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**Abstract**

Image compression addresses the problem of reducing the amount of data required to represent a digital image. The underlying basis of the reduction process is the removal of redundant data. In this paper, we carry out a study on the digital image coding and compression, and proposed a digital image coding scheme which is a development of the

Huffman's data coding algorithm. The proposed coding algorithm is an efficient data coding and compression method that offers high-speed bit data transmission and a secured image processing. We demonstrate the efficiency of the proposed coding algorithm by showing that it generates optimal prefix that is simpler and generates shorter code length per character and less average code length compared to the Traditional Huffman's coding algorithm. The design of an encoder and a decoder pair is carried out in MATLAB programming language and the results of the MATLAB simulation demonstrate the security ability of the proposed image coding scheme.

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### Index Terms

Computer Science

Image Processing

**Key words**

Coding

Compression

Redundant  
Prefix

Huffman's Algorithm

Code length

Encoder

Decoder

