

Abstract

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A Robust Directional Filter Bank-Based Self Image Logo Watermarking Scheme Using Scalar Quantizer

in this paper, a robust watermarking scheme is proposed to embed a watermark in the detailed sub-bands of a directional filter bank (dfb) decomposition of an image using a quantization process. the proposed approach uses the dfb to overcome the lack of directionality associated with discrete wavelet transform (dwt). thus, it achieves more robustness than dwt-based methods. the algorithm starts by generating a binary logo watermark which is permuted/embedded by using the blind self image logo watermarking (silw) algorithm. the robustness of the proposed algorithm is verified against a variety of attacks including watermark removal/synchronization removal attacks. the proposed scheme is compared with a dwt-based blind silw. the results show that the directional frequency domain gives better robustness under similar embedding conditions than wavelet domain.