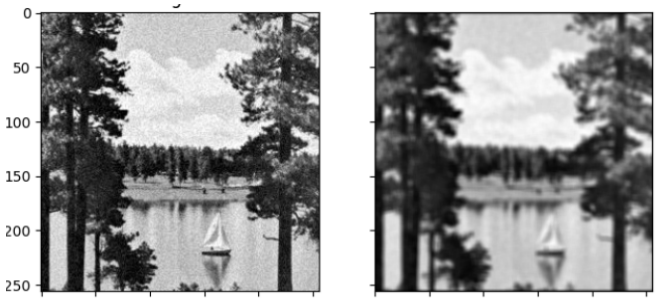
Midpoint filter

$$\hat{f}(x,y) = \frac{1}{2}\left[\max_{(s,t)\in S_{xy}}\{g(s,t)\} + \min_{(s,t)\in S_{xy}}\{g(s,t)\}\right]$$

4. The output of this process should be correct and as demonstrated in the lecture and lab. (2 mark)

(Total marks 10 marks)

Output example.


0
50
100
150
200
250