Abstract

Noise in images has become one of the significant concerns in digital image processing. Many digital image based techniques produce inaccurate results when noise is presented in the digital images. So many researchers have proposed new and modified techniques so far to reduce or remove noise from images. Different kind of enhancement in the filters has been proposed so far. But most of filters put artefacts while doing their work. Many filters fail when noise density in the images is very high. Some filters results poor for edges. This paper has proposed a new improved NSA based switching median filter which has the capability to decrease the high density of the noise from images and also outperforms over others when input image is noise free. The proposed method has also ability to preserves the edges by using the gradient based smoothing. The proposed technique has been designed and implemented in MATLAB tool using image processing toolbox. Different kind of the digital images has been taken for experimental purpose. Comparative analysis has shown that the proposed algorithm is quite effective over the available techniques.

References

Index Terms

Computer Science

Algorithms

Keywords

Median filter Salt and pepper noise Negative Selection Algorithm