

Image Encryption and Compression using Embedding Technique

Submitted in partial fulfillment of the requirements for the degree of

Master of Philosophy

by

Jithy Varghese

(Roll No.0935007)

Supervisor

Prof C.N Rajeshwari



CHRIST
UNIVERSITY

Department of Computer Science
CHRIST UNIVERSITY BANGALORE

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Declaration

I hereby declare that the dissertation entitled '**Image Encryption and Compression using Embedding Technique**' submitted for the Mphil Degree is my original work and the dissertation has not formed the basis for the ward of any degree, associate ship fellowship or any other similar titles.

Place: Bangalore

Jithy Varghese

Date:

Roll No.: 0935007

Signature of the student

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This is to certify that the dissertation entitled '**Image Encryption and Compression using Embedding Technique**' is a bonafide research work carried out by Jithy Varghese of MPhil, (Computer Science) Christ university, Bangalore, during the year 2009-2011, in partial fulfillment of the requirements for the award of the Degree of Master of philosophy and that the dissertation has not formed the basis for the award previously of any degree, diploma, associate ship, fellowship or any other similar title.

Place: Bangalore

Prof. C N Rajeshwari

Date:

Signature of the Guide

Approval Sheet

Thesis entitled **'Image Encryption and Compression using Embedding Technique'**
is approved for the degree of Master of Philosophy in Computer Science.

Examiners:

1. _____
2. _____
3. _____

Supervisor:

1. _____
2. _____
3. _____

Chairman:

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Abstract

Encryption is used to securely transmit data in open networks. Each type of data has its own features; therefore different techniques should be used to protect confidential image data from unauthorized access. Most of the available encryption algorithms are mainly used for textual data and may not be suitable for multimedia data such as images.

For secure transmission, various compression and encryption techniques are proposed to satisfy a fast and secure transmission. However these two techniques must be studied separately. In this paper we propose a method combining encryption and compression based on Embedding and Extracting and Discrete Cosine Transform (DCT).

For encryption, target images are covered with an insignificant image to hide them and it is transmitted to destination. The receiver reconstructs the original images by extracting the insignificant image. For compression process, using DCT the size of transmission can be reduced. Through several computer simulations, the performance of the proposed method is confirmed.

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