Abstract

Digital watermarking is a technique of embedding some information (usually hidden copyright notices) into an image. Number of applications has been found in various fields like copyright protection, content authentication, document annotation, medical imaging. So, an enhanced semi-blind, hybrid digital image watermarking scheme based on discrete wavelet transform (DWT) and singular value decomposition (SVD) is our proposed approach in this paper. To increase and control the strength of the watermark, we used a scale factor. our proposed approach, the watermark is not embedded directly on the wavelet coefficients but rather than watermark wavelet coefficient are inserted on singular values of the cover images with modifying wavelet transform (DWT) HL1 sub band. Experimental results clearly show that this proposed scheme is quite resilient to various image processing attacks.

References

- Kiyoshi Tanaka, Yasuhiro Nakamura and Kineo Matsui, "Embedding Secret
Enhanced Digital Image Watermarking Scheme based on DWT and SVD

- Ahmed Salama, Randa Atta, Rawya Rizk and Fayez Wanes &quot;A Robust Digital Image Watermarking Technique Based on Wavelet Transform;&quot;
- Poonkuntran, R. S. Rajesh 2011. &quot;A Messy Watermarking for Medical Image Authentication. &quot; 2011 IEEE
- Sanaz Shahraeini and Mahdi Yaghoobi 2011. &quot;A Robust Digital Image Watermarking Approach against JPEG Compression Attack;&quot;
- Dan Kalman, &quot;A Singularly Valuable Decomposition: The SVD of a Matrix;&quot;


Index Terms

Computer Science

Image Processing
Keywords
Watermarking  Wavelet transform  Scale factor (SF)  singular value decomposition (SVD)
Peak signal to noise ratio (PSNR)
Normalized cross correlation (NCC)