A Quasi Blind Watermark Extraction of Watermarked Natural Preserve Transform Images

OMAR ELFAROUK MAMDOUH IBRAHIM FOUAD FAHMY ,M. F. Fahmy; G. Fahmy

Abstract

The natural preserve transform (NPT) has been presented as a tool for fuzzy logic watermarking. This paper describes a new image watermarking technique based on naturalness preserving transform (NPT). The proposed watermarking scheme uses NPT to encode a gray scale watermarking logo image or text, into a host image at any location. This paper presents efficient non-blind and quasi-blind watermark extraction techniques. In the quasi blind case, the extraction algorithm requires only very few information about the original image that is already conveyed by the watermarked image. Moreover, the proposed scheme does not introduce visual quality degradation into the host image. The performance and robustness of the proposed technique are tested by applying common image-processing operations such as cropping, noise degradation, and image compression. A quantitative measure is proposed to objectify performance; under this measure, the proposed technique outperforms most of the recent techniques in most cases.

2009 16th IEEE International Conference on Image Processing (ICIP) 2009, November