A Variance based Approach (VBA) Digital Watermarking in Frequency Domain and Comparative Analysis using Walsh and Hadamard transform

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Abstract

The paper introduces a Digital Image Watermarking technique based on Transform domain. The purpose of doing the watermarking in transform domain is to give more robustness in the watermarking process looking into its fast real time implementation and also the computational complexity which comes often in the implementation process. In the proposed algorithm, a binary watermark is embedded in a grayscale image(cover image). The cover image is segregated into blocks of high and low variances. The cover image is transformed into frequency domain and comparative higher variance blocks are considered for embedding the binary watermark. Integer portion of the transformed DC co-efficients of the considered blocks undergoes binary conversion and binary bits of watermark are embedded in those co-efficients. Both Walsh Transform and Walsh Hadamard transform are used for frequency domain conversion of the image and to make a comparative study as well. Software simulation of the algorithm is done using MATLAB

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**Index Terms**

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**Keywords**

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