

An Algorithm for Removal of Noise from X-Ray Images

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Abstract : In this paper, we propose an approach to remove impulse and Poisson noise from X-ray images. Many filters have been used for impulse noise removal from color and gray scale images with their own strengths and weaknesses but X-ray images contain Poisson noise and unfortunately there is no intelligent filter which can detect impulse and Poisson noise from X-ray images. Our proposed filter uses the upgraded layer discrimination approach to detect both Impulse and Poisson noise corrupted pixels in X-ray images and then restores only those detected pixels with a simple efficient and reliable one line equation. Our Proposed algorithms are very effective and much more efficient than all existing filters used only for Impulse noise removal. The proposed method uses a new powerful and efficient noise detection method to determine whether the pixel under observation is corrupted or noise free. Results from computer simulations are used to demonstrate pleasing performance of our proposed method.

Keywords : X-ray image de-noising, impulse noise, poisson noise, PRWF

Conference Title : ICIPCVPR 2016 : International Conference on Image Processing, Computer Vision, and Pattern Recognition

Conference Location : Kuala Lumpur, Malaysia

Conference Dates : August 18-19, 2016