The Secure Lossless Compression Scheme for Grayscale Medical Images Using PBT and Modified Steganography

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Abstract:

This paper presents a new and secure compression scheme without the loss of data. Theproposed scheme is developed for grayscale medical images. It has been segregated into two divisions/phases. In phase-I, the secret medical image is encoded by the proposed modified steganography. In phase-II, the encoded image is compressed by the proposed pixel block compression technique. This paper is describes the phase-II of encoded image compression. The proposed compression is divided into four types of processes. Those processes are segregation, shuffling, conversion and encode. The significant of this technique is that, the image pixels positions are interchanged as much as possible within the image itself. Due to these processes, the proposed technique is achieved the high complexity. However, it's not an easy task to retrieve the same image by third parties. In addition, the proposed compression technique is providing lossless compression, 60% of the size can be reduced from the original image size, minimum execution time than the existing methods and the exact replica (100%) of the image can be retrievedfrom the reconstruction process.

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