

A Novel Fractional-Discrete-Cosine-Transform-Based Reversible Watermarking for Healthcare Information Management Systems

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Abstract

Digital watermarking is a good tool for healthcare information management systems. The well-known quantization-index-modulation--QIM-based watermarking has its limitations as the host image will be destroyed; however, the recovery of medical image is essential to avoid misdiagnosis. A transparent yet reversible watermarking algorithm is required for medical image applications. In this paper, we propose a fractional-discrete-cosine-transform--FDCT-based watermarking to exactly reconstruct the host image. Experimental results show that the FDCT-based watermarking is preferable to the QIM-based watermarking for the medical image applications.

Keyword : Fractional DCT, Watermark, Healthcare, QIM