A Robust Watermarking Scheme for Digital Video Sequence using Entropy and Hadamard Transformation Technique

Abstract

In this paper, a robust watermarking scheme for digital video sequence which is based on Entropy concept and Hadamard transformation technique is proposed. The proposed technique can hide an entire image or pattern as a watermark directly into the original video sequence. Hadamard transformation is used for converting cover video from spatial domain to transform domain in order to reduce the computational complexity of the proposed algorithm. Similarly for preserving the quality of the digital video, the entire video blocks are not altered for embedding. Instead only few blocks are selected and used based on the size of the watermark and information content of the video block. Entropy concept is used for selecting those video blocks. The proposed algorithm is tested with rugby video sequence containing 209 frames and watermark of size 64x64 using MATLAB software. The experimental results show that the proposed scheme is robust to random noise addition attacks such as Salt and Pepper, Gaussian, Poisson and Speckle.

References

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**Index Terms**

Computer Science  Multimedia Security

**Keywords**

Digital Video Watermarking  Hadamard Transform Based Watermarking  Entropy Based Watermarking  Transform Domain Watermarking