Abstract

In the field of image processing, elimination of noise from digital images plays a vital role. Effective detection of noisy pixel based on median value and an efficient algorithm for the estimation and replacement of noisy pixel has been carried out in this proposed method in which replacement of noisy pixel is carried out twice, which results in better preservation of image details. The presence of high performing detection stage for the detection noisy pixel makes the proposed method suitable in the case of high density random valued impulse noise, hence the proposed method yields better image quality with improved peak signal to noise ratio (PSNR) and reduced mean square error (MSE). Results of proposed method has been compared with many other standard median based switching filters in terms of visual and quantitative measures and the performance of the proposed method is presented.

References


Index Terms

Computer Science
Signal Processing
Keywords

Mean square error, Peak signal to noise ratio, Random valued impulse noise; switching median filter.