

Digital Forensics And Cyber Crime 7th International Conference Icdf2c 2015 Seoul South Korea October 6 8 2015 Revised Selected Papers Lecture And Telecommunications Engineering

Placing the Suspect Behind the Keyboard is the definitive book on conducting a complete investigation of a cybercrime using digital forensics techniques as well as physical investigative procedures. This book merges a digital analysis examiner's work with the work of a case investigator in order to build a solid case to identify and prosecute cybercriminals. Brett Shavers links traditional investigative techniques with high tech crime analysis in a manner that not only determines elements of crimes, but also places the suspect at the keyboard. This book is a first in combining investigative strategies of digital forensics analysis processes alongside physical investigative techniques in which the reader will gain a holistic approach to their current and future cybercrime investigations. Learn the tools and investigative principles of both physical and digital cybercrime

investigations—and how they fit together to build a solid and complete case Master the techniques of conducting a holistic investigation that combines both digital and physical evidence to track down the "suspect behind the keyboard" The only book to combine physical and digital investigative techniques Given our increasing dependency on computing technology in daily business processes, and the growing opportunity to use engineering technologies to engage in illegal, unauthorized, and unethical acts aimed at corporate infrastructure, every organization is at risk. Cyber Forensics: A Field Manual for Collecting, Examining, and Preserving Evidence o Cybercrime Case Presentation is a "first look" excerpt from Brett Shavers' new Syngress book, Placing the Suspect Behind the Keyboard. Case presentation requires the skills of a good forensic examiner and great public speaker in order to convey enough information to an audience for the audience to place the suspect behind the keyboard. Using a variety of visual aids, demonstrative methods, and analogies, investigators can effectively create an environment where the audience fully understands complex technical information and activity in a chronological fashion, as if they observed the case as it happened. The emergence of the World Wide Web, smartphones, and Computer-Mediated Communications (CMCs) profoundly affect the way

in which people interact online and offline.

Individuals who engage in socially unacceptable or outright criminal acts increasingly utilize technology to connect with one another in ways that are not otherwise possible in the real world due to shame, social stigma, or risk of detection. As a consequence, there are now myriad opportunities for wrongdoing and abuse through technology. This book offers a comprehensive and integrative introduction to cybercrime. It is the first to connect the disparate literature on the various types of cybercrime, the investigation and detection of cybercrime and the role of digital information, and the wider role of technology as a facilitator for social relationships between deviants and criminals. It includes coverage of: key theoretical and methodological perspectives, computer hacking and digital piracy, economic crime and online fraud, pornography and online sex crime, cyber-bullying and cyber-stalking, cyber-terrorism and extremism, digital forensic investigation and its legal context, cybercrime policy. This book includes lively and engaging features, such as discussion questions, boxed examples of unique events and key figures in offending, quotes from interviews with active offenders and a full glossary of terms. It is supplemented by a companion website that includes further students exercises and instructor resources. This text is essential reading for courses on

cybercrime, cyber-deviancy, digital forensics, cybercrime investigation and the sociology of technology.

This book presents a comprehensive study of different tools and techniques available to perform network forensics. Also, various aspects of network forensics are reviewed as well as related technologies and their limitations. This helps security practitioners and researchers in better understanding of the problem, current solution space, and future research scope to detect and investigate various network intrusions against such attacks efficiently. Forensic computing is rapidly gaining importance since the amount of crime involving digital systems is steadily increasing. Furthermore, the area is still underdeveloped and poses many technical and legal challenges. The rapid development of the Internet over the past decade appeared to have facilitated an increase in the incidents of online attacks. There are many reasons which are motivating the attackers to be fearless in carrying out the attacks. For example, the speed with which an attack can be carried out, the anonymity provided by the medium, nature of medium where digital information is stolen without actually removing it, increased availability of potential victims and the global impact of the attacks are some of the aspects. Forensic analysis is performed at two different levels: Computer Forensics and Network Forensics. Computer

forensics deals with the collection and analysis of data from computer systems, networks, communication streams and storage media in a manner admissible in a court of law. Network forensics deals with the capture, recording or analysis of network events in order to discover evidential information about the source of security attacks in a court of law. Network forensics is not another term for network security. It is an extended phase of network security as the data for forensic analysis are collected from security products like firewalls and intrusion detection systems. The results of this data analysis are utilized for investigating the attacks. Network forensics generally refers to the collection and analysis of network data such as network traffic, firewall logs, IDS logs, etc. Technically, it is a member of the already-existing and expanding the field of digital forensics. Analogously, network forensics is defined as "The use of scientifically proved techniques to collect, fuses, identifies, examine, correlate, analyze, and document digital evidence from multiple, actively processing and transmitting digital sources for the purpose of uncovering facts related to the planned intent, or measured success of unauthorized activities meant to disrupt, corrupt, and or compromise system components as well as providing information to assist in response to or recovery from these activities." Network forensics

plays a significant role in the security of today's organizations. On the one hand, it helps to learn the details of external attacks ensuring similar future attacks are thwarted. Additionally, network forensics is essential for investigating insiders' abuses that constitute the second costliest type of attack within organizations. Finally, law enforcement requires network forensics for crimes in which a computer or digital system is either being the target of a crime or being used as a tool in carrying a crime. Network security protects the system against attack while network forensics focuses on recording evidence of the attack. Network security products are generalized and look for possible harmful behaviors. This monitoring is a continuous process and is performed all through the day. However, network forensics involves post mortem investigation of the attack and is initiated after crime notification. There are many tools which assist in capturing data transferred over the networks so that an attack or the malicious intent of the intrusions may be investigated. Similarly, various network forensic frameworks are proposed in the literature. This book offers a comprehensive and integrative introduction to cybercrime. It provides an authoritative synthesis of the disparate literature on the various types of cybercrime, the global investigation and detection of cybercrime and the role of digital information, and the wider role of

technology as a facilitator for social relationships between deviants and criminals. It includes coverage of: key theoretical and methodological perspectives; computer hacking and malicious software; digital piracy and intellectual theft; economic crime and online fraud; pornography and online sex crime; cyber-bullying and cyber-stalking; cyber-terrorism and extremism; digital forensic investigation and its legal context around the world; the law enforcement response to cybercrime transnationally; cybercrime policy and legislation across the globe. The new edition features two new chapters, the first looking at the law enforcement response to cybercrime and the second offering an extended discussion of online child pornography and sexual exploitation. This book includes lively and engaging features, such as discussion questions, boxed examples of unique events and key figures in offending, quotes from interviews with active offenders, and a full glossary of terms. This new edition includes QR codes throughout to connect directly with relevant websites. It is supplemented by a companion website that includes further exercises for students and instructor resources. This text is essential reading for courses on cybercrime, cyber-deviancy, digital forensics, cybercrime investigation, and the sociology of technology.

Following on the success of his introductory text, *Digital Evidence and Computer Crime*, Eoghan

Casey brings together a few top experts to create the first detailed guide for professionals who are already familiar with digital evidence. The Handbook of Computer Crime Investigation helps readers master the forensic analysis of computer systems with a three-part approach covering tools, technology, and case studies. The Tools section provides the details on leading software programs, with each chapter written by that product's creator. The section ends with an objective comparison of the strengths and limitations of each tool. The main Technology section provides the technical "how to" information for collecting and analyzing digital evidence in common situations, starting with computers, moving on to networks, and culminating with embedded systems. The Case Examples section gives readers a sense of the technical, legal, and practical challenges that arise in real computer investigations. The Tools section provides details of leading hardware and software. The main Technology section provides the technical "how to" information for collecting and analysing digital evidence in common situations. Case Examples give readers a sense of the technical, legal, and practical challenges that arise in real computer investigations. 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.

Handbook of Digital Forensics and Investigation builds on the success of the Handbook of Computer Crime Investigation, bringing together renowned experts in all areas of digital forensics and investigation to provide the consummate resource for practitioners in the field. It is also designed as an accompanying text to Digital Evidence and Computer Crime.

This unique collection details how to conduct digital investigations in both criminal and civil contexts, and how to locate and utilize digital evidence on computers, networks, and embedded systems. Specifically, the Investigative Methodology section of the Handbook provides expert guidance in the three main areas of practice: Forensic Analysis, Electronic Discovery, and Intrusion Investigation. The Technology section is extended and updated to reflect the state of the art in each area of specialization. The main areas of focus in the Technology section are forensic analysis of Windows, Unix, Macintosh, and embedded systems (including cellular telephones and other mobile devices), and investigations involving networks (including enterprise environments and mobile telecommunications technology). This handbook is an essential technical reference and on-the-job guide that IT professionals, forensic practitioners, law enforcement, and attorneys will rely on when confronted with computer related crime and digital evidence of any kind.

*Provides methodologies proven in practice for conducting digital investigations of all kinds *Demonstrates how to locate and interpret a wide variety of digital evidence, and how it can be useful in investigations *Presents tools in the context of the investigative process, including EnCase, FTK, ProDiscover, foremost, XACT, Network Miner, Splunk, flow-tools, and many other specialized utilities and analysis platforms *Case examples in every chapter give readers a practical understanding of the technical, logistical, and legal challenges that arise in real investigations

Updated to include the most current events and information on cyberterrorism, the second edition of Computer Forensics: Cybercriminals, Laws, and Evidence continues to balance technicality and legal analysis as it enters into the world of cybercrime by exploring what it is, how it is investigated, and the regulatory laws around the collection and use of

electronic evidence. Students are introduced to the technology involved in computer forensic investigations and the technical and legal difficulties involved in searching, extracting, maintaining, and storing electronic evidence, while simultaneously looking at the legal implications of such investigations and the rules of legal procedure relevant to electronic evidence. Significant and current computer forensic developments are examined, as well as the implications for a variety of fields including computer science, security, criminology, law, public policy, and administration.

This book contains a selection of thoroughly refereed and revised papers from the Second International ICST Conference on Digital Forensics and Cyber Crime, ICDF2C 2010, held October 4-6, 2010 in Abu Dhabi, United Arab Emirates. The field of digital forensics is becoming increasingly important for law enforcement, network security, and information assurance. It is a multidisciplinary area that encompasses a number of fields, including law, computer science, finance, networking, data mining, and criminal justice. The 14 papers in this volume describe the various applications of this technology and cover a wide range of topics including law enforcement, disaster recovery, accounting frauds, homeland security, and information warfare.

Advancing technologies, especially computer technologies, have necessitated the creation of a comprehensive investigation and collection methodology for digital and online evidence. The goal of cyber forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device or on a network and who was responsible for it. Critical Concepts, Standards, and Techniques in Cyber Forensics is a critical research book that focuses on providing in-depth knowledge about online forensic practices and

methods. Highlighting a range of topics such as data mining, digital evidence, and fraud investigation, this book is ideal for security analysts, IT specialists, software engineers, researchers, security professionals, criminal science professionals, policymakers, academicians, and students. Electronic discovery refers to a process in which electronic data is sought, located, secured, and searched with the intent of using it as evidence in a legal case. Computer forensics is the application of computer investigation and analysis techniques to perform an investigation to find out exactly what happened on a computer and who was responsible. IDC estimates that the U.S. market for computer forensics will be grow from \$252 million in 2004 to \$630 million by 2009. Business is strong outside the United States, as well. By 2011, the estimated international market will be \$1.8 billion dollars. The Techno Forensics Conference has increased in size by almost 50% in its second year; another example of the rapid growth in the market. This book is the first to combine cybercrime and digital forensic topics to provides law enforcement and IT security professionals with the information needed to manage a digital investigation. Everything needed for analyzing forensic data and recovering digital evidence can be found in one place, including instructions for building a digital forensics lab. * Digital investigation and forensics is a growing industry * Corporate I.T. departments investigating corporate espionage and criminal activities are learning as they go and need a comprehensive guide to e-discovery * Appeals to law enforcement agencies with limited budgets

This edited book, Introduction to Cyber Forensic Psychology: Understanding the Mind of the Cyber Deviant Perpetrators, is the first of its kind in Singapore, which explores emerging cybercrimes and cyber enabled crimes.Utilising a forensic psychology perspective to examine the mind of the cyber

deviant perpetrators as well as strategies for assessment, prevention, and interventions, this book seeks to tap on the valuable experiences and knowledge of leading forensic psychologists and behavioural scientists in Singapore. Some of the interesting trends discussed in this book include digital self-harm, stalkerware usage, livestreaming of crimes, online expression of hate and rebellion, attacks via smart devices, COVID-19 related scams and cyber vigilantism. Such insights would enhance our awareness about growing pervasiveness of cyber threats and showcase how behavioural sciences is a force-multiplier in complementing the existing technological solutions.

The First International Conference on Digital Forensics and Cyber Crime (ICDF2C) was held in Albany from September 30 to October 2, 2009. The field of digital forensics is growing rapidly with implications for several fields including law enforcement, network security, disaster recovery and accounting. This is a multidisciplinary area that requires expertise in several areas including, law, computer science, finance, networking, data mining, and criminal justice. This conference brought together practitioners and researchers from diverse fields providing opportunities for business and intellectual engagement among attendees. All the conference sessions were very well attended with vigorous discussions and strong audience interest. The conference featured an excellent program comprising high-quality paper presentations and invited speakers from all around the world. The first day featured a plenary session including George Philip, President of University at Albany, Harry Corbit, Superintendent of New York State Police, and William Pelgrin, Director of New York State Office of Cyber Security and Critical Infrastructure Coordination. An outstanding keynote was provided by Miklos Vasarhelyi on continuous auditing. This was followed by two parallel sessions on accounting fraud /financial crime, and m-

timedia and handheld forensics. The second day of the conference featured a mesmerizing keynote talk by Nitesh Dhanjani from Ernst and Young that focused on psychological profiling based on open source intelligence from social network analysis. The third day of the conference featured both basic and advanced tutorials on open source forensics. In recent years, industries have transitioned into the digital realm, as companies and organizations are adopting certain forms of technology to assist in information storage and efficient methods of production. This dependence has significantly increased the risk of cyber crime and breaches in data security. Fortunately, research in the area of cyber security and information protection is flourishing; however, it is the responsibility of industry professionals to keep pace with the current trends within this field. The Handbook of Research on Cyber Crime and Information Privacy is a collection of innovative research on the modern methods of crime and misconduct within cyber space. It presents novel solutions to securing and preserving digital information through practical examples and case studies. While highlighting topics including virus detection, surveillance technology, and social networks, this book is ideally designed for cybersecurity professionals, researchers, developers, practitioners, programmers, computer scientists, academicians, security analysts, educators, and students seeking up-to-date research on advanced approaches and developments in cyber security and information protection. The purpose of law is to prevent the society from harm by declaring what conduct is criminal, and prescribing the punishment to be imposed for such conduct. The pervasiveness of the internet and its anonymous nature make cyberspace a lawless frontier where anarchy prevails. Historically,

economic value has been assigned to visible and tangible assets. With the increasing appreciation that intangible data disseminated through an intangible medium can possess economic value, cybercrime is also being recognized as an economic asset. The Cybercrime, Digital Forensics and Jurisdiction disseminate knowledge for everyone involved with understanding and preventing cybercrime - business entities, private citizens, and government agencies. The book is firmly rooted in the law demonstrating that a viable strategy to confront cybercrime must be international in scope.

"Digital forensics is the science of collecting the evidence that can be used in a court of law to prosecute the individuals who engage in electronic crime"--Provided by publisher.

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of cybercrime" -- "How technicways will shift with new technologies" -- "Social movements, technology, and social change" -- "Need for new cyber criminological theories?" -- "Shifting enforcement strategies in the age of the Internet" -- "Considering the future of forensics" -- "The challenge to policy makers globally" -- "Summary" -- "Glossary"

This book constitutes the refereed proceedings of the 11th International Conference on Digital Forensics and Cyber Crime, ICDF2C 2020, held in Boston, MA, in October 2020. Due to COVID-19 pandemic the conference was held virtually. The 11 reviewed full papers and 4 short papers were selected from 35 submissions and are grouped in topical sections on digital forensics; cyber-physical system Forensics; event reconstruction in digital forensics; emerging topics in forensics; cybersecurity and digital forensics.

As computer and internet technologies continue to advance at a fast pace, the rate of cybercrimes is increasing. Crimes employing mobile devices, data embedding/mining systems, computers, network communications, or any malware impose a huge threat to data security, while cyberbullying, cyberstalking, child pornography, and trafficking crimes are made easier through the anonymity of the internet. New developments in digital forensics tools and an understanding of current criminal activities

can greatly assist in minimizing attacks on individuals, organizations, and society as a whole.

Digital Forensics and Forensic Investigations:

Breakthroughs in Research and Practice addresses current challenges and issues emerging in cyber forensics and new investigative tools and methods that can be adopted and implemented to address these issues and counter security breaches within various organizations. It also examines a variety of topics such as advanced techniques for forensic developments in computer and communication-link environments and legal perspectives including procedures for cyber investigations, standards, and policies. Highlighting a range of topics such as cybercrime, threat detection, and forensic science, this publication is an ideal reference source for security analysts, law enforcement, lawmakers, government officials, IT professionals, researchers, practitioners, academicians, and students currently investigating the up-and-coming aspects surrounding network security, computer science, and security engineering.

The Digital Age offers many far-reaching opportunities - opportunities that allow for fast global communications, efficient business transactions and stealthily executed cyber crimes. Featuring contributions from digital forensic experts, the editor of Forensic Computer Crime Investigation presents a vital resource that outlines the latest strategi

"Digital Evidence and Computer Crime" provides the knowledge necessary to uncover and use digital evidence effectively in any kind of investigation. This completely updated edition provides the introductory materials that new students require, and also expands on the material presented in previous editions to help students develop these skills. Written by a former NYPD cyber cop, this is the only book available that discusses the hard questions cyber crime investigators are asking. The book begins with the chapter "What is Cyber Crime? This introductory chapter describes the most common challenges faced by cyber investigators today. The following chapters discuss the methodologies behind cyber investigations; and frequently encountered pitfalls. Issues relating to cyber crime definitions, the electronic crime scene, computer forensics, and preparing and presenting a cyber crime investigation in court will be examined. Not only will these topics be generally be discussed and explained for the novice, but the hard questions —the questions that have the power to divide this community— will also be examined in a comprehensive and thoughtful manner. This book will serve as a foundational text for the cyber crime community to begin to move past current difficulties into its next evolution. This book has been written by a retired NYPD cyber cop, who has worked many high-profile computer crime cases Discusses the complex relationship between the

public and private sector with regards to cyber crime
Provides essential information for IT security
professionals and first responders on maintaining
chain of evidence

Computer Forensics: Evidence Collection and Management examines cyber-crime, E-commerce, and Internet activities that could be used to exploit the Internet, computers, and electronic devices. The book focuses on the numerous vulnerabilities and threats that are inherent on the Internet and networking environments and presents techniques and suggestions for corporate security personnel, investigators, and forensic examiners to successfully identify, retrieve, and protect valuable forensic evidence for litigation and prosecution. The book is divided into two major parts for easy reference. The first part explores various crimes, laws, policies, forensic tools, and the information needed to understand the underlying concepts of computer forensic investigations. The second part presents information relating to crime scene investigations and management, disk and file structure, laboratory construction and functions, and legal testimony. Separate chapters focus on investigations involving computer systems, e-mail, and wireless devices. Presenting information patterned after technical, legal, and managerial classes held by computer forensic professionals from Cyber Crime Summits held at Kennesaw State University in 2005 and 2006, this book is an invaluable resource for those who want to be both efficient and effective when conducting an investigation.

Digital Forensics and Cyber Crime First International ICST Conference, ICDF2C 2009, Albany, Ny, USA, September 30 - October 2, 2009, Revised Selected Papers Springer Science & Business Media

The leading introduction to computer crime and forensics

now fully updated to reflect today's newest attacks, laws, and investigatory best practices. Packed with new case studies, examples, and statistics, Computer Forensics and Cyber Crime, Third Edition adds up-to-the-minute coverage of smartphones, cloud computing, GPS, Mac OS X, Linux, Stuxnet, cyberbullying, cyberterrorism, search and seizure, online gambling, and much more. Covers all forms of modern and traditional computer crime, defines all relevant terms, and explains all technical and legal concepts in plain English, so students can succeed even if they have no technical, legal, or investigatory background.

Cybercrime continues to skyrocket but we are not combatting it effectively yet. We need more cybercrime investigators from all backgrounds and working in every sector to conduct effective investigations. This book is a comprehensive resource for everyone who encounters and investigates cybercrime, no matter their title, including those working on behalf of law enforcement, private organizations, regulatory agencies, or individual victims. It provides helpful background material about cybercrime's technological and legal underpinnings, plus in-depth detail about the legal and practical aspects of conducting cybercrime investigations. Key features of this book include: Understanding cybercrime, computers, forensics, and cybersecurity Law for the cybercrime investigator, including cybercrime offenses; cyber evidence-gathering; criminal, private and regulatory law, and nation-state implications Cybercrime investigation from three key perspectives: law enforcement, private sector, and regulatory Financial investigation Identification (attribution) of cyber-conduct Apprehension Litigation in the criminal and civil arenas. This far-reaching book is an essential reference for prosecutors and law enforcement officers, agents and analysts; as well as for private sector lawyers, consultants, information security professionals, digital forensic examiners,

and more. It also functions as an excellent course book for educators and trainers. We need more investigators who know how to fight cybercrime, and this book was written to achieve that goal. Authored by two former cybercrime prosecutors with a diverse array of expertise in criminal justice and the private sector, this book is informative, practical, and readable, with innovative methods and fascinating anecdotes throughout.

When it comes to computer crimes, the criminals got a big head start. But the law enforcement and IT security communities are now working diligently to develop the knowledge, skills, and tools to successfully investigate and prosecute Cybercrime cases. When the first edition of "Scene of the Cybercrime" published in 2002, it was one of the first books that educated IT security professionals and law enforcement how to fight Cybercrime. Over the past 5 years a great deal has changed in how computer crimes are perpetrated and subsequently investigated. Also, the IT security and law enforcement communities have dramatically improved their ability to deal with Cybercrime, largely as a result of increased spending and training. According to the 2006 Computer Security Institute's and FBI's joint Cybercrime report: 52% of companies reported unauthorized use of computer systems in the prior 12 months. Each of these incidents is a Cybercrime requiring a certain level of investigation and remediation. And in many cases, an investigation is mandated by federal compliance regulations such as Sarbanes-Oxley, HIPAA, or the Payment Card Industry (PCI) Data Security Standard. Scene of the Cybercrime, Second Edition is a completely revised and updated book which covers all of the technological, legal, and regulatory changes, which have occurred since the first edition. The book is written for dual audience; IT security professionals and members of law enforcement. It gives the

technical experts a little peek into the law enforcement world, a highly structured environment where the "letter of the law" is paramount and procedures must be followed closely lest an investigation be contaminated and all the evidence collected rendered useless. It also provides law enforcement officers with an idea of some of the technical aspects of how cyber crimes are committed, and how technology can be used to track down and build a case against the criminals who commit them. Scene of the Cybercrime, Second Editions provides a roadmap that those on both sides of the table can use to navigate the legal and technical landscape to understand, prevent, detect, and successfully prosecute the criminal behavior that is as much a threat to the online community as "traditional" crime is to the neighborhoods in which we live. Also included is an all new chapter on Worldwide Forensics Acts and Laws. * Companion Web site provides custom tools and scripts, which readers can download for conducting digital, forensic investigations. * Special chapters outline how Cybercrime investigations must be reported and investigated by corporate IT staff to meet federal mandates from Sarbanes Oxley, and the Payment Card Industry (PCI) Data Security Standard * Details forensic investigative techniques for the most common operating systems (Windows, Linux and UNIX) as well as cutting edge devices including iPods, Blackberries, and cell phones.

The definitive text for students of digital forensics, as well as professionals looking to deepen their understanding of an increasingly critical field Written by faculty members and associates of the world-renowned Norwegian Information Security Laboratory (NisLab) at the Norwegian University of Science and Technology (NTNU), this textbook takes a scientific approach to digital forensics ideally suited for university courses in digital forensics and information security. Each chapter was written by an accomplished expert in his or

her field, many of them with extensive experience in law enforcement and industry. The author team comprises experts in digital forensics, cybercrime law, information security and related areas. Digital forensics is a key competency in meeting the growing risks of cybercrime, as well as for criminal investigation generally. Considering the astonishing pace at which new information technology – and new ways of exploiting information technology – is brought on line, researchers and practitioners regularly face new technical challenges, forcing them to continuously upgrade their investigatory skills. Designed to prepare the next generation to rise to those challenges, the material contained in Digital Forensics has been tested and refined by use in both graduate and undergraduate programs and subjected to formal evaluations for more than ten years. Encompasses all aspects of the field, including methodological, scientific, technical and legal matters Based on the latest research, it provides novel insights for students, including an informed look at the future of digital forensics Includes test questions from actual exam sets, multiple choice questions suitable for online use and numerous visuals, illustrations and case example images Features real-world examples and scenarios, including court cases and technical problems, as well as a rich library of academic references and references to online media Digital Forensics is an excellent introductory text for programs in computer science and computer engineering and for master degree programs in military and police education. It is also a valuable reference for legal practitioners, police officers, investigators, and forensic practitioners seeking to gain a deeper understanding of digital forensics and cybercrime.

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.

The field of computer forensics has experienced significant growth recently and those looking to get into the industry have significant opportunity for upward mobility. Focusing on the concepts investigators need to know to conduct a thorough investigation, Digital Forensics Explained provides an overall description of the forensic practice from a practitioner's perspective. Starting with an overview, the text describes best practices based on the author's decades of experience conducting investigations and working in information technology. It illustrates the forensic process, explains what it takes to be an investigator, and highlights emerging trends. Filled with helpful templates and contributions from seasoned experts in their respective fields, the book includes coverage of: Internet and email investigations Mobile forensics for cell phones, iPads, music players, and other small devices Cloud computing from an architecture perspective and its impact on digital forensics Anti-forensic techniques that may be employed to make a forensic exam more difficult to conduct Recoverability of information from damaged media The progression of a criminal case from start to finish Tools that are often used in an examination, including commercial, free, and open-source tools; computer and mobile tools; and things as simple as extension cords Social media and social engineering forensics Case documentation and presentation, including sample summary reports and a cover sheet for a cell phone

investigation The text includes acquisition forms, a sequential process outline to guide your investigation, and a checklist of supplies you'll need when responding to an incident.

Providing you with the understanding and the tools to deal with suspects who find ways to make their digital activities hard to trace, the book also considers cultural implications, ethics, and the psychological effects that digital forensics investigations can have on investigators.

This book constitutes the thoroughly refereed post-conference proceedings of the 5th International ICST Conference on Digital Forensics and Cyber Crime, ICDF2C 2013, held in September 2013 in Moscow, Russia. The 16 revised full papers presented together with 2 extended abstracts and 1 poster paper were carefully reviewed and selected from 38 submissions. The papers cover diverse topics in the field of digital forensics and cybercrime, ranging from regulation of social networks to file carving, as well as technical issues, information warfare, cyber terrorism, critical infrastructure protection, standards, certification, accreditation, automation and digital forensics in the cloud. Through the rise of big data and the internet of things, terrorist organizations have been freed from geographic and logistical confines and now have more power than ever before to strike the average citizen directly at home. This, coupled with the inherently asymmetrical nature of cyberwarfare, which grants great advantage to the attacker, has created an unprecedented national security risk that both governments and their citizens are woefully ill-prepared to face. Examining cyber warfare and terrorism through a critical and academic perspective can lead to a better understanding of its foundations and implications. Cyber Warfare and Terrorism: Concepts, Methodologies, Tools, and Applications is an essential reference for the latest research on the utilization of online tools by terrorist organizations to

communicate with and recruit potential extremists and examines effective countermeasures employed by law enforcement agencies to defend against such threats. Highlighting a range of topics such as cyber threats, digital intelligence, and counterterrorism, this multi-volume book is ideally designed for law enforcement, government officials, lawmakers, security analysts, IT specialists, software developers, intelligence and security practitioners, students, educators, and researchers.

"Cybercrime and cyber-terrorism represent a serious challenge to society as a whole." - Hans Christian Krüger, Deputy Secretary General of the Council of Europe Crime has been with us as long as laws have existed, and modern technology has given us a new type of criminal activity: cybercrime. Computer and network related crime is a problem that spans the globe, and unites those in two disparate fields: law enforcement and information technology. This book will help both IT pros and law enforcement specialists understand both their own roles and those of the other, and show why that understanding and an organized, cooperative effort is necessary to win the fight against this new type of crime. 62% of US companies reported computer-related security breaches resulting in damages of \$124 million dollars. This data is an indication of the massive need for Cybercrime training within the IT and law enforcement communities. The only book that covers Cybercrime from forensic investigation through prosecution. Cybercrime is one of the battlefields in the war against terror.

This book constitutes the refereed proceedings of the 10th International Conference on Digital Forensics and Cyber Crime, ICDF2C 2018, held in New Orleans, LA, USA, in September 2018. The 11 reviewed full papers and 1 short paper were selected from 33 submissions and are grouped in topical sections on carving and data hiding, android, forensic

readiness, hard drives and digital forensics, artefact correlation.

This book constitutes the refereed proceedings of the 7th International Conference on Digital Forensics and Cyber Crime, ICDF2C 2015, held in Seoul, South Korea, in October 2015. The 14 papers and 3 abstracts were selected from 40 submissions and cover diverse topics ranging from tactics of cyber crime investigations to digital forensic education, network forensics, and international cooperation in digital investigations.

Become an effective cyber forensics investigator and gain a collection of practical, efficient techniques to get the job done. Diving straight into a discussion of anti-forensic techniques, this book shows you the many ways to effectively detect them. Now that you know what you are looking for, you'll shift your focus to network forensics, where you cover the various tools available to make your network forensics process less complicated. Following this, you will work with cloud and mobile forensic techniques by considering the concept of forensics as a service (FaSS), giving you cutting-edge skills that will future-proof your career. Building on this, you will learn the process of breaking down malware attacks, web attacks, and email scams with case studies to give you a clearer view of the techniques to be followed. Another tricky technique is SSD forensics, so the author covers this in detail to give you the alternative analysis techniques you'll need. To keep you up to speed on contemporary forensics, Practical Cyber Forensics includes a chapter on Bitcoin forensics, where key crypto-currency forensic techniques will be shared. Finally, you will see how to prepare accurate investigative reports. What You Will Learn Carry out forensic investigation on Windows, Linux, and macOS systems Detect and counter anti-forensic techniques Deploy network, cloud, and mobile forensics Investigate web and malware attacks

Write efficient investigative reports Who This Book Is For Intermediate infosec professionals looking for a practical approach to investigative cyber forensics techniques.

An explanation of the basic principles of data This book explains the basic principles of data as buildingblocks of electronic evidential matter, which are used in a cyberforensics investigations. The entire text is written with noreference to a particular operation system or environment, thus itis applicable to all work environments, cyber investigationscenarios, and technologies. The text is written in astep-by-step manner, beginning with the elementary buildingblocks of data progressing upwards to the representation andstorage of information. It incluces practical examples andillustrations throughout to guide the reader. This book constitutes the refereed proceedings of the 9th International Conference on Digital Forensics and Cyber Crime, ICDF2C 2017, held in Prague, Czech Republic, in October 2017. The 18 full papers were selected from 50 submissions and are grouped in topical sections on malware and botnet, deanonymization, digital forensics tools, cybercrime investigation and digital forensics triage, digital forensics tools testing and validation, hacking

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