

A DIGITAL IMAGE STEGANOGRAPHY: SOFTWARE & HARDWARE APPROACH

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ABSTRACT

Information hiding is a technique that inserts secret messages into a cover file, so that the existence of the messages is not apparent. Research in information hiding has tremendously increased during the past decade with commercial interests. Information hiding techniques that are used today include watermarking and Steganography. The major concern of watermarking is to protect the ownership of a digital content, while Steganography is to embed secret messages into digital content so that the secret messages are not detectable. Although many Steganography techniques have been developed for digital images, most of them are irreversible. That is, the original image cannot be recovered to its original state after the extraction of secret data. A lossless or reversible Steganography is defined as an original image can be completely recovered from the stego-image after the embedded data has been extracted. This technique has been focused on spatial uncompressed domain recently which include Least Significant Bit algorithm (LSB), and is considered more challenging to carry out in the compressed domain. In this, we propose a lossless, compressed domain Steganography technique for compressed images based on the Discrete Wavelet Transform (DWT). The stego-image preserves the same image quality as the original compressed images. The results taken with the help of both approaches (i.e. software and hardware) are differing by some little values.

KEYWORDS: Discrete Wavelet Transform, Least Significant Bit (LSB) Algorithm, Spatial Domain, Steganography