Abstract

In this paper an improved method for reversible watermarking is proposed. This scheme is the combination of entropy masking and histogram. One first contribution is entropy masking which has three techniques. From three of them dwt is used for the watermarking. Entropy masking is also a human visual system’s characteristic, which rarely has been addressed in visual models. The second contribution is a histogram shifting. This will show the histogram of the different images. In that way the watermark embedded and extractor remain synchronized for message extraction and image reconstruction. In this paper a universal entropy masking model is proposed for watermarking embedding algorithm to keep the balance between watermarks’ imperceptibility and also its robustness. Also the results are concluded from the experiments that a suitable domain of entropy calculation will result in optimal watermarking performance. For the implementation of this proposed work, the Matlab software is used under image processing toolbox.

References

- Gouenou Coatrieux, Wei Pan, Nora Cuppens-Boulahia. "Reversible
Reversible Watermarking based on Entropy Masking with Histogram Shifting

Watermarking Based on Invariant Image Classification and Dynamic Histogram Shifting; IEEE transactions on information forensics and security, vol. 8, no. 1, Jan 2013.


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Digital Watermarking Entropy Entropy Masking Histogram Shifting PSNR (peak signal to noise ratio).