Abstract

In this paper, a hybrid image denoising method that is based on locally adaptive window-based maximum likelihood (LAWML) and NeighShrink. The LAWML is doubly stochastic process models which denoise an image by exploiting the dependency of local wavelet coefficients within each scale. The LAWML needs a global optimal neighboring window. The NeighShrink thresholding scheme uses the immediate neighboring coefficients based on block thresholding. It uses a suboptimal universal threshold and identical neighbouring window size in all wavelet subbands. The NeighShrink and LAWML always produce an over-smoothed image like the Weiner filter in which many of the detail coefficients are lost during threshold evaluation. This proposed method overcomes these disadvantages and, as a result, it provides significant improvement in visual quality i.e. Peak-to-Signal Noise Ratio (PSNR) of a noisy image.

References


**Index Terms**

- Computer Science
- Signal Processing
Keywords
Image Denoising  Thresholding  LAWML  NeighShrink  Peak-to-Signal Noise Ratio (PSNR)