Abstract

Filtering is Prime important processes in Medical Image processing applications. Any post processing process aims in the removal of unwanted noise which usually corrupts the image quality and perception. This research paper focuses on searching effective De noising filters for post processing of Fractal compressed Images on Medical Images like CT of Bone, MR Images of Brain, Mammograms, Ultrasound Images of uterus. In this work Fractal Image Compression (FIC) a lossy compression scheme based on contractive mapping theorem is employed to map the Range blocks and Domain blocks by using the property of self similarity in the images. We have used two types of filters namely anisotropic diffusion filter and bilateral filter for the removal of noise in Medical images. The Peak signal to noise ratio (PSNR) was measured after applying the two different filters and a comparative analysis of PSNR values before and after filtering was recorded. The simulated results obtained showed an increase in PSNR value for bilateral filter than with anisotropic filter and also the quality of the image was improved.

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Index Terms

Computer Science Image Processing
Keywords

Fractal Theory, Iterated Function systems, quad-tree, Range blocks, Filtering, Isotropic filters, Bilateral filters, medical imaging, PSNR