

# Image sharpening :

The following are the outputs obtained from the function we've implemented for Image Sharpening.

1. lionCrop : The first image depicts the original and sharpened image before applying any sort of linear contrast on the image. And the second images depict the original image which has been linear contrasted to  $[0, 1]$  and the sharpened image which has also been linear contrasted to  $[0, 1]$

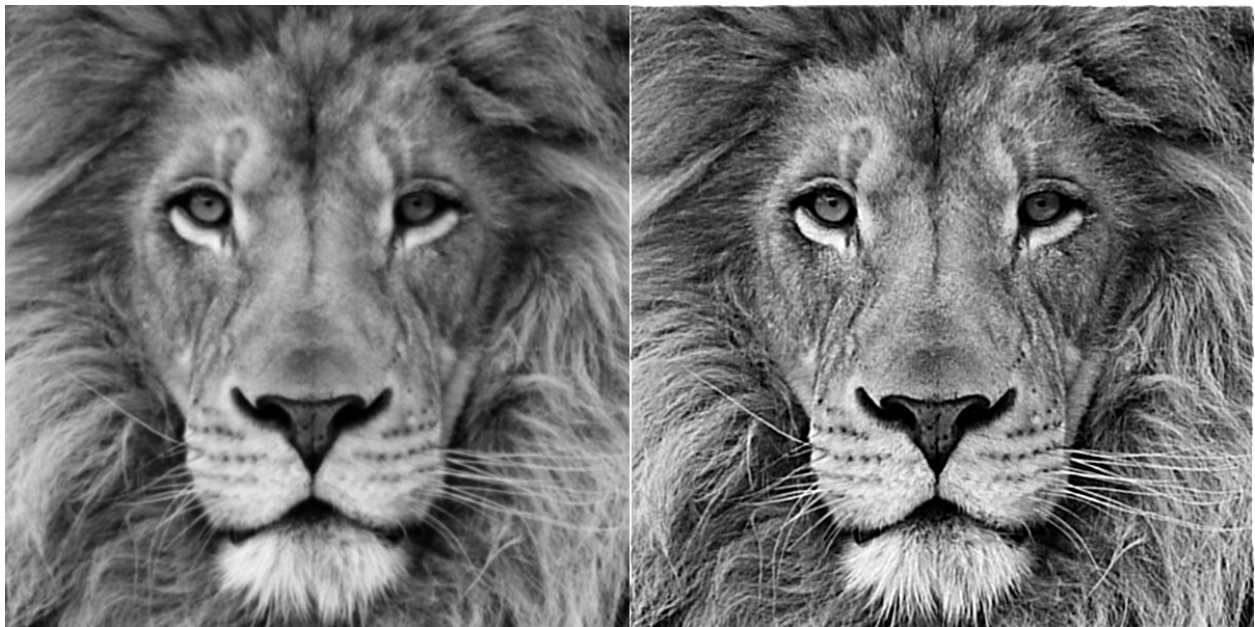
The features I found the best are the following :

Filter size : 8

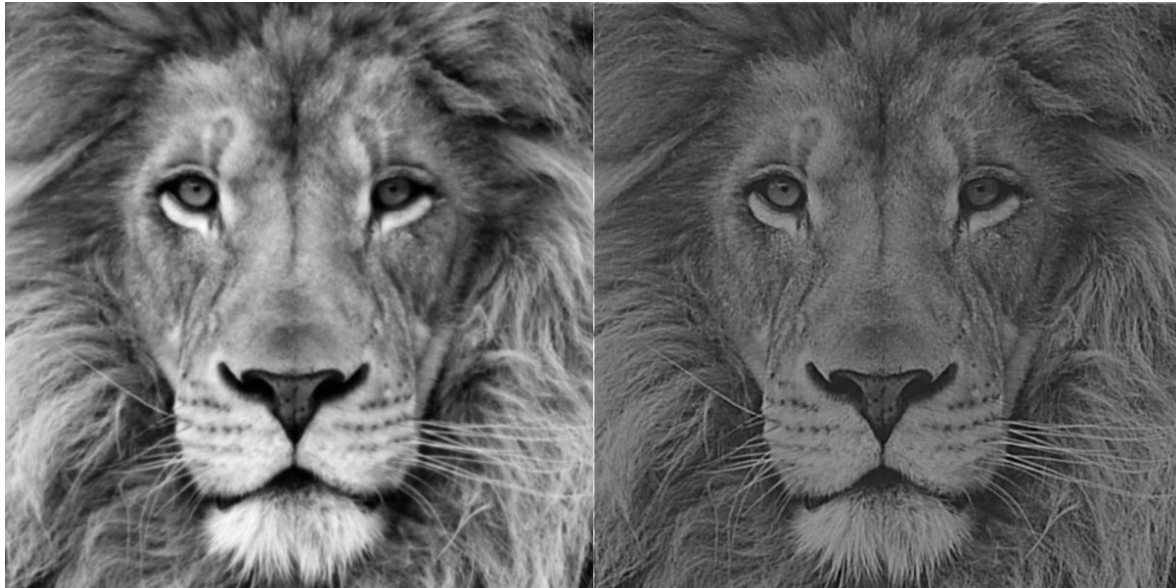
Standard deviation : 1.1

Extent of Sharpening/Multiplying factor : 3

**Original and Sharpened image of Lion without applying Linear Contrast**



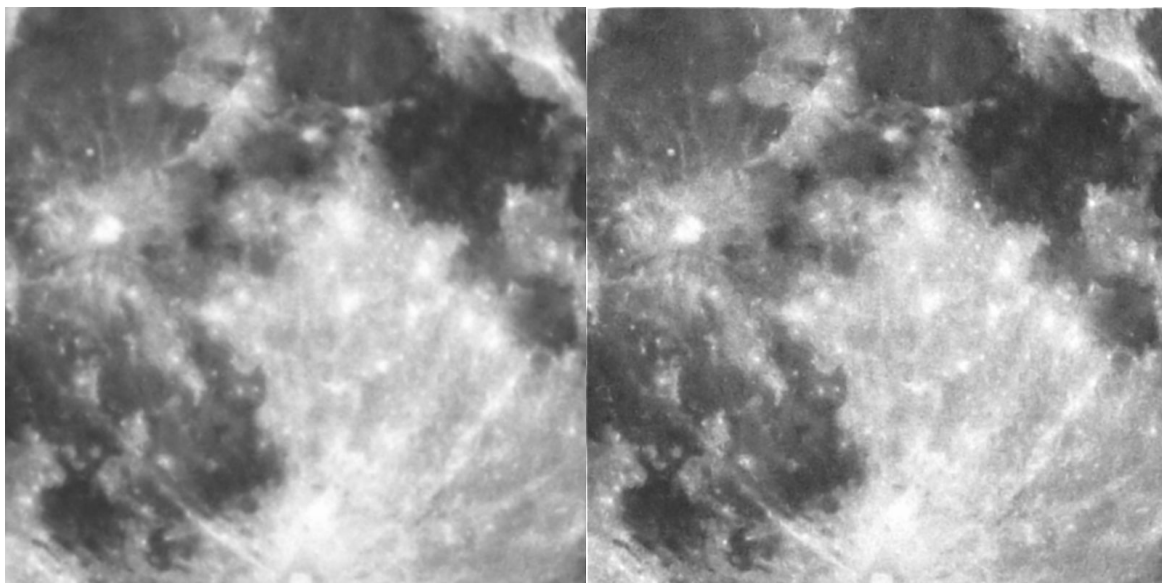
**Original and Sharpened image of Lion after applying Linear Contrast**



It is clearly seen that the whiskers and the hair of the lion is finely clear and sharp in the second images. Whereas, the first images doesn't show such sharp features.

2. superMoon :

**Original and Sharpened image of Super Moon before applying Linear Contrast**



The sharpened image on the right has more visible and sharp features as compared to the original one. The optimum parameters I found are :

Filter size = 7

Standard deviation = 2

Extent of sharpening/multiplying factor = 2

**Original and Sharpened image of Super Moon after applying Linear Contrast**

