

Ebook free Multimedia security watermarking steganography and forensics .pdf

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 this book constitutes the refereed proceedings of the 16th international workshop on digital forensics and watermarking iwdw 2017 held in magdeburg germany in august 2017 the 30 papers presented in this volume were carefully reviewed and selected from 48 submissions the contributions are covering the state of the art theoretical and practical developments in the fields of digital watermarking steganography and steganalysis forensics and anti forensics visual cryptography and other multimedia related security issues also included are the papers on two special sessions on biometric image tampering detection and on emerging threats of criminal use of information hiding usage scenarios and detection approaches investigators within the law enforcement and cyber forensics communities are generally aware of the concept of steganography but their levels of expertise vary dramatically depending upon the incidents and cases that they have been exposed to now there is a book that balances the playing field in terms of awareness and serves as a valuable refer the common use of the internet and cloud services in transmission of large amounts of data over open networks and insecure channels exposes that private and secret data to serious situations ensuring the information transmission over the internet is safe and secure has become crucial consequently information security has become one of the most important issues of human communities because of increased data transmission over social networks digital media steganography principles algorithms and advances covers fundamental theories and algorithms for practical design while providing a comprehensive overview of the most advanced methodologies and modern techniques in the field of steganography the topics covered present a collection of high quality research works written in a simple manner by world renowned leaders in the field dealing with specific research problems

it presents the state of the art as well as the most recent trends in digital media steganography covers fundamental theories and algorithms for practical design which form the basis of modern digital media steganography provides new theoretical breakthroughs and a number of modern techniques in steganography presents the latest advances in digital media steganography such as using deep learning and artificial neural network as well as quantum steganography this book constitutes the thoroughly refereed post conference proceedings of the 10th international workshop on digital forensics and watermarking iwddw 2011 held in atlantic city nj usa during october 23 26 2011 the 37 revised full papers presented were carefully selected from 59 submissions conference papers are organized in 6 technical sessions covering the topics of steganography and steganalysis watermarking visual cryptography forensics anti forensics fingerprinting privacy and security this book constitutes the thoroughly refereed post proceedings of the 11th international workshop on digital forensics and watermarking iwddw 2012 held in shanghai china during october november 2012 the 42 revised papers 27 oral and 15 poster papers were carefully reviewed and selected from 70 submissions the papers are organized in topical sections on steganography and steganalysis watermarking and copyright protection forensics and anti forensics reversible data hiding fingerprinting and authentication visual cryptography this book constitutes the thoroughly refereed post proceedings of the 12th international workshop on digital forensics and watermarking iwddw 2013 held in auckland new zealand during october 2013 the 24 full and 13 poster papers presented together with 2 abstracts were carefully reviewed and selected from 55 submissions the papers are organized in topical sections on steganography and steganalysis visual cryptography reversible data hiding forensics watermarking anonymizing and plate recognition 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 this book contains the thoroughly refereed post conference proceedings of the 13th information hiding conference ih 2011 held in prague czech republic in may 2011 included in this volume are 23 carefully reviewed papers that were selected out of 69 submissions the contributions are organized in topical sections on

fingerprinting anonymity and privacy steganography and steganalysis watermarking digital rights management and digital forensics and digital hiding in unusual context also included are the papers that were presented as part of the special session dedicated to the boss break our steganographic system contest this book constitutes the thoroughly refereed post workshop proceedings of the 11th international workshop on information hiding ih 2009 held in darmstadt germany in june 2009 the 19 revised full papers presented were carefully reviewed and selected from 55 submissions the papers are organized in topical sections on steganography steganalysis watermarking fingerprinting hiding in unusual content novel applications and forensics this book constitutes revised selected papers from the 14th international workshop on digital forensics and watermarking iwdw 2015 held in tokyo japan in october 2015 the 35 papers presented in this volume were carefully reviewed and selected from 54 submissions the contributions are organized in topical sections named digital forensics steganography and steganalysis digital watermarking reversible data hiding and visual cryptography it is an honor and great pleasure to write a preface for this postproceedings of the 6th international workshop on information hiding in the past 10 years the field of data hiding has been maturing and expanding gradually establishing its place as an active interdisciplinary research area uniquely combining information theory cryptology and signal processing this year the workshop was followed by the privacy enhancing technologies workshop pet hosted at the same location delegates viewed this connection as fruitful as it gave both communities a convenient opportunity to interact we would like to thank all authors who submitted their work for consideration out of the 70 submissions received by the program committee 25 papers were accepted for publication based on their novelty originality and scientific merit we strived to achieve a balanced exposition of papers that would represent many different aspects of information hiding all papers were divided into eight sessions digital media watermarking steganalysis digital forensics steganography software watermarking security and privacy anonymity and data hiding in unusual content this year the workshop included a one hour rump session that offered an opportunity to the delegates to share their work in progress and other brief but interesting contributions this book constitutes the revised post conference proceedings of the 15th international workshop on digital forensics and watermarking iwdw 2016 held in beijing china in september 2016 the 45 papers presented in this volume were carefully reviewed and selected from 70 submissions the contributions are organized in topical sections on digital forensics visual cryptography reversible data hiding and steganography and steganalysis this unique book delves down into the capabilities of hiding and obscuring data object within the windows operating system however one of the most noticeable and credible features of this publication is it takes the reader from the very basics and background of data hiding techniques and runs on the reading road to arrive at some of the more complex methodologies employed for concealing data object from the human eye and or the investigation as a practitioner in the digital age i can see this book sitting on the shelves of cyber security professionals and those working in the world of digital forensics it is a recommended read and is in my opinion a very valuable asset to those who are interested in the landscape of unknown unknowns this is a book which may well help to discover more about that which is not in immediate view of the onlooker and open up the mind to expand its imagination beyond its accepted limitations of known knowns john walker csirt soc cyber threat intelligence specialist featured in digital forensics magazine february 2017 in the digital world the need to protect online communications increase as the technology behind it evolves there are many techniques currently available to encrypt and secure our communication channels data hiding techniques can take data confidentiality to a new level as we can hide our secret messages in ordinary honest looking data files steganography is the science of hiding data it has several categorizations and each type has its own techniques in hiding steganography has played a vital role in secret communication during wars since the

dawn of history in recent days few computer users successfully manage to exploit their windows machine to conceal their private data businesses also have deep concerns about misusing data hiding techniques many employers are amazed at how easily their valuable information can get out of their company walls in many legal cases a disgruntled employee would successfully steal company private data despite all security measures implemented using simple digital hiding techniques human right activists who live in countries controlled by oppressive regimes need ways to smuggle their online communications without attracting surveillance monitoring systems continuously scan in out internet traffic for interesting keywords and other artifacts the same applies to journalists and whistleblowers all over the world computer forensic investigators law enforcements officers intelligence services and it security professionals need a guide to tell them where criminals can conceal their data in windows os multimedia files and how they can discover concealed data quickly and retrieve it in a forensic way data hiding techniques in windows os is a response to all these concerns data hiding topics are usually approached in most books using an academic method with long math equations about how each hiding technique algorithm works behind the scene and are usually targeted at people who work in the academic arenas this book teaches professionals and end users alike how they can hide their data and discover the hidden ones using a variety of ways under the most commonly used operating system on earth windows steganography is the art of secret writing the purpose of steganography is to hide the presence of a message from the intruder by using state of the art methods algorithms architectures models and methodologies in the domains of cloud internet of things iot and the android platform though security controls in cloud computing iot and android platforms are not much different than security controls in an it environment they might still present different types of risks to an organization than the classic it solutions therefore a detailed discussion is needed in case there is a breach in security it is important to review the security aspects of cloud iot and android platforms related to steganography to determine how this new technology is being utilized and improved continuously to protect information digitally the benefits and challenges along with the current and potential developments for the future are important keystones in this critical area of security research multidisciplinary approach to modern digital steganography reviews the security aspects of cloud iot and android platforms related to steganography and addresses emerging security concerns new algorithms and case studies in the field furthermore the book presents a new approach to secure data storage on cloud infrastructure and iot along with including discussions on optimization models and security controls that could be implemented other important topics include data transmission deep learning techniques machine learning and both image and text stenography this book is essential for forensic engineers forensic analysts cybersecurity analysts cyber forensic examiners security engineers cybersecurity network analysts cyber network defense analysts and digital forensic examiners along with practitioners researchers academicians and students interested in the latest techniques and state of the art methods in digital steganography this book constitutes the thoroughly refereed post conference proceedings of the 13th international workshop on digital forensics and watermarking iwdw 2014 held in taipei taiwan during october 2014 the 32 full and 14 poster papers presented together with 1 keynote speech were carefully reviewed and selected from 79 submissions the papers are organized in topical sections on forensics watermarking reversible data hiding visual cryptography and steganography and steganalysis a successor to the popular artech house title information hiding techniques for steganography and digital watermarking this comprehensive and up to date new resource gives the reader a thorough review of steganography digital watermarking and media fingerprinting with possible applications to modern communication and a survey of methods used to hide information in modern media this book explores steganography as a means by which two or more parties may communicate using invisible or subliminal communication steganalysis is described as methods

which can be used to break steganographic communication this comprehensive resource also includes an introduction to watermarking and its methods a means of hiding copyright data in images and discusses components of commercial multimedia applications that are subject to illegal use this book demonstrates a working knowledge of watermarking s pros and cons and the legal implications of watermarking and copyright issues on the internet 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 this book constitutes the refereed proceedings of the 17th international workshop on digital forensics and watermarking iwdfw 2018 held on jeju island korea in october 2018 the 25 papers presented in this volume were carefully reviewed and selected from 43 submissions the contributions are covering the following topics deep neural networks for digital forensics steganalysis and identification watermarking reversible data hiding steganographic algorithms identification and security deep generative models for forgery and its detection the 22 full papers and 12 shorts papers presented in this volume were carefully reviewed and selected from 70 submissions the contributions are covering the following topics deep learning for multimedia security digital forensics and anti forensics digital watermarking information hiding steganography and steganalysis authentication and security this volume constitutes the proceedings of the 19th international workshop on digital forensics and watermarking iwdfw 2020 held in melbourne vic australia in november 2020 the 20 full papers in this volume were carefully reviewed and selected from 43 submissions they cover topics such as novel research development and application of digital watermarking and forensics techniques for multimedia security this book contains the thoroughly refereed post conference proceedings of the 14th information hiding conference ih 2012 held in berkeley ca usa in may 2012 the 18 revised full papers presented were carefully reviewed and selected from numerous submissions the papers are organized in topical sections on multimedia forensics and counter forensics steganalysis data hiding in unusual content steganography covert channels anonymity and privacy watermarking and fingerprinting th it is our great pleasure to present this volume of the proceedings of the 10 edition of information hiding ih 2008 the conference was held in santa barbara the ame can riviera california usa during may 19 21 2008 it was organized by three santa barbarans on fire from both industry mayachitra and academia ucsb over the years information hiding ih has established itself as a premier forum for presenting research covering various aspects of information hiding continuing the tradition this year we provide a balanced program including topics such as anonymity and privacy forensics steganography watermarking fingerprinting other hiding domains and novel applications we received a total of 64 papers from all over the globe and would like to take this opportunity to thank all the authors who submitted their paper to ih 2008 and thus contributed to the consolidation of the reputation of the conference the papers were refereed by at least three reviewers who provided detailed comments which was followed by discussion

amongst the program committee members only 25 papers were selected for presentation this rigorous review process will certainly strengthen information hiding's position as the top forum of our community 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 unleashing the art of digital forensics is intended to describe and explain the steps taken during a forensic examination with the intent of making the reader aware of the constraints and considerations that apply during a forensic examination in law enforcement and in the private sector key features discusses the recent advancements in digital forensics and cybersecurity reviews detailed applications of digital forensics for real life problems addresses the challenges related to implementation of digital forensics and anti forensic approaches includes case studies that will be helpful for researchers offers both quantitative and qualitative research articles conceptual papers review papers etc identifies the future scope of research in the field of digital forensics and cybersecurity this book is aimed primarily at and will be beneficial to graduates postgraduates and researchers in digital forensics and cybersecurity this volume constitutes the proceedings of the 20th international workshop on digital forensics and watermarking iwdw 2021 held in beijing china in november 2021 the 18 full papers in this volume were carefully reviewed and selected from 32 submissions the are categorized in the following topical headings forensics and security analysis watermarking and steganology this book constitutes the thoroughly refereed post proceedings of the 13th international workshop on digital forensics and watermarking iwdw 2014 held in taipei taiwan during october 2014 the 32 full and 14 poster papers presented together with 1 keynote speech were carefully reviewed and selected from 79 submissions the papers are organized in topical sections on forensics watermarking reversible data hiding visual cryptography and steganography and steganalysis ih 2010 was the 12th information hiding conference held in calgary canada june 28 30 2010 this series of conferences started with the first workshop on information hiding held in cambridge uk in may 1996 since then the conference locations have alternated between europe and north america the conference has been held annually since 2005 for many years

information hiding has captured the imagination of searchers this conference series aims to bring together a number of closely related research areas including digital watermarking steganography and steganalysis anonymity and privacy covert and subliminal channels fingerprinting and embedding codes multimedia forensics and counter forensics as well as theoretical aspects of information hiding and detection since its inception the conference series has been a premier forum for publishing research in these areas this volume contains the revised versions of 18 accepted papers incorporating the comments from members of the program committee and extended abstracts of two out of three invited talks the conference received 39 anonymous submissions for full papers the task of selecting 18 of them for presentation was not easy each submission was reviewed by at least three members of the program committee or external reviewers reporting to a member of the program committee in the case of authorship by a program committee member peer reviews were sought there is no need to say that no member of the program committee reviewed his or her own work each paper was carefully discussed until consensus was reached steganography is the art of communicating a secret message hiding the very existence of a secret message this book is an introduction to steganalysis as part of the wider trend of multimedia forensics as well as a practical tutorial on machine learning in this context it looks at a wide range of feature vectors proposed for steganalysis with performance tests and comparisons python programs and algorithms are provided to allow readers to modify and reproduce outcomes discussed in the book this is our great pleasure to present this volume of the proceedings of the 10th edition of information hiding in 2008 the conference was held in santa barbara the american riviera california usa during may 19-21 2008 it was organized by three santa barbarans on fire from both industry mayachitra and academia ucsb over the years information hiding in has established itself as a premier forum for presenting research covering various aspects of information hiding continuing the tradition this year we provide a balanced program including topics such as anonymity and privacy forensics steganography watermarking fingerprinting other hiding domains and novel applications we received a total of 64 papers from all over the globe and would like to take this opportunity to thank all the authors who submitted their paper to in 2008 and thus contributed to the consolidation of the reputation of the conference the papers were refereed by at least three reviewers who provided detailed comments which was followed by discussion amongst the program committee members only 25 papers were selected for presentation this rigorous review process will certainly strengthen information hiding's position as the top forum of our community understand the building blocks of covert communication in digital media and apply the techniques in practice with this self-contained guide as data hiding detection and forensic techniques have matured people are creating more advanced stealth methods for spying corporate espionage terrorism and cyber warfare all to avoid detection data hiding provides an exploration into the present day and next generation of tools and techniques used in covert communications advanced malware methods and data concealment tactics the hiding techniques outlined include the latest technologies including mobile devices multimedia virtualization and others these concepts provide corporate government and military personnel with the knowledge to investigate and defend against insider threats spy techniques espionage advanced malware and secret communications by understanding the plethora of threats you will gain an understanding of the methods to defend oneself from these threats through detection investigation mitigation and prevention provides many real world examples of data concealment on the latest technologies including ios android vmware macos x linux and windows 7 dives deep into the less known approaches to data hiding covert communications and advanced malware includes never before published information about next generation methods of data hiding outlines a well defined methodology for countering threats looks ahead at future predictions for data hiding designed as an introduction and overview to the field cyber forensics a field manual for collecting examining and preserving

evidence of computer crimes second edition integrates theory and practice to present the policies procedures methodologies and legal ramifications and implications of a cyber forensic investigation the authors guide you step by step through the basics of investigation and introduce the tools and procedures required to legally seize and forensically evaluate a suspect machine updating and expanding information on concealment techniques new technologies hardware software and relevant new legislation this second edition delineates the scope and goals of cyber forensics to reveal and track legal and illegal activity beginning with an introduction and definition of cyber forensics chapters explain the rules of evidence and chain of custody in maintaining legally valid electronic evidence they describe how to begin an investigation and employ investigative methodology as well as establish standard operating procedures for the field and cyber forensic laboratory the authors provide an in depth examination of the manipulation of technology to conceal illegal activities and the use of cyber forensics to uncover them they discuss topics and issues such as conducting a cyber forensic investigation within both the local and federal legal framework and evaluating the current data security and integrity exposure of multifunctional devices cyber forensics includes details and tips on taking control of a suspect computer or pda and its operating environment mitigating potential exposures and risks to chain of custody and establishing and following a flowchart for the seizure of electronic evidence an extensive list of appendices include websites organizations pertinent legislation further readings best practice recommendations more information on hardware and software and a recap of the federal rules of civil procedure this is one of the very few books focused on analysis of multimedia data and newly emerging multimedia applications with an emphasis on security the main objective of this project was to assemble as much research coverage as possible related to the field by defining the latest innovative technologies and providing the most comprehensive list of research references the book includes sixteen chapters highlighting current concepts issues and emerging technologies distinguished scholars from many prominent research institutions around the world contribute to the book the book covers various aspects including not only some fundamental knowledge and the latest key techniques but also typical applications and open issues topics covered include dangerous or abnormal event detection interaction recognition person identification based on multiple traits audiovisual biometric person authentication and liveness verification emerging biometric technologies sensitive information filtering for teleradiology detection of nakedness in images audio forensics steganalysis media content tracking authentication and illegal distributor identification through watermarking and content based copy detection we believe that the comprehensive coverage of diverse disciplines in the field of intelligent multimedia analysis for security applications will contribute to a better understanding of all topics research and discoveries in this emerging and evolving field and that the included contributions will be instrumental in the expansion of the corresponding body of knowledge making this book a reference source of information it is our sincere hope that this publication and its great amount of information and research will assist our research colleagues faculty members and students and organization decision makers in enhancing their understanding for the concepts issues problems trends challenges and opportunities related to this research field perhaps this book will even inspire its readers to contribute to the current discoveries in this immense field advances in digital forensics xiv edited by gilbert peterson and sujeet shenoi digital forensics deals with the acquisition preservation examination analysis and presentation of electronic evidence computer networks cloud computing smartphones embedded devices and the internet of things have expanded the role of digital forensics beyond traditional computer crime investigations practically every crime now involves some aspect of digital evidence digital forensics provides the techniques and tools to articulate this evidence in legal proceedings digital forensics also has myriad intelligence applications furthermore it has a vital role in information assurance investigations of security breaches yield valuable

information that can be used to design more secure and resilient systems advances in digital forensics xiv describes original research results and innovative applications in the discipline of digital forensics in addition it highlights some of the major technical and legal issues related to digital evidence and electronic crime investigations the areas of coverage include themes and issues forensic techniques network forensics cloud forensics and mobile and embedded device forensics this book is the fourteenth volume in the annual series produced by the international federation for information processing ifip working group 11 9 on digital forensics an international community of scientists engineers and practitioners dedicated to advancing the state of the art of research and practice in digital forensics the book contains a selection of nineteen edited papers from the fourteenth annual ifip wg 11 9 international conference on digital forensics held in new delhi india in the winter of 2018 advances in digital forensics xiv is an important resource for researchers faculty members and graduate students as well as for practitioners and individuals engaged in research and development efforts for the law enforcement and intelligence communities gilbert peterson chair ifip wg 11 9 on digital forensics is a professor of computer engineering at the air force institute of technology wright patterson air force base ohio usa sujeet shenoi is the f p walter professor of computer science and a professor of chemical engineering at the university of tulsa tulsa oklahoma usa 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 Incs 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 special issue contains five selected papers that were presented at the workshop on pattern recognition for it security held in darmstadt germany in september 2010 in conjunction with the 32nd annual symposium of the german association for pattern recognition dagm 2010 it demonstrates the broad range of security related topics that utilize graphical data the contributions explore the security and reliability of biometric data the power of machine learning methods to differentiate forged images from originals the effectiveness of modern watermark embedding schemes and the use of information fusion in steganalysis in the last few decades the use of the internet has grown tremendously and the use of online communications has grown even more the lack of security in private messages between individuals however allows hackers to collect loads of sensitive information modern security measures are required to prevent this attack on the world s communication technologies advanced digital image steganography using lsb pvd and emd emerging research and opportunities provides evolving research exploring the theoretical and practical aspects of data encryption techniques and applications within computer science the book provides introductory knowledge on steganography and its importance detailed analysis of how rs and pdh are performed discussion on pixel value differencing principles and hybrid approaches using substitution pvd and emd principles it is ideally designed for researchers and graduate and under graduate students seeking current research on the security of data during transit

Multimedia Security 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

Digital Forensics and Watermarking 2017-08-09 this book constitutes the refereed proceedings of the 16th international workshop on digital forensics and watermarking iwdw 2017 held in magdeburg germany in august 2017 the 30 papers presented in this volume were carefully reviewed and selected from 48 submissions the contributions are covering the state of the art theoretical and practical developments in the fields of digital watermarking steganography and steganalysis forensics and anti forensics visual cryptography and other multimedia related security issues also included are the papers on two special sessions on biometric image tampering detection and on emerging threats of criminal use of information hiding usage scenarios and detection approaches

Investigator's Guide to Steganography 2003-10-27 investigators within the law enforcement and cyber forensics communities are generally aware of the concept of steganography but their levels of expertise vary dramatically depending upon the incidents and cases that they have been exposed to now there is a book that balances the playing field in terms of awareness and serves as a valuable refer

Digital Media Steganography 2020-06-27 the common use of the internet and cloud services in transmission of large amounts of data over open networks and insecure channels exposes that private and secret data to serious situations ensuring the information transmission over the internet is safe and secure has become crucial consequently information security has become one of the most important issues of human communities because of increased data transmission over social networks digital media steganography principles algorithms and advances covers fundamental theories and algorithms for practical design while providing a comprehensive overview of the most advanced methodologies and modern techniques in the field of steganography the topics covered present a collection of high quality research works written in a simple manner by world renowned leaders in the field dealing with specific research problems it presents the state of the art as well as the most recent trends in digital media steganography covers fundamental theories and algorithms for practical design which form the basis of modern digital media

steganography provides new theoretical breakthroughs and a number of modern techniques in steganography presents the latest advances in digital media steganography such as using deep learning and artificial neural network as well as quantum steganography

Digital Forensics and Watermarking 2012-07-16 this book constitutes the thoroughly refereed post conference proceedings of the 10th international workshop on digital forensics and watermarking iwdw 2011 held in atlantic city nj usa during october 23 26 2011 the 37 revised full papers presented were carefully selected from 59 submissions conference papers are organized in 6 technical sessions covering the topics of steganography and steganalysis watermarking visual cryptography forensics anti forensics fingerprinting privacy and security

Digital-Forensics and Watermarking 2013-07-24 this book constitutes the thoroughly refereed post proceedings of the 11th international workshop on digital forensics and watermarking iwdw 2012 held in shanghai china during october november 2012 the 42 revised papers 27 oral and 15 poster papers were carefully reviewed and selected from 70 submissions the papers are organized in topical sections on steganography and steganalysis watermarking and copyright protection forensics and anti forensics reversible data hiding fingerprinting and authentication visual cryptography

Digital-Forensics and Watermarking 2014-07-08 this book constitutes the thoroughly refereed post proceedings of the 12th international workshop on digital forensics and watermarking iwdw 2013 held in auckland new zealand during october 2013 the 24 full and 13 poster papers presented together with 2 abstracts were carefully reviewed and selected from 55 submissions the papers are organized in topical sections on steganography and steganalysis visual cryptography reversible data hiding forensics watermarking anonymizing and plate recognition

Information Hiding: Steganography and Watermarking-Attacks and Countermeasures 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

Information Hiding 2011-09-19 this book contains the thoroughly refereed post conference proceedings of the 13th information hiding conference ih 2011 held in prague czech republic in may 2011 included in this volume are 23 carefully reviewed papers that were selected out of 69 submissions the contributions are organized in topical sections on fingerprinting anonymity and privacy steganography and steganalysis watermarking digital rights management and digital forensics and digital hiding in unusual context also included are the papers that were presented as part of the special session dedicated to the boss break our steganographic system contest

Information Hiding 2009-09-03 this book constitutes the thoroughly refereed post workshop proceedings of the 11th international workshop on information hiding ih 2009 held in darmstadt germany in june 2009 the 19 revised full papers presented were carefully reviewed and selected from 55 submissions the papers are organized in topical sections on steganography steganalysis watermarking fingerprinting hiding in unusual content novel applications and forensics

Digital-Forensics and Watermarking 2016-03-30 this book constitutes revised selected papers from the 14th international workshop on digital forensics and watermarking iwdw 2015 held in tokyo japan in october 2015 the 35 papers presented in this volume were carefully reviewed and selected from 54 submissions the contributions are organized in topical sections named digital forensics steganography and steganalysis digital watermarking reversible data hiding and visual cryptography

Information Hiding 2004-12-07 it is an honor and great pleasure to write a preface for this postproceedings of the 6th international workshop on information hiding in the past 10 years the field of data hiding has been maturing and expanding gradually establishing its place as an active interdisciplinary research area uniquely combining information theory cryptology and signal processing this year the workshop was followed by the privacy enhancing technologies workshop pet hosted at the same location delegates viewed this connection as fruitful as it gave both communities a convenient opportunity to interact we would like to thank all authors who submitted their work for consideration out of the 70 submissions received by the program committee 25 papers were accepted for publication based on their novelty originality and scientific merit we strived to achieve a balanced exposition of papers that would represent many different aspects of information hiding all papers were divided into eight sessions digital media watermarking steganalysis digital forensics steganography software watermarking security and privacy anonymity and data hiding in unusual content this year the workshop included a one hour rump session that offered an opportunity to the delegates to share their work in progress and other brief but interesting contributions

Digital Forensics and Watermarking 2017-02-14 this book constitutes the revised post conference proceedings of the 15th international workshop on digital forensics and watermarking iwdw 2016 held in beijing china in september 2016 the 45 papers presented in this volume were carefully reviewed and selected from 70 submissions the contributions are organized in topical sections on digital forensics visual cryptography reversible data hiding and steganography and steganalysis

Data Hiding Techniques in Windows OS 2016-09-08 this unique book delves down into the capabilities of hiding and obscuring data object within the windows operating system however one of the most noticeable and credible features of this publication is it takes the reader from the very basics and background of data hiding techniques and runs on the reading road to arrive at some of the more complex methodologies employed for concealing data object from the human eye and or the investigation as a practitioner in the digital age i can see this book sitting on the shelves of cyber security professionals and those working in the world of digital forensics it is a recommended read and is in my opinion a very valuable asset to those who are interested in the

landscape of unknown unknowns this is a book which may well help to discover more about that which is not in immediate view of the onlooker and open up the mind to expand its imagination beyond its accepted limitations of known knowns john walker csirt soc cyber threat intelligence specialist featured in digital forensics magazine february 2017 in the digital world the need to protect online communications increase as the technology behind it evolves there are many techniques currently available to encrypt and secure our communication channels data hiding techniques can take data confidentiality to a new level as we can hide our secret messages in ordinary honest looking data files steganography is the science of hiding data it has several categorizations and each type has its own techniques in hiding steganography has played a vital role in secret communication during wars since the dawn of history in recent days few computer users successfully manage to exploit their windows machine to conceal their private data businesses also have deep concerns about misusing data hiding techniques many employers are amazed at how easily their valuable information can get out of their company walls in many legal cases a disgruntled employee would successfully steal company private data despite all security measures implemented using simple digital hiding techniques human right activists who live in countries controlled by oppressive regimes need ways to smuggle their online communications without attracting surveillance monitoring systems continuously scan in out internet traffic for interesting keywords and other artifacts the same applies to journalists and whistleblowers all over the world computer forensic investigators law enforcements officers intelligence services and it security professionals need a guide to tell them where criminals can conceal their data in windows os multimedia files and how they can discover concealed data quickly and retrieve it in a forensic way data hiding techniques in windows os is a response to all these concerns data hiding topics are usually approached in most books using an academic method with long math equations about how each hiding technique algorithm works behind the scene and are usually targeted at people who work in the academic arenas this book teaches professionals and end users alike how they can hide their data and discover the hidden ones using a variety of ways under the most commonly used operating system on earth windows

Multidisciplinary Approach to Modern Digital Steganography 2021-06-04 steganography is the art of secret writing the purpose of steganography is to hide the presence of a message from the intruder by using state of the art methods algorithms architectures models and methodologies in the domains of cloud internet of things iot and the android platform though security controls in cloud computing iot and android platforms are not much different than security controls in an it environment they might still present different types of risks to an organization than the classic it solutions therefore a detailed discussion is needed in case there is a breach in security it is important to review the security aspects of cloud iot and android platforms related to steganography to determine how this new technology is being utilized and improved continuously to protect information digitally the benefits and challenges along with the current and potential developments for the future are important keystones in this critical area of security research multidisciplinary approach to modern digital steganography reviews the security aspects of cloud iot and android platforms related to steganography and addresses emerging security concerns new algorithms and case studies in the field furthermore the book presents a new approach to secure data storage on cloud infrastructure and iot along with including discussions on optimization models and security controls that could be implemented other important topics include data transmission deep learning techniques machine learning and both image and text stenography this book is essential for forensic engineers forensic analysts cybersecurity analysts cyber forensic examiners security engineers cybersecurity network analysts cyber network defense analysts and digital forensic examiners along with practitioners researchers academicians and students interested in the latest techniques and state of the art methods in digital steganography

Digital-Forensics and Watermarking 2015-06-24 this book constitutes the thoroughly refereed post conference proceedings of the 13th international workshop on digital forensics and watermarking iwdw 2014 held in taipei taiwan during october 2014 the 32 full and 14 poster papers presented together with 1 keynote speech were carefully reviewed and selected from 79 submissions the papers are organized in topical sections on forensics watermarking reversible data hiding visual cryptography and steganography and steganalysis

Security, Forensics, Steganography, and Watermarking of Multimedia Contents X 2008 a successor to the popular artech house title information hiding techniques for steganography and digital watermarking this comprehensive and up to date new resource gives the reader a thorough review of steganography digital watermarking and media fingerprinting with possible applications to modern communication and a survey of methods used to hide information in modern media this book explores steganography as a means by which two or more parties may communicate using invisible or subliminal communication steganalysis is described as methods which can be used to break steganographic communication this comprehensive resource also includes an introduction to watermarking and its methods a means of hiding copyright data in images and discusses components of commercial multimedia applications that are subject to illegal use this book demonstrates a working knowledge of watermarking s pros and cons and the legal implications of watermarking and copyright issues on the internet

Information Hiding 2016-01-01 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

Digital Watermarking and Steganography 2017-04-10 this book constitutes the refereed proceedings of the 17th international workshop on digital forensics and watermarking iwdw 2018 held on jeju island korea in october 2018 the 25 papers presented in this volume were carefully reviewed and selected from 43 submissions the contributions are covering the following topics deep neural networks for digital forensics steganalysis and identification watermarking reversible data hiding steganographic algorithms identification and security deep generative models for forgery and its detection

Digital Forensics and Watermarking 2019-01-31 the 22 full papers and 12 shorts papers presented in this volume were carefully reviewed and selected from 70 submissions the contributions are covering the following topics deep learning for multimedia security digital forensics and anti forensics digital watermarking information hiding steganography and steganalysis authentication and security

Digital Forensics and Watermarking 2020-03-25 this volume constitutes the proceedings of the 19th international workshop on digital forensics and watermarking iwdw 2020 held in melbourne vic australia in november 2020 the 20 full papers in this volume

were carefully reviewed and selected from 43 submissions they cover topics such as novel research development and application of digital watermarking and forensics techniques for multimedia security

Digital Forensics and Watermarking 2021-02-11 this book contains the thoroughly refereed post conference proceedings of the 14th information hiding conference ih 2012 held in berkeley ca usa in may 2012 the 18 revised full papers presented were carefully reviewed and selected from numerous submissions the papers are organized in topical sections on multimedia forensics and counter forensics steganalysis data hiding in unusual content steganography covert channels anonymity and privacy watermarking and fingerprinting

Information Hiding 2013-02-20 th it is our great pleasure to present this volume of the proceedings of the 10 edition of information hiding ih 2008 the conference was held in santa barbara the ame can riviera california usa during may 19 21 2008 it was organized by three santa barbarans on fire from both industry mayachitra and academia ucsb over the years information hiding ih has established itself as a premier forum for presenting research covering various aspects of information hiding continuing the tradition this year we provide a balanced program including topics such as anonymity and privacy forensics steganography watermarking fingerprinting other hiding domains and novel applications we received a total of 64 papers from all over the globe and would like to take this opportunity to thank all the authors who submitted their paper to ih 2008 and thus contributed to the consolidation of the reputation of the conference the papers were refereed by at least three reviewers who provided detailed comments which was followed by discussion amongst the program committee members only 25 papers were selected for presentation this rigorous review process will certainly strengthen information hiding's position as the top forum of our community

Information Hiding 2008-10-15 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

Information Hiding: Steganography and Watermarking-Attacks and Countermeasures 2011-11-01 unleashing the art of digital

forensics is intended to describe and explain the steps taken during a forensic examination with the intent of making the reader aware of the constraints and considerations that apply during a forensic examination in law enforcement and in the private sector key features discusses the recent advancements in digital forensics and cybersecurity reviews detailed applications of digital forensics for real life problems addresses the challenges related to implementation of digital forensics and anti forensic approaches includes case studies that will be helpful for researchers offers both quantitative and qualitative research articles conceptual papers review papers etc identifies the future scope of research in the field of digital forensics and cybersecurity this book is aimed primarily at and will be beneficial to graduates postgraduates and researchers in digital forensics and cybersecurity

Unleashing the Art of Digital Forensics 2022-08-11 this volume constitutes the proceedings of the 20th international workshop on digital forensics and watermarking iwdw 2021 held in beijing china in november 2021 the 18 full papers in this volume were carefully reviewed and selected from 32 submissions the are categorized in the following topical headings forensics and security analysis watermarking and steganology

Digital Forensics and Watermarking 2022-01-20 this book constitutes the thoroughly refereed post proceedings of the 13th international workshop on digital forensics and watermarking iwdw 2014 held in taipei taiwan during october 2014 the 32 full and 14 poster papers presented together with 1 keynote speech were carefully reviewed and selected from 79 submissions the papers are organized in topical sections on forensics watermarking reversible data hiding visual cryptography and steganography and steganalysis

Digital-Forensics and Watermarking 2015 ih 2010 was the 12th information hiding conference held in calgary canada june 28 30 2010 this series of conferences started with the first workshop on information hiding held in cambridge uk in may 1996 since then the conference locations have alternated between europe and north america the conference has been held annually since 2005 for many years information hiding has captured the imagination of searchers this conference series aims to bring together a number of closely related research areas including digital watermarking steganography and s ganalysis anonymity and privacy covert and subliminal channels ngerpri ing and embedding codes multimedia forensics and counter forensics as well as theoretical aspects of information hiding and detection since its inception the conference series has been a premier forum for publishing research in these areas this volume contains the revised versions of 18 accepted papers incor rating the comments from members of the program committee and extended abstracts of two out of three invited talks the conference received 39 anonymous submissions for full papers the task of selecting 18 of them for presentation was not easy each submission was reviewed by at least three members of the program committee or external viewers reporting to a member of the program committee in the case of authorship by a program committee member ve reviews were sought there is no need to say that no member of the program committee reviewed his or her own work each paper was carefully discussed until consensus was reached

Information Hiding 2010-10-01 steganography is the art of communicating a secret message hiding the very existence of a secret message this book is an introduction to steganalysis as part of the wider trend of multimedia forensics as well as a practical tutorial on machine learning in this context it looks at a wide range of feature vectors proposed for steganalysis with performance tests and comparisons python programs and algorithms are provided to allow readers to modify and reproduce outcomes discussed in the book

Machine Learning in Image Steganalysis 2012-09-05 th it is our great pleasure to present this volume of the proceedings of the

10 edition of information hiding ih 2008 the conference was held in santa barbara the ame can riviera california usa during may 19 21 2008 it was organized by three santa barbarans on fire from both industry mayachitra and academia ucsb over the years information hiding ih has established itself as a premier forum for presenting research covering various aspects of information hiding continuing the tradition this year we provide a balanced program including topics such as anonymity and privacy forensics steganography watermarking fingerprinting other hiding domains and novel applications we received a total of 64 papers from all over the globe and would like to take this opportunity to thank all the authors who submitted their paper to ih 2008 and thus contributed to the consolidation of the reputation of the conference the papers were refereed by at least three reviewers who provided detailed comments which was followed by discussion amongst the program committee members only 25 papers were selected for presentation this rigorous review process will certainly strengthen information hiding's position as the top forum of our community

Information Hiding 2009-08-29 understand the building blocks of covert communication in digital media and apply the techniques in practice with this self contained guide

Steganography in Digital Media 2010 as data hiding detection and forensic techniques have matured people are creating more advanced stealth methods for spying corporate espionage terrorism and cyber warfare all to avoid detection data hiding provides an exploration into the present day and next generation of tools and techniques used in covert communications advanced malware methods and data concealment tactics the hiding techniques outlined include the latest technologies including mobile devices multimedia virtualization and others these concepts provide corporate government and military personnel with the knowledge to investigate and defend against insider threats spy techniques espionage advanced malware and secret communications by understanding the plethora of threats you will gain an understanding of the methods to defend oneself from these threats through detection investigation mitigation and prevention provides many real world examples of data concealment on the latest technologies including ios android vmware macos x linux and windows 7 dives deep into the less known approaches to data hiding covert communications and advanced malware includes never before published information about next generation methods of data hiding outlines a well defined methodology for countering threats looks ahead at future predictions for data hiding

Data Hiding 2012-12-31 designed as an introduction and overview to the field cyber forensics a field manual for collecting examining and preserving evidence of computer crimes second edition integrates theory and practice to present the policies procedures methodologies and legal ramifications and implications of a cyber forensic investigation the authors guide you step by step through the basics of investigation and introduce the tools and procedures required to legally seize and forensically evaluate a suspect machine updating and expanding information on concealment techniques new technologies hardware software and relevant new legislation this second edition delineates the scope and goals of cyber forensics to reveal and track legal and illegal activity beginning with an introduction and definition of cyber forensics chapters explain the rules of evidence and chain of custody in maintaining legally valid electronic evidence they describe how to begin an investigation and employ investigative methodology as well as establish standard operating procedures for the field and cyber forensic laboratory the authors provide an in depth examination of the manipulation of technology to conceal illegal activities and the use of cyber forensics to uncover them they discuss topics and issues such as conducting a cyber forensic investigation within both the local and federal legal framework and evaluating the current data security and integrity exposure of multifunctional devices cyber forensics includes details and tips on taking control of a suspect computer or pda and its operating environment mitigating potential exposures and risks to chain of

custody and establishing and following a flowchart for the seizure of electronic evidence an extensive list of appendices include websites organizations pertinent legislation further readings best practice recommendations more information on hardware and software and a recap of the federal rules of civil procedure

Cyber Forensics 2007-12-19 this is one of the very few books focused on analysis of multimedia data and newly emerging multimedia applications with an emphasis on security the main objective of this project was to assemble as much research coverage as possible related to the field by defining the latest innovative technologies and providing the most comprehensive list of research references the book includes sixteen chapters highlighting current concepts issues and emerging technologies distinguished scholars from many prominent research institutions around the world contribute to the book the book covers various aspects including not only some fundamental knowledge and the latest key techniques but also typical applications and open issues topics covered include dangerous or abnormal event detection interaction recognition person identification based on multiple traits audiovisual biometric person authentication and liveness verification emerging biometric technologies sensitive information filtering for teleradiology detection of nakedness in images audio forensics steganalysis media content tracking authentication and illegal distributor identification through watermarking and content based copy detection we believe that the comprehensive coverage of diverse disciplines in the field of intelligent multimedia analysis for security applications will contribute to a better understanding of all topics research and discoveries in this emerging and evolving field and that the included contributions will be instrumental in the expansion of the corresponding body of knowledge making this book a reference source of information it is our sincere hope that this publication and its great amount of information and research will assist our research colleagues faculty members and students and organization decision makers in enhancing their understanding for the concepts issues problems trends challenges and opportunities related to this research field perhaps this book will even inspire its readers to contribute to the current discoveries in this immense field

Information Hiding 2011-03-13 advances in digital forensics xiv edited by gilbert peterson and sujeet shenoi digital forensics deals with the acquisition preservation examination analysis and presentation of electronic evidence computer networks cloud computing smartphones embedded devices and the internet of things have expanded the role of digital forensics beyond traditional computer crime investigations practically every crime now involves some aspect of digital evidence digital forensics provides the techniques and tools to articulate this evidence in legal proceedings digital forensics also has myriad intelligence applications furthermore it has a vital role in information assurance investigations of security breaches yield valuable information that can be used to design more secure and resilient systems advances in digital forensics xiv describes original research results and innovative applications in the discipline of digital forensics in addition it highlights some of the major technical and legal issues related to digital evidence and electronic crime investigations the areas of coverage include themes and issues forensic techniques network forensics cloud forensics and mobile and embedded device forensics this book is the fourteenth volume in the annual series produced by the international federation for information processing ifip working group 11 9 on digital forensics an international community of scientists engineers and practitioners dedicated to advancing the state of the art of research and practice in digital forensics the book contains a selection of nineteen edited papers from the fourteenth annual ifip wg 11 9 international conference on digital forensics held in new delhi india in the winter of 2018 advances in digital forensics xiv is an important resource for researchers faculty members and graduate students as well as for practitioners and individuals engaged in research and development efforts for the law enforcement and intelligence communities gilbert peterson chair ifip wg 11 9 on

digital forensics is a professor of computer engineering at the air force institute of technology wright patterson air force base ohio usa sujeet shenoi is the f p walter professor of computer science and a professor of chemical engineering at the university of tulsa tulsa oklahoma usa

Intelligent Multimedia Analysis for Security Applications 2010-04-22 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 Incs 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 special issue contains five selected papers that were presented at the workshop on pattern recognition for it security held in darmstadt germany in september 2010 in conjunction with the 32nd annual symposium of the german association for pattern recognition dagm 2010 it demonstrates the broad range of security related topics that utilize graphical data the contributions explore the security and reliability of biometric data the power of machine learning methods to differentiate forged images from originals the effectiveness of modern watermark embedding schemes and the use of information fusion in steganalysis

Advances in Digital Forensics XIV 2018-08-29 in the last few decades the use of the internet has grown tremendously and the use of online communications has grown even more the lack of security in private messages between individuals however allows hackers to collect loads of sensitive information modern security measures are required to prevent this attack on the world s communication technologies advanced digital image steganography using lsb pvd and emd emerging research and opportunities provides evolving research exploring the theoretical and practical aspects of data encryption techniques and applications within computer science the book provides introductory knowledge on steganography and its importance detailed analysis of how rs and pdh are performed discussion on pixel value differencing principles and hybrid approaches using substitution pvd and emd principles it is ideally designed for researchers and graduate and under graduate students seeking current research on the security of data during transit

Transactions on Data Hiding and Multimedia Security VIII 2012-07-30

Fundamentals of Media Security 2010

Advanced Digital Image Steganography Using LSB, PVD, and EMD: Emerging Research and Opportunities 2019-06-28

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