Generic Lossless Visible Watermarking A New Approach

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ABSTRACT

A novel method for generic visible watermarking with a capability of lossless image recovery is proposed. The method is based on the use of deterministic one-to-one compound mappings of image pixel values for overlaying a variety of visible watermarks of arbitrary sizes on cover images. The compound mappings are proved to be reversible, which allows for lossless recovery of original images from watermarked images. The mappings may be adjusted to yield pixel values close to those of desired visible watermarks. Different types of visible watermarks, including opaque monochrome and translucent full color ones, are embedded as applications of the proposed generic approach. A two-fold monotonically increasing compound mapping is created and proved to yield more distinctive visible watermarks in the watermarked image. Security protection measures by parameter and mapping randomizations have also been proposed to deter attackers from illicit image recoveries. Experimental results demonstrating the effectiveness of the proposed approach are also included.
EXISTING METHOD:

Lossless reversible visible watermarking, mapping randomization, one-to-one compound mapping, parameter randomization, translucent watermark, two-fold monotonically increasing.

DEMERIT:

- It is invisible.
- One-to-one and one-fold monotonically increasing.
PROPOSED METHOD:

new approach to lossless visible watermarking, Reversible One-to-One Compound Mapping, Lossless Visible Watermarking Scheme, Security Considerations, lossless visible watermarking of opaque monochrome watermarks, lossless visible watermarking of translucent color watermarks, two-fold monotonically increasing compound mapping,

MERITS:

- It is a visible.
- It is digital watermarking.

Applications:

- Include forensics, medical image analysis, historical art imaging, or military applications