Abstract

Wavelet transforms enable us to represent signals with a high degree of scarcity. Wavelet thresholding is a signal estimation technique that exploits the capabilities of wavelet transform for signal denoising. The aim of this paper is to study various thresholding techniques such as Sure Shrink, Visu Shrink and Bayes Shrink and determine the best one for image denoising. This paper presents an overview of various threshold methods for image denoising. Wavelet transform based denoising techniques are of greater interest because of their performance over Fourier and other spatial domain techniques. Selection of optimal threshold is crucial since threshold value governs the performance of denoising algorithms. Hence it is required to tune the threshold parameter for better PSNR values. In this paper, we present various wavelet based shrinkage methods for optimal threshold selection for noise removal.
- David L. Donoho, Iain M. Johnstone, Gérard Kerkyacharian, Dominique Picard 1993 "Wavelet Shrinkage: Asymptopia".
- Lakhwinder Kaur, Savita Gupta and R. C. Chauhan, "Image Denoising using Wavelet Thresholding".
- Leavline, E. J.; Sutha, S 2011, "Gaussian noise removal in gray scale images using fast Multiscale Directional Filter Banks"; IEEE International Conference on Recent Trends in Information Technology (ICRTIT-2011) pp 884 - 889

Index Terms

Computer Science Image Processing

Keywords

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