



1st ed. 2020, XVII, 325 p. 214 illus., 65 illus. in color.

#### Printed book

Hardcover

139,99 € | £119.99 | \$169.99

<sup>[1]</sup>149,79 € (D) | 153,99 € (A) | CHF 165,50

Softcover

99,99 € | £89.99 | \$119.99

<sup>[1]</sup>106,99 € (D) | 109,99 € (A) | CHF 118,00

#### eBook

85,59 € | £71.50 | \$89.00

<sup>[2]</sup>85,59 € (D) | 85,59 € (A) | CHF 94,00

Available from your library or [springer.com/shop](https://springer.com/shop)

#### MyCopy <sup>[3]</sup>

Printed eBook for just

€ | \$ 24.99

[springer.com/mycopy](https://springer.com/mycopy)

Jyotsna Kumar Mandal

# Reversible Steganography and Authentication via Transform Encoding

Series: Studies in Computational Intelligence

- Covers various aspects of steganography and authentication in a range of domains
- Presents discussions substantiated by examples
- Includes comparative analyses of performances

This book focuses on reversible steganography and authentication via transform encoding, fully discussing in detail the reversibility computation of six transformation techniques: DFT, DCT, wavelets, Z, binomial and grouplet, as well as chaos-based authentication. The book also describes algorithmic approaches based on all transformations along with implementation details and results. Further topics include embedding and extraction into the spatial domain, tuning using GA-based approaches and embedding into imaginary coefficients of the Z domain. Featuring detailed algorithms for encryption and descriptions of all techniques, including embedding techniques for all transform-based steganographic processes, the book also explores the adjustment of pixel values after embedding and presents numerical examples of reversible computations. In the context of chaos-based authentication, it also describes testing the quality of generator is using Monobit, Serial and Poker tests. The book then outlines 15 test cases recommended by NIST fifteen test cases, along with their implementation on six evolutionary algorithms for neural cryptographic systems in the context of wireless computations – TPM, KSOMSCT, DHLPSCT, CHDLPSCCT, CTHLPSCCT and CGTHLPSCCT – and verifies their satisfiability based on the implementations of these six techniques. Lastly it presents various metrics of image processing systems. This book is a valuable reference resource for research scholars, PG/UG students and practicing engineers

Order online at [springer.com](https://springer.com) / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com). / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

