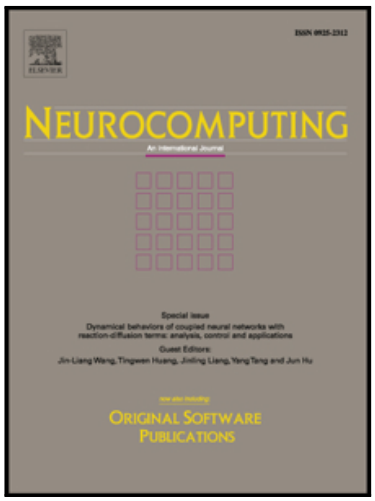

Image Compression Techniques: A Survey in Lossless and Lossy algorithms.

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Image Compression Techniques: A Survey in Lossless and Lossy algorithms.

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ABSTRACT

The bandwidth of the communication networks has been increased continuously as results of technological advances. However, the introduction of new services and the expansion of the existing ones have resulted in even higher demand for the bandwidth. This explains the many efforts currently being invested in the area of data compression. The primary goal of these works is to develop techniques of coding information sources such as speech, image and video to reduce the number of bits required to represent a source without significantly degrading its quality.

With the large increase in the generation of digital image data, there has been a correspondingly large increase in research activity in the field of image compression. The goal is to represent an image in the fewest number of bits without losing the essential information content within**.** Images carry three main type of information: *redundant*, *irrelevant*, and *useful*. Redundant information is the deterministic part of the information, which can be reproduced without loss from other information contained in the image. Irrelevant information is the part of information that has enormous details, which are beyond the limit of perceptual significance (i.e., psychovisual redundancy). Useful information, on the other hand, is the part of information, which is neither redundant nor irrelevant. Human usually observes decompressed images. Therefore, their fidelities are subject to the capabilities and limitations of the Human Visual System.

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