

# Watermark Techniques Using Wavelet Transform Matlab Code

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 Proceedings of Second International Conference on Smart Energy and Communication  
 Medical Image Watermarking  
 Computational Science and Its Applications - ICCSA 2003  
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 Intelligent Wavelet Based Techniques for Advanced Multimedia Applications  
 Watermarking  
 Algorithms and Architectures for Parallel Processing  
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 Steganography and Watermarking  
 Progress in Cryptology - INDOCRYPT 2005  
 International Conference on Computer Applications 2012 :: Volume 02  
 Handbook of Research on Information Security in Biomedical Signal Processing  
 Handbook of Research on Natural Computing for Optimization Problems  
 Intelligent Analysis of Multimedia Information  
 Digital Watermarking and Steganography  
 Handbook of Research on Secure Multimedia Distribution  
 Advanced Intelligent Systems for Sustainable Development (AI2SD'2020)  
 Advances in Biometric Person Authentication  
 Biometrics: Concepts, Methodologies, Tools, and Applications  
 Advance Compression and Watermarking Technique for Speech Signals  
 Watermarking Techniques for Copyright Protection of Videos  
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## **JONAH PATRICIA**

*Computational Intelligence and Security* Springer

This collection of books brings some of the latest developments in the field of watermarking. Researchers from varied background and expertise propose a remarkable collection of chapters to render this work an important piece of scientific research. The chapters deal with a gamut of fields where watermarking can be used to encode copyright information. The work also presents a wide array of algorithms ranging from intelligent bit replacement to more traditional methods like ICA. The current work is split into two books. Book one is more traditional in its approach dealing mostly with image watermarking applications. Book two deals with audio watermarking and describes an array of chapters on performance analysis of algorithms.

*Intelligent Techniques in Signal Processing for Multimedia Security* John Wiley & Sons

Whether you need to quickly come up to speed on the state of the art in digital watermarking or want to explore the latest research in this area, such as 3-D geometry watermarking, this timely reference gives you the hands-on knowledge you need for your work. This book covers the full range of media -- still images, audio data, video, 3-D geometry data, formatted text, music scores, and program code -- that you can protect with digital watermarking.

**Soft Computing: Theories and Applications** Springer

This book focuses on soft computing and its applications to solve real-life problems occurring in different domains ranging from medical and health care, supply chain management and image processing to cryptanalysis. It presents the proceedings of International Conference on Soft Computing: Theories and Applications (SoCTA 2016), offering significant insights into soft computing for teachers and researchers and inspiring more and more researchers to work in the field of soft computing. >The term soft computing represents an umbrella term for

computational techniques like fuzzy logic, neural networks, and nature inspired algorithms. In the past few decades, there has been an exponential rise in the application of soft computing techniques for solving complex and intricate problems arising in different spheres of life. The versatility of these techniques has made them a favorite among scientists and researchers working in diverse areas. SoCTA is the first international conference being organized at Amity University Rajasthan (AUR), Jaipur. The objective of SoCTA 2016 is to provide a common platform to researchers, academicians, scientists, and industrialists working in the area of soft computing to share and exchange their views and ideas on the theory and application of soft computing techniques in multi-disciplinary areas. The aim of the conference is to bring together young and experienced researchers, academicians, scientists, and industrialists for the exchange of knowledge. SoCTA especially encourages the young researchers at the beginning of their career to participate in this conference and present their work on this platform.

#### Intelligent Multi-Modal Data Processing IGI Global

This book focuses on recent developments in integrating AI, machine learning methods, medical image processing, advanced network security, and advanced antenna design techniques to implement practical Mobile Health (M-Health) systems. The editors bring together researchers and practitioners who address several developments in the field of M-Health. Chapters highlight intelligent healthcare IoT and Machine Learning based systems for personalized healthcare delivery and remote monitoring applications. The contents also explain medical applications of computing technologies such as Wireless Body Area Networks (WBANs), wearable sensors, multi-factor authentication, and cloud computing. The book is intended as a handy resource for undergraduate and graduate biomedical engineering students and mobile technology researchers who want to know about the recent trends in mobile health technology.

#### Multibiometric Watermarking with Compressive Sensing Theory Springer Science & Business Media

Security and authentication issues are surging to the forefront of the research realm in global society. As technology continues to evolve, individuals are finding it easier to infiltrate various forums and facilities where they can illegally obtain information and access. By implementing biometric authentications to these forums, users are able to prevent attacks on their privacy and security. *Biometrics: Concepts, Methodologies, Tools, and Applications* is a multi-volume publication highlighting critical topics related to access control, user identification, and surveillance technologies. Featuring emergent research on the issues and challenges in security and privacy, various forms of user authentication, biometric applications to image processing and computer vision, and security applications within the field, this publication is an ideal reference source for researchers, engineers, technology developers, students, and security specialists.

#### Computational Intelligence in Image and Video Processing Bentham Science Publishers

This is the proceedings of the International Conference On Computational Vision and Bio Inspired Computing (ICCVBIC 2017) held at RVS Technical Campus, September 21-22, 2017. It includes papers on state of the art innovations in bio-inspired computing applications, where new algorithms and results are produced and described. Additionally, this volume addresses evolutionary computation paradigms, artificial neural networks and biocomputing. It focuses mainly on research based on visual interference on the basis of biological images. Computation of data sources also plays a major role in routine day-to-day life for the purposes such as video transmission, wireless applications,

fingerprint recognition and processing, big data intelligence, automation, human centric recognition systems. With the advantage of processing bio-inspired computations, a variety of computational paradigms can be processed. Finally, this book also treats the formation of neural networks by enabling local connectivity within it with the aid of vision sensing elements. The work also provides potential directions for future research.

#### *Lossless Information Hiding in Images* CRC Press

The 24 chapters in this book provides a deep overview of robotics and the application of AI and IoT in robotics. It contains the exploration of AI and IoT based intelligent automation in robotics. The various algorithms and frameworks for robotics based on AI and IoT are presented, analyzed, and discussed. This book also provides insights on application of robotics in education, healthcare, defense and many other fields which utilize IoT and AI. It also introduces the idea of smart cities using robotics.

#### Mobile Computing Solutions for Healthcare Systems Springer Nature

This book proposes new algorithms to ensure secured communications and prevent unauthorized data exchange in secured multimedia systems. Focusing on numerous applications' algorithms and scenarios, it offers an in-depth analysis of data hiding technologies including watermarking, cryptography, encryption, copy control, and authentication. The authors present a framework for visual data hiding technologies that resolves emerging problems of modern multimedia applications in several contexts including the medical, healthcare, education, and wireless communication networking domains. Further, it introduces several intelligent security techniques with real-time implementation. As part of its comprehensive coverage, the book discusses contemporary multimedia authentication and fingerprinting techniques, while also proposing personal authentication/recognition systems based on hand images, surveillance system security using gait recognition, face recognition under restricted constraints such as dry/wet face conditions, and three-dimensional face identification using the approach developed here. This book equips perception technology professionals with the latest technologies, techniques, and strategies for multimedia security systems, offering a valuable resource for engineers and researchers working to develop security systems.

#### *Techniques and Applications of Digital Watermarking and Content Protection* IGI Global

Recent advancements and innovations in medical image and data processing have led to a need for robust and secure mechanisms to transfer images and signals over the internet and maintain copyright protection. The Handbook of Research on Information Security in Biomedical Signal Processing provides emerging research on security in biomedical data as well as techniques for accurate reading and further processing. While highlighting topics such as image processing, secure access, and watermarking, this publication explores advanced models and algorithms in information security in the modern healthcare system. This publication is a vital resource for academicians, medical professionals, technology developers, researchers, students, and practitioners seeking current research on intelligent techniques in medical data security.

#### *Information Hiding* TECHNO FORUM R&D CENTRE

Following the previous four annual conferences, the 5th Chinese Conference on Biometrics Recognition (Sinobiometrics 2004) was held in Guangzhou, China in December 2004. The conference this year was aimed at promoting the international exchange of ideas and providing an opportunity for keeping abreast of the latest developments in biometric algorithms, systems, and applications. The 1st Biometrics Verification Competition (BVC) on face, iris,

and fingerprint recognition was also conducted in conjunction with the conference. This book is composed of 74 papers presented at Sinobiometrics 2004, contributed by researchers and industrial practitioners from Korea, Japan, Singapore, Hong Kong, France, UK, US, as well as China. Of these, 60 papers were selected from 140 submissions and 14 were invited. The papers not only presented recent technical advances, but also addressed issues in biometric system design, standardization, and applications. Included among the invited were four feature papers on the ideas and algorithms of the best-performing biometric engines, which were either competition winners at the Face Authentication Test (FAT) 2004 or the Fingerprint Verification Competition (FVC) 2004, or they were the best-performing iris and palmprint recognition algorithms. The papers were complemented by five keynote lectures on biometrics, and face, fingerprint, and iris authentication and multimodal fusion by Arun Ross (West Virginia University) and Anil K. Jain (Michigan State University), Josef Kittler (University of Surrey), John Daugman (University of Cambridge), Raffaele Cappelli (University of Bologna), and Stan Z. Li (Chinese Academy of Sciences).

*Digital Forensics and Watermarking* Springer Nature

Nature-inspired computation is an interdisciplinary topic area that connects the natural sciences to computer science. Since natural computing is utilized in a variety of disciplines, it is imperative to research its capabilities in solving optimization issues. The Handbook of Research on Natural Computing for Optimization Problems discusses nascent optimization procedures in nature-inspired computation and the innovative tools and techniques being utilized in the field. Highlighting empirical research and best practices concerning various optimization issues, this publication is a comprehensive reference for researchers, academicians, students, scientists, and technology developers interested in a multidisciplinary perspective on natural computational systems.

*Intelligent Healthcare* Syngress

This book introduces methods for copyright protection and compression for speech signals. The first method introduces copyright protection of speech signal using watermarking; the second introduces compression of the speech signal using Compressive Sensing (CS). Both methods are tested and analyzed. The speech watermarking method uses technology such as Finite Ridgelet Transform (FRT), Discrete Wavelet Transform (DWT) and Singular Value Decomposition (SVD). The performance of the method is evaluated and compared with existing watermarking methods. In the speech compression method, the standard Compressive Sensing (CS) process is used for compression of the speech signal. The performance of the proposed method is evaluated using various transform bases like Discrete Fourier Transform (DFT), Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT), Singular Value Decomposition (SVD), and Fast Discrete Curvelet Transform (FDCuT).

*Blockchain and Digital Twin Enabled IoT Networks* Springer

This book describes the design, development, and testing of a novel digital watermarking technique for color images using Magic Square and Ridgelet transforms. The novel feature of the method is that it generates and uses multiple copies of the digital watermark. The book describes how the method was tested for embedding digital watermarks into color cover images, resulting in very high PSNR value and yielding comparable results with existing watermarking techniques. To reach this new method, eight different techniques are designed, developed and tested. First, the authors test two digital watermarking techniques based on encryption: Image Watermark Using Complete Complementary Code Technique (CCCT) and Image

Watermarking Using CCC-Fast Walsh Hadamard Transform Technique (CCC-FWHTT). Next, four digital watermarking techniques based on curvelet transforms are discussed: Image Watermarking Using Curvelet Transform (WCT), Watermark Wavelets in Curvelets of Cover Image (WWCT), Resized Watermark into Curvelets of Cover Image (RWCT), and Resized Watermark Wavelets into Curvelets of Cover Image (RWWCT). Then, two final techniques are presented: Image Watermarking Based on Magic Square (MST) and Image watermarking based on Magic Square and Ridgelet Transform (MSRTT). Future research directions are explored in the final chapter. Designed for professionals and researchers in computer graphics and imaging, *Digital Watermarking Techniques in Curvelet and Ridgelet Domain* is also a useful tool for advanced-level students.

**Digital Watermarking Techniques in Curvelet and Ridgelet Domain** Nova Science Publishers

This book presents medical image watermarking techniques and algorithms for telemedicine and other emerging applications. This book emphasizes on medical image watermarking to ensure the authenticity of transmitted medical information. It begins with an introduction of digital watermarking, important characteristics, novel applications, different watermarking attacks and standard benchmark tools. This book also covers spatial and transform domain medical image watermarking techniques and their merits and limitations. The authors have developed improved/novel watermarking techniques for telemedicine applications that offer higher robustness, better perceptual quality and increased embedding capacity and secure watermark. The suggested methods may find potential applications in the prevention of patient identity theft and health data management issues which is a growing concern in telemedicine applications. This book provides a sound platform for understanding the medical image watermarking paradigm for researchers in the field and advanced-level students. Industry professionals working in this field, as well as other emerging applications demanding robust and secure watermarking will find this book useful as a reference.

*Digital Image and Video Watermarking and Steganography* IGI Global

Multimedia represents information in novel and varied formats. One of the most prevalent examples of continuous media is video. Extracting underlying data from these videos can be an arduous task. From video indexing, surveillance, and mining, complex computational applications are required to process this data. *Intelligent Analysis of Multimedia Information* is a pivotal reference source for the latest scholarly research on the implementation of innovative techniques to a broad spectrum of multimedia applications by presenting emerging methods in continuous media processing and manipulation. This book offers a fresh perspective for students and researchers of information technology, media professionals, and programmers.

**Proceedings of Second International Conference on Smart Energy and Communication** Springer

The book *Intelligent Healthcare: Infrastructure, Algorithms, and Management*® cover a wide range of research topics on innovative intelligent healthcare solutions and advancements with the latest research developments. Data analytics are relevant for healthcare to meet many technical challenges and issues that need to be addressed to realize this potential. The advanced healthcare systems have to be upgraded with new capabilities such as data analytics, machine learning, intelligent decision making, and more professional services. The Internet of Things helps to design and develop intelligent healthcare solutions assisted by security, data analytics, and machine learning. This book will provide federated learning, Data-driven infrastructure design, analytical approaches, and technological



solutions with case studies for smart healthcare. This book aims to attract works on multidisciplinary research spanning across computer science and engineering, environmental studies, services, urban planning and development, Healthcare, social sciences, and industrial engineering on technologies, case studies, novel approaches, and visionary ideas related to data-driven innovative learning and computing solutions and big medical data-powered applications to cope with the real-world challenges for building smart healthcare sectors. Main Features: Ø Immersive technologies in healthcare Ø Internet of medical things Ø Federated learning algorithms Ø Explainable AI in Pervasive Healthcare Ø New management principles using biomedical data Ø Secured healthcare management systems This book aims to set up a better understanding of data scientists, researchers, and technologists under innovative digital health. The reader can find out existing research challenges, current market trends, and low-cost technologies to smoothly address the digital health issue.

*Medical Image Watermarking* IGI Global

A comprehensive review of the most recent applications of intelligent multi-modal data processing Intelligent Multi-Modal Data Processing contains a review of the most recent applications of data processing. The Editors and contributors noted experts on the topic offer a review of the new and challenging areas of multimedia data processing as well as state-of-the-art algorithms to solve the problems in an intelligent manner. The text provides a clear understanding of the real-life implementation of different statistical theories and explains how to implement various statistical theories. Intelligent Multi-Modal Data Processing is an authoritative guide for developing innovative research ideas for interdisciplinary research practices. Designed as a practical resource, the book contains tables to compare statistical analysis results of a novel technique to that of the state-of-the-art techniques and illustrations in the form of algorithms to establish a pre-processing and/or post-processing technique for model building. The book also contains images that show the efficiency of the algorithm on standard data set. This important book: Includes an in-depth analysis of the state-of-the-art applications of signal and data processing Contains contributions from noted experts in the field Offers information on hybrid differential evolution for optimal multilevel image thresholding Presents a fuzzy decision based multi-objective evolutionary method for video summarisation Written for students of technology and

management, computer scientists and professionals in information technology, Intelligent Multi-Modal Data Processing brings together in one volume the range of multi-modal data processing.

*Computational Science and Its Applications - ICCSA 2003* John Wiley & Sons

"This handbook is for both secure multimedia distribution researchers and also decision makers in obtaining a greater understanding of the concepts, issues, problems, trends, challenges and opportunities related to secure multimedia distribution"--Provided by publisher.

*Computational Vision and Bio Inspired Computing* CRC Press

The book provides copyright protection approaches for videos using watermarking. The various watermarking techniques using various transforms such as discrete cosine transform (DCT), discrete wavelet transform (DWT) and singular value decomposition (SVD) for videos are presented. The book also provides video watermarking approach using compressive sensing (CS) theory. The presented watermarking techniques are designed and implemented using color digital videos. The performance of the presented techniques is evaluated using Peak Signal to Noise Ratio (PSNR) and Normalized Correlation (NC).

**Intelligent Wavelet Based Techniques for Advanced Multimedia Applications** Springer Science & Business Media

Lossless Information Hiding in Images introduces many state-of-the-art lossless hiding schemes, most of which come from the authors' publications in the past five years. After reading this book, readers will be able to immediately grasp the status, the typical algorithms, and the trend of the field of lossless information hiding. Lossless information hiding is a technique that enables images to be authenticated and then restored to their original forms by removing the watermark and replacing overridden images. This book focuses on the lossless information hiding in our most popular media, images, classifying them in three categories, i.e., spatial domain based, transform domain based, and compressed domain based. Furthermore, the compressed domain based methods are classified into VQ based, BTC based, and JPEG/JPEG2000 based. - Focuses specifically on lossless information hiding for images - Covers the most common visual medium, images, and the most common compression schemes, JPEG and JPEG 2000 - Includes recent state-of-the-art techniques in the field of lossless image watermarking - Presents many lossless hiding schemes, most of which come from the authors' publications in the past five years