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| Soggetti | Computational intelligence Data protection Artificial intelligence Computational Intelligence Data and Information Security Artificial Intelligence |
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| Nota di contenuto | Preface -- Introduction -- State of the Art in Transform Encoding for Reversible Steganography and Authentication -- Reversible Encoding in Spatial and Spectral Domain -- DFT based Reversible Encoding -- DCT based Reversible Encoding -- Wavelet based Reversible Transform Encoding -- Z-Transformation and Reversible Encoding -- Reversible Encoding in Imaginary components of Transformed Coefficients of Z-Transformation -- Reversible Transform Encoding using Group let Transformation -- Nonlinear Dynamics in Transform Encoding based Authentication -- Metrics of evaluation for Steganography and Authentication -- Analysis and Comparisons of performances on different Transform Encoding Techniques -- Conclusions -- Future Directions. |
| Sommario/riassunto | 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 andPoker 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, CHDLPSCT, CTHLPSCT and CGTHLPSCT – 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.
