Abstract

In the present communication system, digital images can represent most of the Visual information efficiently. In the process of communication images are generally corrupted during coding, transmission and reception. The noise presence during image acquisition results in faulty analysis of the images. This faulty analysis leads to incorrect restoration of original image. Hence, image denoising should be perfectly performed to improve the quality of image for more precise diagnosis. Wavelet based shrinkage denoising will best restore the Visual content from noisy data. A new thresholding function for image denoising is proposed in this research paper. This proposed function is applied on the additive white Gaussian noise corrupted images using VISU, false discovery rate and translation invariant shrinkage rules. Performance of this new method is compared with existing hard, soft and SCAD thresholding functions using feature measure parameters like root mean square error (RMSE) and peak signal to noise ratio (PSNR). From the analysis, the new limiting function has a superior performance than all other existing thresholding functions in VISU, false discovery rate and translation invariant methods.
Non-Linear Denoising of Images using Wavelet Transform

References


Index Terms

Computer Science

Image Processing

Keywords

Image acquisition, wavelet based shrinkage denoising, new thresholding function, additive white Gaussian noise, root mean square error (RMSE) and peak signal to noise ratio (PSNR).