Abstract

In digital watermarking, an invisible signal referred as a watermark is embedded into multimedia data for various purposes such as copyright protection, fingerprinting, authentication etc. For applications where the availability of original data is essential, irreversible degradation of the original data is not acceptable and incurred distortions need to be removed. Examples of such applications include multimedia archives, military image processing, and medical image processing for electronic patient records (EPRs).

High capacity watermarking is proposed in the paper and implemented using integer to integer wavelet transform. The proposed scheme divides an input image into non-overlapping
blocks and embeds a watermark into the high frequency wavelet coefficients of each block. The conditions to avoid both underflow and overflow in the spatial domain are derived for an arbitrary wavelet and block size. The experimental results show that the implemented scheme achieves higher embedding capacity while maintaining distortion at a lower level than the existing invertible watermarking schemes.

Reference

- JPEG2000 STILL IMAGE CODING SYSTEM AN OVERVIEW BY Charilaos Christopoulos1 Senior Member, IEEE, Athanassios Skodras2 Senior Member, IEEE, and Touradj Ebrahimi3 Member, IEEE.
- Sunil Lee (student member IEEE), Chang D. Yoo (Member IEEE) and Ton Kalker (Fellow IEEE)“Reversible Image watermarking based on integer to integer wavelet transform.”

Index Terms

Computer Science Multimedia

Key words

Invertible Watermarking Wavelet Transform Watermark

embedding

extraction