Abstract

In the Medical image preprocessing image denoising is a basic analysis step to provide a processed image from the raw image and it typically needs a previous application of filters to cut back the noise level of the image, whereas conserving necessary details, which can improve the standard of digital mammography images associated contribute to efficient diagnosing. From the literature, we are able to realize an outsized quantity of de-noising techniques available for various forms of images. We got some of the prevailing denoising algorithms for mammography images. Proposed work compares several denoising techniques for mammographic images we tend to compare the impact of various denoising filters engaged on
Noise Reduction from Mammography using Wavelets

digitized mammograms. The considered filters are: Median, Gabor, DWT (separable, real, complex Dual-Tree) filters accustomed takes away the random noise that was added at the time of acquisition of mammography image. The results are experimented on Digital Database for Screening Mammography (DDSM) using MATLAB. The noise reduction is measured by the Root Mean Square Error (RMSE) and Peak Signal to Noise Ratio (PSNR) which illustrates the denoising capability for all methods the complex Dual-Tree DWT technique is that the best denoising technique for mammography image.

References

- Shihua Cai & Keyong Li, "Matlab implementation of Wavelet transform," http://eeweb.poly.edu/iselesni/WaveletSoftware/denoise.html
- The Digital Database for Screening Mammography, Michael Heath, Kevin Bowyer, Daniel Kopans, Richard Moore and W. Philip Kegelmeyer, in Proceedings of the Fifth


**Index Terms**

Computer Science

Wireless

**Keywords**

Discrete Wavelet Transform (dwt)  Complex Dual-tree Dwt  Root Mean Squared Error (rmse)  Threshold Point.