Open Innovations Conference (OI), Cape Peninsula University of Technology, South Africa, 2-4 October 2019

A review of wavelet transform based techniques for denoising latent fingerprint images

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Abstract

Authentication systems robustness can be affected by the fingerprint image quality. Fingerprint image denoising is essential for better performance of any authentication system. In this paper, most recent wavelet transform based techniques for fingerprint image denoising are reviewed. It is observed that there are four important components of wavelet transform based denoising techniques. These important components include wavelet filter, thresholding rule, threshold value computation method and the level of decomposition. The stationary wavelet transform and the weighted median are recommended over conventional discrete wavelet transform and median estimator.