Cloud Storage Forensic Analysis University Of South

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.

This book presents the first evidence-based cloud forensic framework. Using three popular cloud storage services and one private cloud storage service as case studies, the authors demonstrate how their framework can be used to undertake research into the data remnants on both cloud storage servers and client devices when a user undertakes a variety of methods to store, upload, and access data in the cloud.

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 book presents a selection of revised and extended versions of the best papers from the First International Conference on Social Networking and Computational Intelligence (SCI-2018), held in Bhopal, India, from October 5 to 6, 2018. It discusses recent advances in scientific developments and applications in these areas.

Proceedings of International Conference on Big Data, Machine Learning and their Applications
Social Networking and Computational Intelligence
ECCWS 2017 16th European Conference on Cyber Warfare and Security
Proceedings of the 2014 International Conference on Network Security and Communication Engineering (NSCE 2014), Hong Kong, December 25-26, 2014
Google Drive Forensic Analysis Via Application Programming Interface
A Law Enforcement Practitioner's Perspective
Crime Science and Digital Forensics

This volume is a collation of articles on counter forensics practices and digital investigative methods from the perspective of crime science. The book also shares alternative dialogue on information security techniques used to protect data from unauthorised access and manipulation. Scandals such as those at OPCW and Gatwick Airport have reinforced the importance of crime science and the need to take proactive measures rather than a wait and see approach currently used by many organisations. This book proposes a new approach in dealing with cybercrime and unsociable behavior involving remote technologies using a combination of evidence-based disciplines in order to enhance cybersecurity and authorised controls. It starts by providing a rationale for combining selected disciplines to enhance cybersecurity by discussing relevant theories and highlighting the features that strengthen privacy when mixed. The essence of a holistic model is brought about by the challenge facing digital forensic professionals within environments where tested investigative practices are unable to provide satisfactory evidence and security. This book will be of interest to students, digital forensic and cyber security practitioners and policy makers. It marks a new route in the study of combined disciplines to tackle cybercrime using digital investigations and crime science.

In a unique and systematic way, this book discusses the security and privacy aspects of the cloud, and the relevant cloud forensics. Cloud computing is an emerging yet revolutionary technology that has been changing the way people live and work. However, with the continuous growth of cloud computing and related services, security and privacy has become a critical issue. Written by some of the top experts in the field, this book specifically discusses security and privacy of the cloud, as well as the digital forensics of cloud data, applications, and services. The first half of the book enables readers to have a comprehensive understanding and background of cloud security, which will help them through the digital investigation guidance and recommendations found in the second half of the book. Part One of Security, Privacy and Digital Forensics in the Cloud covers cloud infrastructure security; confidentiality of data; access control in cloud IaaS; cloud security and privacy management; hacking and countermeasures; risk management and disaster recovery; auditing and compliance; and security as a service (SaaS). Part Two addresses cloud forensics – model, challenges, and approaches; cyberterrorism in the cloud; digital forensic process and

model in the cloud; data acquisition; digital evidence management, presentation, and court preparation; analysis of digital evidence; and forensics as a service (FaaS). Thoroughly covers both security and privacy of cloud and digital forensics Contributions by top researchers from the U.S., the European and other countries, and professionals active in the field of information and network security, digital and computer forensics, and cloud and big data Of interest to those focused upon security and implementation, and incident management Logical, well-structured, and organized to facilitate comprehension Security, Privacy and Digital Forensics in the Cloud is an ideal book for advanced undergraduate and master's-level students in information systems, information technology, computer and network forensics, as well as computer science. It can also serve as a good reference book for security professionals, digital forensics practitioners and cloud service providers.

Digital forensics deals with the acquisition, preservation, examination, analysis and presentation of electronic evidence. Networked computing, wireless communications and portable electronic devices 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. 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 systems. Advances in Digital Forensics XII 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, Mobile Device Forensics, Network Forensics, Cloud Forensics, Social Media Forensics, Image Forensics, Forensic Techniques, and Forensic Tools. This book is the twelfth 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 twenty edited papers from the Twelfth Annual IFIP WG 11.9 International Conference on Digital Forensics, held in New Delhi, India in the winter of 2016. Advances in Digital Forensics XII 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.

This book constitutes the thoroughly refereed proceedings of the 15th International Workshop on Information Security Applications, WISA 2014, held on Jeju Island, Korea, in August 2014. The 30 revised full papers presented in this volume were carefully reviewed and selected from 69 submissions. The papers are organized in topical sections such as malware detection; mobile security; vulnerability analysis; applied cryptography; network security; cryptography; hardware security; and critical infrastructure security and policy.

SpaCCS 2016 International Workshops, TrustData, TSP, NOPE, DependSys, BigDataSPT, and WCSSC, Zhangjiajie, China, November 16-18, 2016, Proceedings
ICT Systems Security and Privacy Protection
Digital Forensic Science
Forensic Science Evidence and Expert Witness Testimony
Network Security and Communication Engineering
Illumination of Artificial Intelligence in Cybersecurity and Forensics
NIST Cloud Computing Forensic Science Challenges

"This book presents a collection of research and case studies of applications for investigation processes in cloud computing environments, offering perspectives of cloud customers, security architects as well as law enforcement agencies on the new area of cloud forensics"--

This volume constitutes the refereed proceedings of six workshops held at the 9th International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage, SpaCCS 2016, held in Zhangjiajie, China, in November 2016: the 7th International Workshop on Trust, Security and Privacy for Big Data, TrustData 2016; the 6th International Symposium on Trust, Security and Privacy for Emerging Applications, TSP 2016; the 4th International Workshop on Network Optimization and Performance Evaluation, NOPE 2016; the Second International Symposium on Dependability in Sensor, Cloud, and Big Data Systems and Applications, DependSys 2016; the Annual Big Data Security, Privacy and Trust Workshop, BigDataSPT 2016; and the First International Workshop on Cloud Storage Service and Computing, WCSSC 2016. The 37 full papers presented were carefully reviewed and selected from 95 submissions. The papers deal with research findings, ideas and emerging trends in information security research and cover a broad range of topics in security, privacy and anonymity in computation, communication and storage.

Forensic science evidence plays a pivotal role in modern criminal proceedings. Yet such evidence poses intense practical and theoretical challenges. It can be unreliable or misleading and has been associated with miscarriages of justice. In this original and insightful book, a global team of prominent scholars and practitioners explore the contemporary challenges of forensic science evidence and expert witness testimony from a variety of theoretical, practical and jurisdictional perspectives. Chapters encompass the institutional organisation of forensic science, its procedural regulation, evaluation and reform, and brim with comparative insight.

To reduce the risk of digital forensic evidence being called into question in judicial proceedings, it is important to have a rigorous methodology and set of procedures for conducting digital forensic investigations and examinations. Digital forensic investigation in the cloud computing environment, however, is in infancy due to the

comparatively recent prevalence of cloud computing. Cloud Storage Forensics presents the first evidence-based cloud forensic framework. Using three popular cloud storage services and one private cloud storage service as case studies, the authors show you how their framework can be used to undertake research into the data remnants on both cloud storage servers and client devices when a user undertakes a variety of methods to store, upload, and access data in the cloud. By determining the data remnants on client devices, you gain a better understanding of the types of terrestrial artifacts that are likely to remain at the Identification stage of an investigation. Once it is determined that a cloud storage service account has potential evidence of relevance to an investigation, you can communicate this to legal liaison points within service providers to enable them to respond and secure evidence in a timely manner. Learn to use the methodology and tools from the first evidenced-based cloud forensic framework Case studies provide detailed tools for analysis of cloud storage devices using popular cloud storage services Includes coverage of the legal implications of cloud storage forensic investigations Discussion of the future evolution of cloud storage and its impact on digital forensics

Proceedings of the International Computer Symposium (ICS) Held at Taichung, Taiwan, December 12 – 14, 2014

Cybercrime and Cloud Forensics: Applications for Investigation Processes

Data Security in Cloud Storage

Cyber and Digital Forensic Investigations

Cloud Storage Forensics

Applications for Investigation Processes

Encyclopedia of Information Science and Technology, Fifth Edition

Digital forensic science, or digital forensics, is the application of scientific tools and methods to identify, collect, and analyze digital (data) artifacts in support of legal proceedings. From a more technical perspective, it is the process of reconstructing the relevant sequence of events that have led to the currently observable state of a target IT system or (digital) artifacts. Over the last three decades, the importance of digital evidence has grown in lockstep with the fast societal adoption of information technology, which has resulted in the continuous accumulation of data at an exponential rate. Simultaneously, there has been a rapid growth in network connectivity and the complexity of IT systems, leading to more complex behavior that needs to be investigated. The goal of this book is to provide a systematic technical overview of digital forensic techniques, primarily from the point of view of computer science. This allows us to put the field in the broader perspective of a host of related areas and gain better insight into the computational challenges facing forensics, as well as draw inspiration for addressing them. This is needed as some of the challenges faced by digital forensics, such as cloud computing, require qualitatively different approaches; the sheer volume of

data to be examined also requires new means of processing it.
This book covers a variety of topics that span from industry to academics: hybrid AI model for IDS in IoT, intelligent authentication framework for IoMT mobile devices for extracting bioelectrical signals, security audit in terms of vulnerability analysis to protect the electronic medical records in healthcare system using AI, classification using CNN a multi-face recognition attendance system with anti-spoofing capability, challenges in face morphing attack detection, a dimensionality reduction and feature-level fusion technique for morphing attack detection (MAD) systems, findings and discussion on AI-assisted forensics, challenges and open issues in the application of AI in forensics, a terrorist computational model that uses Baum-Welch optimization to improve the intelligence and predictive accuracy of the activities of criminal elements, a novel method for detecting security violations in IDSs, graphical-based city block distance algorithm method for E-payment systems, image encryption, and AI methods in ransomware mitigation and detection. It assists the reader in exploring new research areas, wherein AI can be applied to offer solutions through the contribution from researchers and academia.
The revolutionary way in which modern technologies have enabled us to exchange information with ease has led to the emergence of interdisciplinary research in digital forensics and investigations, which aims to combat the abuses of computer technologies. Emerging Digital Forensics Applications for Crime Detection, Prevention, and Security presents various digital crime and forensic disciplines that use electronic devices and software for crime prevention and detection. This book provides theoretical and empirical research articles and case studies for a broad range of academic readers as well as professionals, industry consultants, and practitioners involved in the use, design, and development of techniques related to digital forensics and investigation.
Understanding the latest capabilities in the cyber threat landscape as well as the cyber forensic challenges and approaches is the best way users and organizations can prepare for potential negative events. Adopting an experiential learning approach, this book describes how cyber forensics researchers, educators and practitioners can keep pace with technological advances, and acquire the essential knowledge and skills, ranging from IoT forensics, malware analysis, and CCTV and cloud forensics to network forensics and financial investigations. Given the growing importance of incident response and cyber forensics in our digitalized society, this book will be of interest and relevance to researchers, educators and practitioners in the field, as well as students wanting to learn about cyber forensics.
A Holistic View
Big Digital Forensic Data
ICCWS 2019

Digital-Forensics and Watermarking
Advances in Digital Forensics XII
ICCWS 2019 14th International Conference on Cyber Warfare and Security
Proceedings of SCI-2018

The recent explosion of digital media, online networking, and e-commerce has generated great new opportunities for those Internet-savvy individuals who see potential in new technologies and can turn those possibilities into reality. It is vital for such forward-thinking innovators to stay abreast of all the latest technologies. Web-Based Services: Concepts, Methodologies, Tools, and Applications provides readers with comprehensive coverage of some of the latest tools and technologies in the digital industry. The chapters in this multi-volume book describe a diverse range of applications and methodologies made possible in a world connected by the global network, providing researchers, computer scientists, web developers, and digital experts with the latest knowledge and developments in Internet technologies.

This book covers the full life cycle of conducting a mobile and computer digital forensic examination, including planning and performing an investigation as well as report writing and testifying. Case reviews in corporate, civil, and criminal situations are also described from both prosecution and defense perspectives. Digital Forensics Explained, Second Edition draws from years of experience in local, state, federal, and international environments and highlights the challenges inherent in deficient cyber security practices. Topics include the importance of following the scientific method and verification, legal and ethical issues, planning an investigation (including tools and techniques), incident response, case project management and authorization, social media and internet, cloud, anti-forensics, link and visual analysis, and psychological considerations. The book is a valuable resource for the academic environment, law enforcement, those in the legal profession, and those working in the cyber security field. Case reviews include cyber security breaches, anti-forensic challenges, child exploitation, and social media investigations. Greg Gogolin, PhD, CISSP, is a Professor of Information Security and Intelligence at Ferris State University and a licensed Professional Investigator. He has worked more than 100 cases in criminal, civil, and corporate environments.

This book contains high-quality peer-reviewed papers of the International Conference on Big Data, Machine Learning and their Applications (ICBMA 2019) held at Motilal Nehru National Institute of Technology Allahabad, Prayagraj, India, during 29–31 May 2020. The book provides significant contributions in a structured way so that prospective readers can understand how these techniques are used in finding solutions to complex engineering problems. The book covers the areas of big data, machine learning, bio-inspired algorithms, artificial intelligence and their applications.

Rapid development of cloud computing brings challenges to digital forensic investigation, where traditional digital forensic tools and methodologies do not apply well. New approaches are needed to overcome emerged problems. This research focuses on analyzing a popular cloud storage service Google Drive in a forensically sound manner. The application programming interface (API) approach is chosen as the main method to perform digital forensic investigation. A sample application is developed to acquire evidence from Google Drive. Experiments were then conducted to evaluate its effect based on results. By comparing the results with other approaches, the API approach proves to be effective and reliable for digital forensic examiners and forensic software developers to consider as available tool in their arsenal.

Web-Based Services: Concepts, Methodologies, Tools, and Applications

Information Security Applications

Cloud Computing, Security, Privacy in New Computing Environments

Concepts, Methodologies, Tools, and Applications

A Path Forward

37th IFIP TC 11 International Conference, SEC 2022, Copenhagen, Denmark, June 13–15, 2022, Proceedings

File System Forensic Analysis

This book provides a comprehensive overview of data security in cloud storage, ranging from basic paradigms and principles, to typical security issues and practical security solutions. It also illustrates how malicious attackers benefit from the compromised security of outsourced data in cloud storage and how attacks work in real situations, together with the countermeasures used to ensure the security of outsourced data. Furthermore, the book introduces a number of emerging technologies that hold considerable potential – for example, blockchain, trusted execution environment, and indistinguishability obfuscation – and outlines open issues and future research directions in cloud storage security. The topics addressed are important for the academic community, but are also crucial for industry, since cloud storage has become a fundamental component in many applications. The book offers a general introduction for interested readers with a basic modern cryptography background, and a reference guide for researchers and practitioners in the fields of data security and cloud storage. It will also help developers and engineers understand why some current systems are insecure and inefficient, and move them to design and develop improved systems.

The Definitive Guide to File System Analysis: Key Concepts and Hands-on Techniques Most digital evidence is stored within the computer's file system, but understanding how file systems work is one of the most technically challenging concepts for a digital investigator because there exists little documentation. Now, security expert Brian Carrier has written the definitive reference for everyone who wants to understand and be able to testify about how file system analysis is performed. Carrier begins with an overview of investigation and computer foundations and then gives an authoritative, comprehensive, and illustrated overview of contemporary volume and file systems: Crucial information for discovering hidden evidence, recovering deleted data, and validating your tools. Along the way, he describes data structures, analyzes example disk images, provides advanced investigation scenarios, and uses today's most valuable open source file system analysis

tools—including tools he personally developed. Coverage includes Preserving the digital crime scene and duplicating hard disks for "dead analysis" Identifying hidden data on a disk's Host Protected Area (HPA) Reading source data: Direct versus BIOS access, dead versus live acquisition, error handling, and more Analyzing DOS, Apple, and GPT partitions; BSD disk labels; and Sun Volume Table of Contents using key concepts, data structures, and specific techniques Analyzing the contents of multiple disk volumes, such as RAID and disk spanning Analyzing FAT, NTFS, Ext2, Ext3, UFS1, and UFS2 file systems using key concepts, data structures, and specific techniques Finding evidence: File metadata, recovery of deleted files, data hiding locations, and more Using The Sleuth Kit (TSK), Autopsy Forensic Browser, and related open source tools When it comes to file system analysis, no other book offers this much detail or expertise. Whether you're a digital forensics specialist, incident response team member, law enforcement officer, corporate security specialist, or auditor, this book will become an indispensable resource for forensic investigations, no matter what analysis tools you use.

This book constitutes the thoroughly refereed post-conference proceedings of the IFIP WG 11.4 International Workshop on Open Problems in Network Security, iNetSec 2011, held in Lucerne, Switzerland, in June 2011, co-located and under the auspices of IFIP SEC 2011, the 26th IFIP TC-11 International Information Security Conference. The 12 revised full papers were carefully reviewed and selected from 28 initial submissions; they are fully revised to incorporate reviewers' comments and discussions at the workshop. The volume is organized in topical sections on assisting users, malware detection, saving energy, policies, and problems in the cloud.

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.

ICBMA 2019

NISTIR 8006 Draft

IFIP WG 11.4 International Workshop, iNetSec 2011, Lucerne, Switzerland, June 9, 2011, Revised Selected Papers

Cybercrime and Cloud Forensics
7th International Conference, CloudComp 2016, and First International Conference, SPNCE 2016, Guangzhou, China, November 25 – 26, and December 15 – 16, 2016, Proceedings
Limitations and Future Applications of Quantum Cryptography
15th International Workshop, WISA 2014, Jeju Island, Korea, August 25-27, 2014. Revised Selected Papers

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

The conference on network security and communication engineering is meant to serve as a forum for exchanging new developments and research progresss between scholars, scientists and engineers all over the world and providing a unique opportunity to exchange information, to present the latest results as well as to review the relevant issues on

The rise of intelligence and computation within technology has created an eruption of potential applications in numerous professional industries. Techniques such as data analysis, cloud computing, machine learning, and others have altered the traditional processes of various disciplines including healthcare, economics, transportation, and politics. Information technology in today’s world is beginning to uncover opportunities for experts in these fields that they are not yet aware of. The exposure of

specific instances in which these devices are being implemented will assist other specialists in how to successfully utilize these transformative tools with the appropriate amount of discretion, safety, and awareness. Considering the level of diverse uses and practices throughout the globe, the fifth edition of the Encyclopedia of Information Science and Technology series continues the enduring legacy set forth by its predecessors as a premier reference that contributes the most cutting-edge concepts and methodologies to the research community. The Encyclopedia of Information Science and Technology, Fifth Edition is a three-volume set that includes 136 original and previously unpublished research chapters that present multidisciplinary research and expert insights into new methods and processes for understanding modern technological tools and their applications as well as emerging theories and ethical controversies surrounding the field of information science. Highlighting a wide range of topics such as natural language processing, decision support systems, and electronic government, this book offers strategies for implementing smart devices and analytics into various professional disciplines. The techniques discussed in this publication are ideal for IT professionals, developers, computer scientists, practitioners, managers, policymakers, engineers, data analysts, and programmers seeking to understand the latest developments within this field and who are looking to apply new tools and policies in their practice. Additionally, academicians, researchers, and students in fields that include but are not limited to software engineering, cybersecurity, information technology, media and communications, urban planning, computer science, healthcare, economics, environmental science, data management, and political science will benefit from the extensive knowledge compiled within this publication.

The concept of quantum computing is based on two fundamental principles of quantum mechanics: superposition and entanglement. Instead of using bits, qubits are used in quantum computing, which is a key indicator in the high level of safety and security this type of cryptography ensures. If interfered with or eavesdropped in, qubits will delete or refuse to send, which keeps the information safe. This is vital in the current era where sensitive and important personal information can be digitally shared online. In computer networks, a large amount of data is transferred worldwide daily, including anything from military plans to a country’s sensitive information, and data breaches can be disastrous. This is where quantum cryptography comes into play. By not being dependent on computational power, it can easily replace classical cryptography. Limitations and Future Applications of Quantum Cryptography is a critical reference that provides knowledge on the basics of IoT infrastructure using quantum

cryptography, the differences between classical and quantum cryptography, and the future aspects and developments in this field. The chapters cover themes that span from the usage of quantum cryptography in healthcare, to forensics, and more. While highlighting topics such as 5G networks, image processing, algorithms, and quantum machine learning, this book is ideally intended for security professionals, IoT developers, computer scientists, practitioners, researchers, academicians, and students interested in the most recent research on quantum computing.

Contemporary Digital Forensic Investigations of Cloud and Mobile Applications

Digital Forensics Explained

12th IFIP WG 11.9 International Conference, New Delhi, January 4-6, 2016, Revised Selected Papers

Strengthening Forensic Science in the United States

Open Problems in Network Security

Unleashing the Art of Digital Forensics

This book provides readers with up-to-date research of emerging cyber threats and defensive mechanisms, which are timely and essential. It covers cyber threat intelligence concepts against a range of threat actors and threat tools (i.e. ransomware) in cutting-edge technologies, i.e., Internet of Things (IoT), Cloud computing and mobile devices. This book also provides the technical information on cyber-threat detection methods required for the researcher and digital forensics experts, in order to build intelligent automated systems to fight against advanced cybercrimes. The ever increasing number of cyber-attacks requires the cyber security and forensic specialists to detect, analyze and defend against the cyber threats in almost real-time, and with such a large number of attacks is not possible without deeply perusing the attack features and taking corresponding intelligent defensive actions – this in essence defines cyber threat intelligence notion. However, such intelligence would not be possible without the aid of artificial intelligence, machine learning and advanced data mining techniques to collect, analyze, and interpret cyber-attack campaigns which is covered in this book. This book will focus on cutting-edge research from both academia and industry, with a particular emphasis on providing wider knowledge of the field, novelty of approaches, combination of tools and so forth to perceive reason, learn and act on a wide range of data collected from different cyber security and forensics solutions. This book introduces the notion of cyber threat intelligence and analytics and presents different attempts in utilizing machine learning and data mining techniques to create threat feeds for a range of consumers. Moreover, this book sheds light on existing and emerging trends in the field which could pave the way for future works. The inter-disciplinary nature of this book, makes it suitable for a wide range of audiences with backgrounds in artificial intelligence, cyber security, forensics, big data and data mining, distributed systems and computer networks. This would include industry professionals, advanced-level students and researchers that work within these related fields.

This book provides an in-depth understanding of big data challenges to digital forensic investigations, also known as big digital forensic data. It also develops the basis of using data mining in big forensic data analysis, including data reduction, knowledge management, intelligence, and data mining principles to achieve faster analysis in digital forensic investigations. By collecting and assembling a corpus of test data from a range of devices in the real world, it

outlines a process of big data reduction, and evidence and intelligence extraction methods. Further, it includes the experimental results on vast volumes of real digital forensic data. The book is a valuable resource for digital forensic practitioners, researchers in big data, cyber threat hunting and intelligence, data mining and other related areas.

Cloud Storage ForensicsSyngress Press

Contemporary Digital Forensic Investigations of Cloud and Mobile Applications comprehensively discusses the implications of cloud (storage) services and mobile applications on digital forensic investigations. The book provides both digital forensic practitioners and researchers with an up-to-date and advanced knowledge of collecting and preserving electronic evidence from different types of cloud services, such as digital remnants of cloud applications accessed through mobile devices. This is the first book that covers the investigation of a wide range of cloud services. Dr. Kim-Kwang Raymond Choo and Dr. Ali Dehghantanha are leading researchers in cloud and mobile security and forensics, having organized research, led research, and been published widely in the field. Users will gain a deep overview of seminal research in the field while also identifying prospective future research topics and open challenges. Presents the most current, leading edge research on cloud and mobile application forensics, featuring a panel of top experts in the field Introduces the first book to provide an in-depth overview of the issues surrounding digital forensic investigations in cloud and associated mobile apps Covers key technical topics and provides readers with a complete understanding of the most current research findings Includes discussions on future research directions and challenges

13th International Workshop, IWDW 2014, Taipei, Taiwan, October 1-4, 2014. Revised Selected Papers

Volume 1: Data Reduction Framework and Selective Imaging

Reliability through Reform?

Emerging Digital Forensics Applications for Crime Detection, Prevention, and Security

Issues, Methods, and Challenges

14th IFIP WG 11.9 International Conference, New Delhi, India, January 3-5, 2018, Revised Selected Papers

Security, Privacy, and Digital Forensics in the Cloud

This book presents the proceedings of the International Computer Symposium 2014 (ICS 2014), held at Tunghai University, Taichung, Taiwan in December. ICS is a biennial symposium founded in 1973 and offers a platform for researchers, educators and professionals to exchange their discoveries and practices, to share research experiences and to discuss potential new trends in the ICT industry. Topics covered in the ICS 2014 workshops include: algorithms and computation theory; artificial intelligence and fuzzy systems; computer architecture, embedded systems, SoC and VLSI/EDA; cryptography and information security; databases, data mining, big data and information retrieval; mobile computing, wireless communications and vehicular technologies; software engineering and programming languages; healthcare and bioinformatics, among others. There was also a workshop on information technology innovation, industrial application and the Internet of Things. ICS is one of Taiwan's most prestigious international IT symposiums, and this book will be of interest to all those involved in the world of information technology.

While cloud computing continues to transform developments in information technology services, these advancements have contributed to a rise in cyber attacks; producing an urgent need to extend the applications of

investigation processes. Cybercrime and Cloud Forensics: Applications for Investigation Processes presents a collection of research and case studies of applications for investigation processes in cloud computing environments. This reference source brings together the perspectives of cloud customers, security architects, and law enforcement agencies in the developing area of cloud forensics.

NISTIR 8006 Draft June 2014 This document summarizes the research performed by the members of the NIST Cloud Computing Forensic Science Working Group, and aggregates, categorizes and discusses the forensics challenges faced by experts when responding to incidents that have occurred in a cloud-computing ecosystem. The challenges are presented along with the associated literature that references them. The immediate goal of the document is to begin a dialogue on forensic science concerns in cloud computing ecosystems. The long-term goal of this effort is to gain a deeper understanding of those concerns (challenges) and to identify technologies and standards that can mitigate them. Why buy a book you can download for free? First you gotta find it and make sure it's the latest version (not always easy). Then you gotta print it using a network printer you share with 100 other people - and its outta paper - and the toner is low (take out the toner cartridge, shake it, then put it back). If it's just 10 pages, no problem, but if it's a 250-page book, you will need to punch 3 holes in all those pages and put it in a 3-ring binder. Takes at least an hour. An engineer that's paid $75 an hour has to do this himself (who has assistant's anymore?). If you are paid more than $10 an hour and use an ink jet printer, buying this book will save you money. It's much more cost-effective to just order the latest version from Amazon.com This book is published by 4th Watch Books and includes copyright material. We publish compact, tightly-bound, full-size books (8 by 11 inches), with glossy covers. 4th Watch Books is a Service Disabled Veteran-Owned Small Business (SDVOSB), and is not affiliated with the National Institute of Standards and Technology. For more titles published by 4th Watch Books, please visit: cybah.webplus.net A full copy of all the pertinent cybersecurity standards is available on DVD-ROM in the CyberSecurity Standards Library disc which is available at Amazon.com. NIST SP 500-299 NIST Cloud Computing Security Reference Architecture NIST SP 500-291 NIST Cloud Computing Standards Roadmap Version 2 NIST SP 500-293 US Government Cloud Computing Technology Roadmap Volume 1 & 2 NIST SP 500-293 US Government Cloud Computing Technology Roadmap Volume 3 DRAFT NIST SP 1800-8 Securing Wireless Infusion Pumps NISTIR 7497 Security Architecture Design Process for Health Information Exchanges (HIEs) NIST SP 800-66 Implementing the Health Insurance Portability and Accountability Act (HIPAA) Security Rule NIST SP 1800-1 Securing Electronic Health Records on Mobile Devices NIST SP 800-177 Trustworthy Email NIST SP 800-184 Guide for Cybersecurity Event Recovery NIST SP 800-190 Application Container Security Guide NIST SP 800-193 Platform Firmware Resiliency Guidelines NIST SP 1800-1 Securing Electronic Health

Records on Mobile Devices NIST SP 1800-2 Identity and Access Management for Electric Utilities NIST SP 1800-5 IT Asset Management: Financial Services NIST SP 1800-6 Domain Name Systems-Based Electronic Mail Security NIST SP 1800-7 Situational Awareness for Electric Utilities

This book constitutes the refereed proceedings of the 7th International Conference on Cloud Computing, Security, Privacy in New Computing Environments, CloudComp 2016, and the First EAI International Conference SPNCE 2016, both held in Guangzhou, China, in November and December 2016.The proceedings contain 10 full papers selected from 27 submissions and presented at CloudComp 2016 and 12 full papers selected from 69 submissions and presented at SPNCE 2016. CloudComp 2016 presents recent advances and experiences in clouds, cloud computing and related ecosystems and business support. SPNCE 2016 focuses on security and privacy aspects of new computing environments including mobile computing, big data, cloud computing and other large-scale environments.

Advances in Digital Forensics XIV

Security, Privacy and Anonymity in Computation, Communication and Storage

Intelligent Systems and Applications

Proceedings of the Sixth International Workshop on Digital Forensics and Incident Analysis (WDFIA 2011)

Cyber Threat Intelligence