Abstract

Due to use of the latest computer technology in early days with wide available tools with various advance application, it is very easy for the unknown users to produce illegal copies of multimedia data which are floating across the Internet. To protect multimedia data such as images, videos, etc. on the Internet many techniques are available including various encryption techniques, steganography techniques, watermarking techniques and information hiding techniques. Digital watermarking is a technique in which a piece of digital information is embedded into a cover image and extracted later for ownership verification. Secret digital data which is hidden can be embedded either in spatial domain or in frequency domain of the cover data. In this paper frequency domain technique is used by using singular value decomposition (SVD) with existing method DWT (Discrete Wavelet transform) that is DWT-SVD Combine watermarking technique and proposed method includes stationary wavelet transformation (SWT) with SVD that is SWT-SVD based water marking technique is proposed for hiding watermark. The quality of the watermarked image and extracted watermark is measured using peak signal to noise ratio (PSNR). A user defined or predefined watermark can be embedded
within the image without disturbing quality of the image. It is observed that the quality of the watermarked image is maintained of proposed method results are tested for various attacks which include Salt and Pepper noise, Gaussian noise, cropping and compression, rotation etc. for both DWT and SWT for high. Robustness. A large payload can also be embedded in this proposed algorithm. SWT-SVD result PSNR is get improved as compare to DWT-SVD. In this paper Both the Methods are Implemented by Using MATLAB and Comparative Experimental Results are Reported.

References

9. Emir Ganic, Ahmet M. Eskicioglu “Robust DWT-SVD Domain image watermarking: Embedding Data in all Frequencies”

Index Terms

Computer Science  Image Processing

Keywords
Watermarking, Stationary wavelet transformation (SWT), Singular Value Decomposition (SVD), Discrete Wavelet Transform (DWT), MSE (mean square error), PSNR (peak signal to noise ratio), large payload, Robustness