

Books > Cyber Security and Network Security > Application of Integrated Steganography...

Application of Integrated Steganography and Image Compressing Techniques for Confidential Information Transmission

Publisher: Wiley Data and CybersecurityCite ThisPDF

is part of: Cyber Security and Network Security

Binay Kumar Pandey ; Digvijay Pandey ; Subodh Wairya ; Gaurav Agarwal ; Pankaj Dadeech ; Sanwta Ram Dogiwal ; Sabyasachi Pramanik All Authors
Editor(s): Sabyasachi Pramanik ; Debabrata Samanta ; M. Vinay ; Abhijit Guha Show More

39 Downloads

Alerts

Manage Content AlertsAdd to Citation Alerts

Abstract

Chapters & Sections

» Front Matter

» Securing Cloud-Based Enterprise Applications and Its Data

» High-Performance Computing-Based Scalable "Cloud Forensics-as-a-Service" Readiness Framework Factors—A Review

» Malware Identification, Analysis and Similarity

» Robust Fraud Detection Mechanism

Show Full Outline

Authors

Keywords

Metrics

More Like This

Download PDF

Chapter Abstract:In the present day, images and videos account for nearly 80% of all the data transmitted during our daily activities. This work employs a combination of novel steganograph... **View more**

► **Metadata**

Chapter Abstract:

In the present day, images and videos account for nearly 80% of all the data transmitted during our daily activities. This work employs a combination of novel steganography and data compression methodologies. So that the stego image generated while using steganographghy to the source textual image could be further compacted in an efficient and productive way and easily transmitted over the web. The initial inputs, textual images and images, are both pre-processed using spatial steganography, and the covertly content images are then extracted and inserted further into the carrier image picture element's least significant bit. Going to follow that, stego images were condensed in order to offer an elevated visual while conserving memory space just at sender's end. Nevertheless, it has been found that, throughout steganographic compression techniques, the wavelet transform is generally favored over the discrete cosine transform because the reassembled picture using the wavelet transformation seems to be of greater resolution than the discrete cosine transform. As pictures might not have been properly rebuilt given the limited bandwidth, the regions of interest method is often utilized to analyze the important area first, allowing the relevant portion of the image to be rebuilt even on a limited bandwidth network. The stego image would then have been sent to the recipient through a network connection. Now, at the receiver's end, steganography and compression are reciprocated. The performance of the suggested methods using different wavelet filters is examined to determine the best feasible outcome. So far, all efforts have been focused on creating a technique with a significant PSNR value and low data rates. Additionally, stego pictures can be effectively broadcasted, and textual visuals might well be easily recreated using a deep learning model over just a limited bandwidth connection.

Page(s): 169 - 191**DOI:** 10.1002/9781119812555.ch8**Copyright Year:** 2022**Publisher:** Wiley Data and Cybersecurity**Edition:** 1**► ISBN Information:**

Binay Kumar PandeyDepartment of Information Technology, College of Technology, G B Pant University of Agriculture and Technology
Pantnagar, Uttarakhand, India

Digvijay PandeyDepartment of Electronics Engineering, Institute of Engineering and Technology, Dr. A.P.J. Abdul Kalam Technical
University, Lucknow, India

Subodh WairyaDepartment of Electronics Engineering, Institute of Engineering and Technology, Dr. A.P.J. Abdul Kalam Technical
University, Lucknow, India

Gaurav Agarwal

Department of Computer Science and Engineering, Invertis University, Bareilly, India

Pankaj DadeechComputer Science & Engineering, Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT),
Jagatpura, Jaipur, Rajasthan, India

Sanwta Ram DogiwalDepartment of Information Technology, Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT),
Jagatpura, Jaipur, Rajasthan, India

Sabyasachi Pramanik

Department of Computer Science and Engineering, Haldia Institute of Technology, Haldia, West Bengal, India

Authors**Binay Kumar Pandey**Department of Information Technology, College of Technology, G B Pant University of Agriculture and Technology
Pantnagar, Uttarakhand, India

Digvijay PandeyDepartment of Electronics Engineering, Institute of Engineering and Technology, Dr. A.P.J. Abdul Kalam Technical
University, Lucknow, India

Subodh WairyaDepartment of Electronics Engineering, Institute of Engineering and Technology, Dr. A.P.J. Abdul Kalam Technical
University, Lucknow, India

Gaurav Agarwal

Department of Computer Science and Engineering, Invertis University, Bareilly, India

Pankaj DadeechComputer Science & Engineering, Swami Keshvanand Institute of Technology, Management & Gramothan (SKIT),
Jagatpura, Jaipur, Rajasthan, India

Sanwta Ram DogiwalDepartment of Information Technology, Swami Keshvanand Institute of Technology, Management & Gramothan
(SKIT), Jagatpura, Jaipur, Rajasthan, India