Abstract

Removing noise from the original medical image is still a challenging research in image processing. This paper presents a new method for speckle noise reduction in Optical coherence Tomography (OCT). Stationary wavelet transform (SWT) is employed to provide effective representation of the noisy coefficients. Nonlinear Anisotropic filtering of the Details coefficients improves the denoising efficiency and effectively preserves the edge features while wiener filter improves to denoising approximate coefficients. The performance of the proposed method is compared with Nonlinear Anisotropic filter, Wiener filter, Lee filter and Frost filter and analyzed based on the peak signal-to-noise ratio (PSNR).

References


- Yoshikazu Washizawa, Yukihiro Yamashita, Non-linear Wiener filter in reproducing kernel Hilbert space, in: Proceedings of the 18th International Conference on Pattern Recognition, ICPR’06


**Index Terms**

Computer Science

Image Processing
Keywords

image denoising  wavelet transform  Optical coherence Tomography  Nonlinear  Anisotropic filter