

Multimedia Security Steganography And Digital Watermarking Techniques For Protection Of Intellectual Property

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Color Image Watermarking - Qingtang Su
2016-12-05

This book presents watermarking algorithms derived from signal processing methods such as wavelet transform, matrix decomposition and cosine transform to address the limitations of current technologies. For each algorithm, mathematical foundations are explained with analysis conducted to evaluate performances on robustness and efficiency. Combining theories and practice, it is suitable for information security researchers and industrial engineers.

Information Security and Ethics: Concepts, Methodologies, Tools, and Applications - Nemati, Hamid 2007-09-30

Presents theories and models associated with information privacy and safeguard practices to help anchor and guide the development of technologies, standards, and best practices. Provides recent, comprehensive coverage of all issues related to information security and ethics, as well as the opportunities, future challenges, and emerging trends related to this subject.

Handbook of Multimedia Information Security:

Techniques and Applications - Amit Kumar Singh
2019-07-19

This handbook is organized under three major parts. The first part of this handbook deals with multimedia security for emerging applications. The chapters include basic concepts of multimedia tools and applications, biological and behavioral biometrics, effective multimedia encryption and secure watermarking techniques for emerging applications, an adaptive face identification approach for android mobile devices, and multimedia using chaotic and perceptual hashing function. The second part of this handbook focuses on multimedia processing for various potential applications. The chapter includes a detail survey of image processing based automated glaucoma detection techniques and role of de-noising, recent study of dictionary learning based image reconstruction techniques for analyzing the big medical data, brief introduction of quantum image processing and its applications, a segmentation-less efficient Alzheimer detection approach, object recognition, image enhancements and de-noising techniques for emerging applications, improved performance of image

compression approach, and automated detection of eye related diseases using digital image processing. The third part of this handbook introduces multimedia applications. The chapter includes the extensive survey on the role of multimedia in medicine and multimedia forensics classification, a finger based authentication system for e-health security, analysis of recently developed deep learning techniques for emotion and activity recognition. Further, the book introduce a case study on change of ECG according to time for user identification, role of multimedia in big data, cloud computing, the Internet of things (IoT) and blockchain environment in detail for real life applications. This handbook targets researchers, policy makers, programmers and industry professionals in creating new knowledge for developing efficient techniques/framework for multimedia applications. Advanced level students studying computer science, specifically security and multimedia will find this book useful as a reference.

Transactions on Data Hiding and Multimedia Security VII - Yun Qing Shi 2012-03-16

Since the mid 1990s, data hiding has been proposed as an enabling technology for securing multimedia communication, and is now used in various applications including broadcast monitoring, movie fingerprinting, steganography, video indexing and retrieval, and image authentication. Data hiding and cryptographic techniques are often combined to complement each other, thus triggering the development of a new research field of multimedia security. Besides, two related disciplines, steganalysis and data forensics, are increasingly attracting researchers and becoming another new research field of multimedia security. This journal, LNCS Transactions on Data Hiding and Multimedia Security, aims to be a forum for all researchers in these emerging fields, publishing both original and archival research results. The 7 papers included in this issue deal with the following topics: protection of digital videos, secure watermarking, tamper detection, and steganography.

Image Processing and Pattern Recognition - Frank Y. Shih 2010-07-16

A comprehensive guide to the essential principles of image processing and pattern recognition. Techniques and applications in the areas of image processing and pattern recognition are growing at an unprecedented rate. Containing the latest state-of-the-art developments in the field, *Image Processing and Pattern Recognition* presents clear explanations of the fundamentals as well as the most recent applications. It explains the essential principles so readers will not only be able to easily implement the algorithms and techniques, but also lead themselves to discover new problems and applications. Unlike other books on the subject, this volume presents numerous fundamental and advanced image processing algorithms and pattern recognition techniques to illustrate the framework. Scores of graphs and examples, technical assistance, and practical tools illustrate the basic principles and help simplify the problems, allowing students as well as professionals to easily grasp even complicated theories. It also features unique coverage of the most interesting developments and updated techniques, such as image watermarking, digital steganography, document processing and classification, solar image processing and event classification, 3-D Euclidean distance transformation, shortest path planning, soft morphology, recursive morphology, regulated morphology, and sweep morphology. Additional topics include enhancement and segmentation techniques, active learning, feature extraction, neural networks, and fuzzy logic. Featuring supplemental materials for instructors and students, *Image Processing and Pattern Recognition* is designed for undergraduate seniors and graduate students, engineering and scientific researchers, and professionals who work in signal processing, image processing, pattern recognition, information security, document processing, multimedia systems, and solar physics.

Techniques and Applications of Digital Watermarking and Content Protection - Michael

Arnold 2003

This informative, new resource presents the first comprehensive treatment of silicon-germanium heterojunction bipolar transistors (SiGe HBTs). It offers you a complete, from-the-ground-up understanding of SiGe HBT devices and technology, from a very broad perspective. The book covers motivation, history, materials, fabrication, device physics, operational principles, and circuit-level properties associated with this new cutting-edge semiconductor device technology. Including over 400 equations and more than 300 illustrations, this hands-on reference shows you in clear and concise language how to design, simulate, fabricate, and measure a SiGe HBT.

Digital Watermarking and Steganography - Frank Y. Shih 2017-12-19

Every day millions of people capture, store, transmit, and manipulate digital data. Unfortunately free access digital multimedia communication also provides virtually unprecedented opportunities to pirate copyrighted material. Providing the theoretical background needed to develop and implement advanced techniques and algorithms, **Digital Watermarking and Steganography: Demonstrates how to develop and implement methods to guarantee the authenticity of digital media Explains the categorization of digital watermarking techniques based on characteristics as well as applications Presents cutting-edge techniques such as the GA-based breaking algorithm on the frequency-domain steganalytic system The popularity of digital media continues to soar. The theoretical foundation presented within this valuable reference will facilitate the creation on new techniques and algorithms to combat present and potential threats against information security.**

Transactions on Data Hiding and Multimedia Security IV - Yun Q. Shi 2009-05-25

Since the mid 1990s, data hiding has been proposed as an enabling technology for securing multimedia communication, and is now used in various applications including broadcast monitoring, movie

fingerprinting, steganography, video indexing and retrieval, and image authentication. Data hiding and cryptographic techniques are often combined to complement each other, thus triggering the development of a new research field of multimedia security. Besides, two related disciplines, steganalysis and data forensics, are increasingly attracting researchers and becoming another new research field of multimedia security. This journal, LNCS Transactions on Data Hiding and Multimedia Security, aims to be a forum for all researchers in these emerging fields, publishing both original and archival research results. This fourth issue contains five contributions in the area of digital watermarking. The first three papers deal with robust watermarking. The fourth paper introduces a new least distortion linear gain model for halftone image watermarking and the fifth contribution presents an optimal histogram pair based image reversible data hiding scheme.

Steganography and Watermarking - Ching-Nung Yang 2014-05-14

Privacy and Copyright protection is a very important issue in our digital society, where a very large amount of multimedia data are generated and distributed daily using different kinds of consumer electronic devices and very popular communication channels, such as the Web and social networks. This book "Steganography and Watermarking" introduces state-of-the-art technology on data hiding and copyright protection of digital images, and offers a solid basis for future study and research. Steganographic technique overcomes the traditional cryptographic approach, providing new solutions for secure data transmission without raising users' malicious intention. In steganography, some secret information can be inserted into the original data in imperceptible and efficient ways to avoid distortion of the image, and enhance the embedding capacity, respectively. Digital watermarking also adopts data hiding techniques for copyright protection and tampering verification of multimedia data. In watermarking, an illegitimate copy can be

recognized by testing the presence of a valid watermark and a dispute on the ownership of the image resolved. Different kinds of steganographic and watermarking techniques, providing different features and diverse characteristics, have been presented in this book. This book provides a reference for theoretical problems as well as practical solutions and applications for steganography and watermarking techniques. In particular, both the academic community (graduate student, post-doc and faculty) in Electrical Engineering, Computer Science, and Applied Mathematics; and the industrial community (engineers, engineering managers, programmers, research lab staff and managers, security managers) will find this book interesting.

Information and Communication Technologies -
Vinu V Das 2010-09-03

This book constitutes the proceedings of the International Conference on Information and Communication Technologies held in Kochi, Kerala, India in September 2010.

Transactions on Data Hiding and Multimedia Security IV - Yun Q. Shi 2009-07-24

Since the mid 1990s, data hiding has been proposed as an enabling technology for securing multimedia communication, and is now used in various applications including broadcast monitoring, movie fingerprinting, steganography, video indexing and retrieval, and image authentication. Data hiding and cryptographic techniques are often combined to complement each other, thus triggering the development of a new research field of multimedia security. Besides, two related disciplines, steganalysis and data forensics, are increasingly attracting researchers and becoming another new research field of multimedia security. This journal, LNCS Transactions on Data Hiding and Multimedia Security, aims to be a forum for all researchers in these emerging fields, publishing both original and archival research results. This fourth issue contains five contributions in the area of digital watermarking. The first three papers deal with

robust watermarking. The fourth paper introduces a new least distortion linear gain model for halftone image watermarking and the fifth contribution presents an optimal histogram pair based image reversible data hiding scheme.

Steganography Techniques for Digital Images -
Abid Yahya 2018-06-12

This book covers newly developed and novel Steganography techniques and algorithms. The book outlines techniques to provide security to a variety of applications using Steganography, with the goal of both hindering an adversary from decoding a hidden message, and also preventing an adversary from suspecting the existence of covert communications. The book looks into applying these newly designed and improved algorithms to provide a new and efficient Steganographic system, called Characteristic Region-Based Image Steganography (CR-BIS). The algorithms combine both the robustness of the Speeded-Up Robust Features technique (SURF) and Discrete Wavelet Transform (DWT) to achieve characteristic region Steganography synchronization. The book also touches on how to avoid hiding data in the whole image by dynamically selecting characteristic regions for the process of embedding. Applies and discusses innovative techniques for hiding text in a digital image file or even using it as a key to the encryption; Provides a variety of methods to achieve characteristic region Steganography synchronization; Shows how Steganography improves upon cryptography by using obscurity features.

Digital Image and Video Watermarking and Steganography - Srinivasan Ramakrishnan
2019-09-18

Data Hiding and Its Applications - David Megías
2022-01-21

Data hiding techniques have been widely used to provide copyright protection, data integrity, covert communication, non-repudiation, and authentication, among other applications. In the

context of the increased dissemination and distribution of multimedia content over the internet, data hiding methods, such as digital watermarking and steganography, are becoming increasingly relevant in providing multimedia security. The goal of this book is to focus on the improvement of data hiding algorithms and their different applications (both traditional and emerging), bringing together researchers and practitioners from different research fields, including data hiding, signal processing, cryptography, and information theory, among others.

Digital Watermarking and Steganography - Ingemar Cox 2007-11-23

Digital audio, video, images, and documents are flying through cyberspace to their respective owners. Unfortunately, along the way, individuals may choose to intervene and take this content for themselves. Digital watermarking and steganography technology greatly reduces the instances of this by limiting or eliminating the ability of third parties to decipher the content that he has taken. The many techniques of digital watermarking (embedding a code) and steganography (hiding information) continue to evolve as applications that necessitate them do the same. The authors of this second edition provide an update on the framework for applying these techniques that they provided researchers and professionals in the first well-received edition. Steganography and steganalysis (the art of detecting hidden information) have been added to a robust treatment of digital watermarking, as many in each field research and deal with the other. New material includes watermarking with side information, QIM, and dirty-paper codes. The revision and inclusion of new material by these influential authors has created a must-own book for anyone in this profession. This new edition now contains essential information on steganalysis and steganography. New concepts and new applications including QIM introduced Digital watermark

embedding is given a complete update with new processes and applications

Information Hiding: Steganography and Watermarking-Attacks and Countermeasures - Neil F. Johnson 2012-12-06

Information Hiding: Steganography and Watermarking - Attacks and Countermeasures deals with information hiding. With the proliferation of multimedia on the Internet, information hiding addresses two areas of concern: privacy of information from surveillance (steganography) and protection of intellectual property (digital watermarking). Steganography (literally, covered writing) explores methods to hide the existence of hidden messages. These methods include invisible ink, microdot, digital signature, covert channel, and spread spectrum communication. Digital watermarks represent a commercial application of steganography. Watermarks can be used to track the copyright and ownership of electronic media. In this volume, the authors focus on techniques for hiding information in digital media. They analyze the hiding techniques to uncover their limitations. These limitations are employed to devise attacks against hidden information. The goal of these attacks is to expose the existence of a secret message or render a digital watermark unusable. In assessing these attacks, countermeasures are developed to assist in protecting digital watermarking systems. Understanding the limitations of the current methods will lead us to build more robust methods that can survive various manipulation and attacks. The more information that is placed in the public's reach on the Internet, the more owners of such information need to protect themselves from theft and false representation. Systems to analyze techniques for uncovering hidden information and recover seemingly destroyed information will be useful to law enforcement authorities in computer forensics and digital traffic analysis. Information Hiding: Steganography and Watermarking - Attacks and Countermeasures presents the authors' research contributions in three fundamental areas

with respect to image-based steganography and watermarking: analysis of data hiding techniques, attacks against hidden information, and countermeasures to attacks against digital watermarks. Information Hiding: Steganography and Watermarking – Attacks and Countermeasures is suitable for a secondary text in a graduate level course, and as a reference for researchers and practitioners in industry.

Digital Watermarking and Steganography - Frank Y. Shih 2017-04-10

This book intends to provide a comprehensive overview on different aspects of mechanisms and techniques for information security. It is written for students, researchers, and professionals studying in the field of multimedia security and steganography. Multimedia security and steganography is especially relevant due to the global scale of digital multimedia and the rapid growth of the Internet. Digital watermarking technology can be used to guarantee authenticity and can be applied as proof that the content has not been altered since insertion. Updated techniques and advances in watermarking are explored in this new edition. The combinational spatial and frequency domains watermarking technique provides a new concept of enlarging the embedding capacity of watermarks. The genetic algorithm (GA) based watermarking technique solves the rounding error problem and provide an efficient embedding approach. Each chapter provides the reader with a fundamental, theoretical framework, while developing the extensive advanced techniques and considering the essential principles of the digital watermarking and steganographic systems. Several robust algorithms that are presented throughout illustrate the framework and provide assistance and tools in understanding and implementing the fundamental principles.

Advanced Techniques in Multimedia

Watermarking: Image, Video and Audio

Applications - Al-Haj, Ali Mohammad 2010-05-31

"This book introduces readers to state-of-art research

in multimedia watermarking in the different disciplines of watermarking, addressing the different aspects of advanced watermarking research; modeling and theoretical analysis, advanced embedding and extraction techniques, software and hardware implementations, and performance evaluations of watermarking systems"-
-Provided by publisher.

Intelligent Techniques in Signal Processing for Multimedia Security - Nilanjan Dey 2016-10-18

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.

Transactions on Data Hiding and Multimedia Security III - Yun Q. Shi 2008-06-02

Since the mid 1990s, data hiding has been proposed as an enabling technology for securing multimedia

communication, and is now used in various applications including broadcast monitoring, movie fingerprinting, steganography, video indexing and retrieval, and image authentication. Data hiding and cryptographic techniques are often combined to complement each other, thus triggering the development of a new research field of multimedia security. Besides, two related disciplines, steganalysis and data forensics, are increasingly attracting researchers and becoming another new research field of multimedia security. This journal, LNCS Transactions on Data Hiding and Multimedia Security, aims to be a forum for all researchers in these emerging fields, publishing both original and archival research results. This third issue contains five contributions in the areas of steganography and digital watermarking. The first two papers deal with the security of steganographic systems; the third paper presents a novel image steganographic scheme. Finally, this volume includes two papers that focus on digital watermarking and data hiding. The fourth paper introduces and analyzes a new covert channel and the fifth contribution analyzes the performance of additive attacks against quantization-based data hiding methods.

Security, Steganography, and Watermarking of Multimedia Contents IX - 2006

Security, Steganography, and Watermarking of Multimedia Contents - 2004

Transactions on Data Hiding and Multimedia Security I - 2006-10-28

This inaugural issue of the LNCS Transactions on Data Hiding and Multimedia Security contains five papers dealing with a wide range of topics related to multimedia security, from a survey of problems related to watermark security to an introduction to the concept of Personal Entertainment Domains (PED) in Digital Rights Management (DRM) schemes.

Digital Watermarking and Steganography - Frank Y. Shih 2017-04-10

This book intends to provide a comprehensive overview on different aspects of mechanisms and techniques for information security. It is written for students, researchers, and professionals studying in the field of multimedia security and steganography. Multimedia security and steganography is especially relevant due to the global scale of digital multimedia and the rapid growth of the Internet. Digital watermarking technology can be used to guarantee authenticity and can be applied as proof that the content has not been altered since insertion. Updated techniques and advances in watermarking are explored in this new edition. The combinational spatial and frequency domains watermarking technique provides a new concept of enlarging the embedding capacity of watermarks. The genetic algorithm (GA) based watermarking technique solves the rounding error problem and provide an efficient embedding approach. Each chapter provides the reader with a fundamental, theoretical framework, while developing the extensive advanced techniques and considering the essential principles of the digital watermarking and steganographic systems. Several robust algorithms that are presented throughout illustrate the framework and provide assistance and tools in understanding and implementing the fundamental principles.

Handbook of Image-based Security Techniques - Shivendra Shivani 2018-05-20

This book focuses on image based security techniques, namely visual cryptography, watermarking, and steganography. This book is divided into four sections. The first section explores basic to advanced concepts of visual cryptography. The second section of the book covers digital image watermarking including watermarking algorithms, frameworks for modeling watermarking systems, and the evaluation of watermarking techniques. The next section analyzes steganography and steganalysis, including the notion, terminology and building blocks of steganographic communication. The final section of the book describes the concept of

hybrid approaches which includes all image-based security techniques. One can also explore various advanced research domains related to the multimedia security field in the final section. The book includes many examples and applications, as well as implementation using MATLAB, wherever required. Features: Provides a comprehensive introduction to visual cryptography, digital watermarking and steganography in one book Includes real-life examples and applications throughout Covers theoretical and practical concepts related to security of other multimedia objects using image based security techniques Presents the implementation of all important concepts in MATLAB

Encyclopedia of Multimedia - Borko Furht
2008-11-26

This second edition provides easy access to important concepts, issues and technology trends in the field of multimedia technologies, systems, techniques, and applications. Over 1,100 heavily-illustrated pages — including 80 new entries — present concise overviews of all aspects of software, systems, web tools and hardware that enable video, audio and developing media to be shared and delivered electronically.

Handbook of Communications Security - F. Garzia
2013

Communications represent a strategic sector for privacy protection and for personal, company, national and international security. The interception, damage or loss of information during communication can generate material and non-material economic damages from both a personal and collective point of view. The purpose of this book is to give the reader information relating to all aspects of communications security, beginning at the base ideas and building to reach the most advanced and updated concepts. The book will be of interest to integrated system designers, telecommunication designers, system engineers, system analysts, security managers, technicians, intelligence personnel, security personnel, police,

army, private investigators, scientists, graduate and postgraduate students and anyone that needs to communicate in a secure way.

Encyclopedia of E-Commerce, E-Government, and Mobile Commerce - Khosrow-Pour, D.B.A., Mehdi
2006-03-31

[Administration (référence électronique)].

Transactions on Data Hiding and Multimedia Security VI - Yun Q. Shi 2011-11-09

Since the mid 1990s, data hiding has been proposed as an enabling technology for securing multimedia communication, and is now used in various applications including broadcast monitoring, movie fingerprinting, steganography, video indexing and retrieval, and image authentication. Data hiding and cryptographic techniques are often combined to complement each other, thus triggering the development of a new research field of multimedia security. Besides, two related disciplines, steganalysis and data forensics, are increasingly attracting researchers and becoming another new research field of multimedia security. This journal, LNCS Transactions on Data Hiding and Multimedia Security, aims to be a forum for all researchers in these emerging fields, publishing both original and archival research results. This issue consists mainly of a special section on content protection and forensics including four papers. The additional paper deals with histogram-based image hashing for searching content-preserving copies.

Information Hiding Techniques for Steganography and Digital Watermarking - Stefan Katzenbeisser
2000

Steganography, a means by which two or more parties may communicate using "invisible" or "subliminal" communication, and watermarking, a means of hiding copyright data in images, are becoming necessary components of commercial multimedia applications that are subject to illegal use. This new book is the first comprehensive survey of steganography and watermarking and their application to modern communications and multimedia.

Digital Rights Management for E-Commerce Systems - Drossos, Lambros 2008-10-31

"This book highlights innovative technologies used for the design and implementation of advanced e-commerce systems facilitating digital rights management and protection"--Provided by publisher.

Communications and Multimedia Security Issues of the New Century - Ralf Steinmetz 2013-06-05

The volume contains the papers presented at the fifth working conference on Communications and Multimedia Security (CMS 2001), held on May 21-22, 2001 at (and organized by) the GMD -German National Research Center for Information Technology GMD - Integrated Publication and Information Systems Institute IPSI, in Darmstadt, Germany. The conference is arranged jointly by the Technical Committees 11 and 6 of the International Federation of Information Processing (IFIP) The name "Communications and Multimedia Security" was first used in 1995, Reinhard Posch organized the first in this series of conferences in Graz, Austria, following up on the previously national (Austrian) "IT Sicherheit" conferences held in Klagenfurt (1993) and Vienna (1994). In 1996, the CMS took place in Essen, Germany; in 1997 the conference moved to Athens, Greece. The CMS 1999 was held in Leuven, Belgium. This conference provides a forum for presentations and discussions on issues which combine innovative research work with a highly promising application potential in the area of security for communication and multimedia security. State-of-the-art issues as well as practical experiences and new trends in the areas were topics of interest again, as it has already been the case at previous conferences. This year, the organizers wanted to focus the attention on watermarking and copyright protection for e-commerce applications and multimedia data. We also encompass excellent work on recent advances in cryptography and their applications. In recent years, digital media data have enormously gained in importance.

Multimedia Forensics and Security - Li, Chang-Tsun 2008-07-31

As information technology is rapidly progressing, an enormous amount of media can be easily exchanged through Internet and other communication networks. Increasing amounts of digital image, video, and music have created numerous information security issues and is now taken as one of the top research and development agendas for researchers, organizations, and governments worldwide. Multimedia Forensics and Security provides an in-depth treatment of advancements in the emerging field of multimedia forensics and security by tackling challenging issues such as digital watermarking for copyright protection, digital fingerprinting for transaction tracking, and digital camera source identification.

Multimedia Security - Frank Y. Shih 2017-12-19

Multimedia Security: Watermarking, Steganography, and Forensics outlines essential principles, technical information, and expert insights on multimedia security technology used to prove that content is authentic and has not been altered. Illustrating the need for improved content security as the Internet and digital multimedia applications rapidly evolve, this book presents a wealth of everyday protection application examples in fields including multimedia mining and classification, digital watermarking, steganography, and digital forensics. Giving readers an in-depth overview of different aspects of information security mechanisms and methods, this resource also serves as an instructional tool on how to use the fundamental theoretical framework required for the development of extensive advanced techniques. The presentation of several robust algorithms illustrates this framework, helping readers to quickly master and apply fundamental principles. Presented case studies cover: The execution (and feasibility) of techniques used to discover hidden knowledge by applying multimedia duplicate mining methods to large multimedia content Different types of image steganographic schemes

based on vector quantization Techniques used to detect changes in human motion behavior and to classify different types of small-group motion behavior Useful for students, researchers, and professionals, this book consists of a variety of technical tutorials that offer an abundance of graphs and examples to powerfully convey the principles of multimedia security and steganography. Imparting the extensive experience of the contributors, this approach simplifies problems, helping readers more easily understand even the most complicated theories. It also enables them to uncover novel concepts involved in the implementation of algorithms, which can lead to the discovery of new problems and new means of solving them.

Multimedia Technologies: Concepts, Methodologies, Tools, and Applications - Syed, Mahbubur Rahman 2008-06-30

"This book offers an in-depth explanation of multimedia technologies within their many specific application areas as well as presenting developing trends for the future"--Provided by publisher.

Digital Watermarking for Digital Media - Juergen Seitz 2005-01-01

"The book discusses new aspects of digital watermarking in a worldwide context"--Provided by publisher.

Multimedia Security - Kaiser J. Giri 2021-01-11

This book is a collection of outstanding content written by experts working in the field of multimedia security. It provides an insight about various techniques used in multimedia security and identifies its progress in both technological and algorithmic perspectives. In the contemporary world, digitization offers an effective mechanism to process, preserve and transfer all types of information. The incredible progresses in computing and communication technologies augmented by economic feasibility have revolutionized the world. The availability of efficient algorithms together with inexpensive digital recording and storage peripherals have

created a multimedia era bringing conveniences to people in sharing the digital data that includes images, audio and video. The ever-increasing pace, at which the multimedia and communication technology is growing, has also made it possible to combine, replicate and distribute the content faster and easier, thereby empowering mankind by having a wealth of information at their disposal. However, security of multimedia is giving tough time to the research community around the globe, due to ever-increasing and efficient attacks carried out on multimedia data by intruders, eavesdroppers and hackers. Further, duplication, unauthorized use and mal-distribution of digital content have become a serious challenge as it leads to copyright violation and is considered to be the principal reason that refrains the information providers in freely sharing their proprietary digital content. The book is useful for students, researchers and professionals to advance their study.

Digital Audio Watermarking Techniques and Technologies: Applications and Benchmarks - Cvejic, Nedeljko 2007-08-31

Presents digital audio watermarking as a new and alternative method to enforce intellectual property rights and protect digital audio from tampering. Provides theoretical frameworks, recent research findings, and practical applications.

Information Hiding - Fabien A. P. Petitcolas 2003-01-21

This book constitutes the thoroughly refereed post-proceedings of the 5th International Workshop on Information Hiding, IH 2002, held in Noordwijkerhout, The Netherlands, in October 2002. The 27 revised full papers presented were carefully selected during two rounds of reviewing and revision from 78 submissions. The papers are organized in topical sections on information hiding and networking, anonymity, fundamentals of watermarking, watermarking algorithms, attacks on watermarking algorithms, steganography algorithms, steganalysis, and hiding information in unusual content.

Multimedia Security: Steganography and Digital Watermarking Techniques for Protection of Intellectual Property - Lu, Chun-Shien 2004-07-31
Multimedia security has become a major research topic, yielding numerous academic papers in addition to many watermarking-related companies. In this emerging area, there are many challenging research issues that deserve sustained study towards

an effective and practical system. This book explores the myriad of issues regarding multimedia security, including perceptual fidelity analysis, image, audio, and 3D mesh object watermarking, medical watermarking, error detection (authentication) and concealment, fingerprinting, digital signature and digital right management.