Abstract

The proposed method provides copyright protection for digital images. This watermarking algorithm embeds a logo invisibly into the colour biomedical image which is decomposed using bi-orthogonal wavelet transform using two pn-sequences. Bi-orthogonal wavelets have the property of perfect reconstruction and smoothness. The colour cover image is decomposed into R, G, B channels and blue channel is selected for watermarking. The blue channel is decomposed into n-levels using bi-orthogonal wavelet transform and mid-frequency bands LH and HL are selected for embedding. The prosed method is verified for different cover images and with different watermaks. The robustness of this algorithm is tested against various types of image processing operations and geometric attacks such as Salt and pepper noise, Gaussian noise, Poisson noise, Compression, Rotation, Scaling and Cropping.
Reference

- Roland Kwitt and Peter Meerwald and Andreas Uhl, “Colour-image watermarking using multivariate power-exponential distribution” Department of Computer Sciences University of Salzburg, A-5020 Salzburg, Austria.

Index Terms

Computer Science

Security

Key words

Bi-orthogonal wavelets

bio-medical images
digital

watermarking
Peak Signal to Noise ratio

Normalized Cross Correlation

Geometrical attacks and image processing operations