

Computer Forensic And Investigations Authors Nelson Philips And Steuar

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 Cybecrime requiring a certain level of investigation and remediation. And in many cases, an investigation is mandates 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.

Computer Incident Response and Forensics Team Management provides security professionals with a complete handbook of computer incident response from the perspective of forensics team management. This unique approach teaches readers the concepts and principles they need to conduct a successful incident response investigation, ensuring that proven policies and procedures are established and followed by all team members. Leighton R. Johnson III describes the processes within an incident response event and shows the crucial importance of skillful forensics team management, including when and where the transition to forensics investigation should occur during an incident response event. The book also provides discussions of key incident response components. Provides readers with a complete handbook on computer incident response from the perspective of forensics team management Identify the key steps to completing a successful computer incident response investigation Defines the qualities necessary to become a successful forensics investigation team member, as well as the interpersonal relationship skills necessary for successful incident response and forensics investigation teams

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

PART OF THE NEW JONES & BARTLETT LEARNING INFORMATION SYSTEMS SECURITY & ASSURANCE SERIES Completely revised and rewritten to keep pace with the fast-paced field of Computer Forensics! Computer crimes call for forensics specialists, people who know how to find and follow the evidence. System Forensics, Investigation, and Response, Second Edition begins by examining the fundamentals of system forensics, such as what forensics is, the role of computer forensics specialists, computer forensic evidence, and application of forensic analysis skills. It also gives an overview of computer crimes, forensic methods, and laboratories. It then addresses the tools, techniques, and methods used to perform computer forensics and investigation. Finally, it explores emerging technologies as well as future directions of this interesting and cutting-edge field. New and Key Features of the Second Edition: Examines the fundamentals of system forensics Discusses computer crimes and forensic methods Written in an accessible and engaging style Incorporates real-world examples and engaging cases Instructor

Materials for System Forensics, Investigation, and Response include: PowerPoint Lecture Slides Exam Questions Case Scenarios/Handouts Instructor's Manual

Digital Forensics and Forensic Investigations: Breakthroughs in Research and Practice

Guide to Computer Forensics and Investigations

Digital Forensics with Open Source Tools

Forensic Science, Computers and the Internet

Understanding Digital Evidence from the Warrant to the Courtroom

Privacy and Security

"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.

It is our pleasure to place before you the book Digital Forensic Science. This book makes up a major part of the broad specialty of Digital Forensic Science, comprising mainly of tools and technologies of cyber forensic experts for their future practice. This book has been designed to merge a range of new ideas and unique works of authors from topics like fundamental principles of forensic cyber analysis, and protocols and rules needed for the best digital forensics. We hope that it will be useful to practitioners of forensic medicine, experts, cyber experts, law makers, investigating authorities, and undergraduate and postgraduate medical school graduates of medicine.

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. Updated with the latest advances from the field, GUIDE TO COMPUTER FORENSICS AND INVESTIGATIONS, Fifth Edition combines all-encompassing topic coverage and authoritative information from seasoned experts to deliver the most comprehensive forensics resource available. This proven author team's wide ranging areas of expertise mirror the breadth of coverage provided in the book, which focuses on techniques and practices for gathering and analyzing evidence used to solve crimes involving computers. Providing clear instruction on the tools and techniques of the trade, it introduces readers to every step of the computer forensics investigation-from lab set-up to testifying in court. It also details step-by-step guidance on how to use current forensics software. Appropriate for learners new to the field, it is also an excellent refresher and technology update for professionals in law enforcement, investigations, or computer security.

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From Reactive to Proactive Process, Second Edition

People, Process, and Technologies to Defend the Enterprise

Investigating Computer-Related Crime, Second Edition

Processing the Digital Crime Scene

Handbook of Digital Forensics and Investigation

Scene of the Cybercrime

Digital Triage Forensics: Processing the Digital Crime Scene provides the tools, training, and techniques in Digital Triage Forensics (DTF), a procedural model for the investigation of digital crime scenes including both traditional crime scenes and the more complex battlefield crime scenes. The DTF is used by the U.S. Army and other traditional police agencies for current digital forensic applications. The tools, training, and techniques from this practice are being brought to the public in this book for the first time. Now corporations, law enforcement, and consultants can benefit from the unique perspectives of the experts who coined Digital Triage Forensics. The text covers the collection of digital media and data from cellular devices and SIM cards. It also presents outlines of pre- and post- blast investigations. This book is divided into six chapters that present an overview of the age of warfare, key concepts of digital triage and battlefield forensics, and methods of conducting pre/post-blast investigations. The first chapter considers how improvised explosive devices (IEDs) have changed from basic booby traps to the primary attack method of the insurgents in Iraq and Afghanistan. It also covers the emergence of a sustainable vehicle for prosecuting enemy combatants under the Rule of Law in Iraq as U.S. airmen, marines, sailors, and soldiers perform roles outside their normal military duties and responsibilities. The remaining chapters detail the benefits of DTF model, the roles and responsibilities of the weapons intelligence team (WIT), and the challenges and issues of collecting digital media in battlefield situations. Moreover, data collection and processing as well as debates on the changing role of digital forensics investigators are explored. This book will be helpful to forensic scientists, investigators, and military personnel, as well as to students and beginners in forensics. Includes coverage on collecting digital media Outlines pre- and post-blast investigations Features content on collecting data from cellular devices and SIM cards

Every computer crime leaves tracks—you just have to know where to find them. This book shows you how to collect and analyze the digital evidence left behind in a digital crime scene.

Computers have always been susceptible to unwanted intrusions, but as the sophistication of computer technology increases so does the need to anticipate, and safeguard against, a corresponding rise in computer-related criminal activity. Computer forensics, the newest branch of computer security, focuses on the aftermath of a computer security incident. The goal of computer forensics is to conduct a structured investigation to determine exactly what happened, who was responsible, and to perform the investigation in such a way that the results are useful in a criminal proceeding. Written by two experts in digital investigation, Computer Forensics provides extensive information on how to handle the computer as evidence. Kruse and Heiser walk the reader through the complete forensics process—from the initial collection of evidence through the final report. Topics include an overview of the forensic relevance of encryption, the examination of digital evidence for clues, and the most effective way to present your evidence and conclusions in court. Unique forensic issues associated with both the Unix and the Windows NT/2000 operating systems are thoroughly covered. This book provides a detailed methodology for collecting, preserving, and effectively using evidence by addressing the three A's of computer forensics: Acquire the evidence without altering or damaging the original data. Authenticate that your recorded evidence is the same as the original seized data. Analyze the data without modifying the recovered data. Computer Forensics is written for everyone who is responsible for investigating digital criminal incidents or who may be interested in the techniques that such investigators use. It is equally helpful to those investigating hacked web servers, and those who are investigating the source of illegal pornography.

This book primarily focuses on providing deep insight into the concepts of network security, network forensics, botnet forensics, ethics and incident response in global perspectives. It also covers the dormant and contentious issues of the subject in most scientific and objective manner. Various case studies addressing contemporary network forensics issues are also included in this book to provide practical know - how of the subject. Network Forensics: A privacy & Security provides a significance knowledge of network forensics in different functions and spheres of the security. The book gives the complete knowledge of network security, all kind of network attacks, intention of an attacker, identification of attack, detection, its analysis, incident response, ethical issues, botnet and botnet forensics. This book also refer the recent trends that comes under network forensics. It provides in-depth insight to the dormant and latent issues of the acquisition and system live investigation too. Features: Follows an outcome-based learning approach. A systematic overview of the state-of-the-art in network security, tools, Digital forensics. Differentiation among network security, computer forensics, network forensics and botnet forensics. Discussion on various cybercrimes, attacks and cyber terminologies. Discussion on network forensics process model. Network forensics tools and different techniques Network Forensics analysis through case studies. Discussion on evidence handling and incident response. System Investigations and the ethical issues on network forensics. This book serves as a reference book for post graduate and research investigators who need to study in cyber forensics. It can also be used as a textbook for a graduate level course in Electronics & Communication, Computer Science and Computer Engineering.

Mobile forensics has grown from a relatively obscure tradecraft to a crucial part of many criminal investigations, and is now used daily by examiners and analysts within local, state, and federal law enforcement as well as within the military, US government organizations, and the private “e-Discovery” industry. Developments in forensic research, tools, and processes over the past decade have been very successful and continue to change at a rapid pace. Forensic Investigations and Risk Management in Mobile and Wireless Communications is a collection of innovative research on the methods and applications of analyzing mobile devices and data for collection of information pertaining to the legal evidence related to various security breaches and intrusion detection. While highlighting topics including cybercrime, neural networks, and smartphone security, this book is ideally designed for security analysts, IT professionals, researchers, practitioners, academicians, and students currently investigating the up-and-coming aspects surrounding network security, computer science, and security engineering.

Advanced Digital Forensic Analysis of the Windows Registry

A beginner's guide to searching, analyzing, and securing digital evidence

Contemporary Digital Forensic Investigations of Cloud and Mobile Applications

Digital Forensics for Legal Professionals

Cybercrime and Digital Forensics

A Practical Guide to Computer Forensics Investigations

Conduct repeatable, defensible investigations with EnCase Forensic v7 Maximize the powerful tools and features of the industry-leading digital investigation software. Computer Forensics and Digital Investigation with EnCase Forensic v7 reveals, step by step, how to detect illicit activity, capture and verify evidence, recover deleted and encrypted artifacts, prepare court-ready documents, and ensure legal and regulatory compliance. The book illustrates each concept using downloadable evidence from the National Institute of Standards and Technology CFReDS. Customizable sample procedures are included throughout this practical guide. Install EnCase Forensic v7 and customize the user interface Prepare your investigation and set up a new case Collect and verify evidence from suspect computers and networks Use the EnCase Evidence Processor and Case Analyzer Uncover clues using keyword searches and filter results through GREP Work with bookmarks, timelines, hash sets, and libraries Handle case closure, final disposition, and evidence destruction Carry out field investigations using EnCase Portable Learn to program in EnCase EnScript Revised edition of the author's System forensics, investigation, and response, c2014.

Get up and running with collecting evidence using forensics best practices to present your findings in judicial or administrative proceedings Key Features Learn the core techniques of computer forensics to acquire and secure digital evidence skillfully Conduct a digital forensic examination and document the digital evidence collected Analyze security systems and overcome complex challenges with a variety of forensic investigations Book Description A computer forensics investigator must possess a variety of skills, including the ability to answer legal questions, gather and document evidence, and prepare for an investigation. This book will help you get up and running with using digital forensic tools and techniques to investigate cybercrimes successfully. Starting with an overview of forensics and all the open source and commercial tools needed to get the job done, you'll learn core forensic practices for searching databases and analyzing data over networks, personal devices, and web applications. You'll then learn how to acquire valuable information from different places, such as filesystems, e-mails, browser histories, and search queries, and capture data remotely. As you advance, this book will guide you through implementing forensic techniques on multiple platforms, such as Windows, Linux, and macOS, to demonstrate how to recover valuable information as evidence. Finally, you'll get to grips with presenting your findings efficiently in judicial or administrative proceedings. By the end of this book, you'll have developed a clear understanding of how to acquire, analyze, and present digital evidence like a proficient computer forensics investigator. What you will learn Understand investigative processes, the rules of evidence, and ethical guidelines Recognize and document different types of computer hardware Understand the boot process covering BIOS, UEFI, and the boot sequence Validate forensic hardware and software Discover the locations of common Windows artifacts Document your findings using technically correct terminology Who this book is for If you're an IT beginner, student, or an investigator in the public or private sector this book is for you.This book will also help professionals and investigators who are new to incident response and digital forensics and interested in making a career in the cybersecurity domain.

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.

The Best Damn Cybercrime and Digital Forensics Book Period

A Comprehensive Resource for Everyone

Incident Response Essentials

Cloud Storage Forensics

Practical Cyber Forensics

An Introduction

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.

Windows Registry Forensics provides the background of the Windows Registry to help develop an understanding of the binary structure of Registry hive files. Approaches to live response and analysis are included, and tools and techniques for postmortem analysis are discussed at length. Tools and techniques are presented that take the student and analyst beyond the current use of viewers and into real analysis of data contained in the Registry, demonstrating the forensic value of the Registry. Named a 2011 Best Digital Forensics Book by InfoSec Reviews, this book is packed with real-world examples using freely available open source tools. It also includes case studies and a CD containing code and author-created tools discussed in the book. This book will appeal to computer forensic and incident response professionals, including federal government and commercial/private sector contractors, consultants, etc. Named a 2011 Best Digital Forensics Book by InfoSec Reviews Packed with real-world examples using freely available open source tools Deep explanation and understanding of the Windows Registry – the most difficult part of Windows to analyze forensically Includes a CD containing code and author-created tools discussed in the book 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. 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

Forensic Tools and Technology

System Forensics, Investigation and Response

The Primer for Getting Started in Digital Forensics

Forensic Computer Crime Investigation

Windows Registry Forensics

Computer Forensics

*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*

Digital forensics has recently gained a notable development and become the most demanding area in today's information security requirement. This book investigates the areas of digital forensics, digital investigation and data analysis procedures as they apply to computer fraud and cybercrime, with the main objective of describing a variety of digital crimes and retrieving potential digital evidence. Big Data Analytics and Computing for Digital Forensic Investigations gives a contemporary view on the problems of information security. It presents the idea that protective mechanisms and software must be integrated along with forensic capabilities into existing forensic software using big data computing tools and techniques. Features Describes trends of digital forensics served for big data and the challenges of evidence acquisition Enables digital forensic investigators and law enforcement agencies to enhance their digital investigation capabilities with the application of data science analytics, algorithms and fusion technique This book is focused on helping professionals as well as researchers to get ready with next-generation security systems to mount the rising challenges of computer fraud and cybercrimes as well as with digital forensic investigations. Dr Suneeta Satpathy has more than ten years of teaching experience in different subjects of the Computer Science and Engineering discipline. She is currently working as an associate professor in the Department of Computer Science and Engineering, College of Bhubaneswar, affiliated with Biju Patnaik University and Technology, Odisha. Her research interests include computer forensics, cybersecurity, data fusion, data mining, big data analysis and decision mining. Dr Sachi Nandan Mohanty is an associate professor in the Department of Computer Science and Engineering at ICFAI Tech, ICFAI Foundation for Higher Education, Hyderabad, India. His research interests include data mining, big data analysis, cognitive science, fuzzy decision-making, brain-computer interface, cognition and computational intelligence.

An authoritative guide to investigating high-technologycrimes Internet crime is seemingly ever on the rise, making the needfor a comprehensive resource on how to investigate these crimeseven more dire. This professional-level book--aimed at lawenforcement personnel, prosecutors, and corporateinvestigators--provides you with the training you need in order toacquire the sophisticated skills and software solutions to stay onestep ahead of computer criminals. Specifies the techniques needed to investigate, analyze, anddocument a criminal act on a Windows computer or network Places a special emphasis on how to thoroughly investigatecriminal activity and now just perform the initial response Walks you through ways to present technically complicatedmaterial in simple terms that will hold up in court Features content fully updated for Windows Server 2008 R2 andWindows 7 Covers the emerging field of Windows Mobile forensics Also included is a classroom support package to ensure academicadoption, Mastering Windows Network Forensics and Investigation,2nd Edition offers help for investigating high-technologycrimes.

All you need to know to succeed in digital forensics: technical and investigative skills, in one book Complete, practical, and up-to-date Thoroughly covers digital forensics for Windows, Mac, mobile, hardware, and networks Addresses online and lab investigations, documentation, admissibility, and more By Dr. Darren Hayes, founder of Pace University's Code Detectives forensics lab--one of America's "Top 10 Computer Forensics Professors" Perfect for anyone pursuing a digital forensics career or working with examiners Criminals go where the money is. Today, trillions of dollars of assets are digital, and digital crime is growing fast. In response, demand for digital forensics experts is soaring. To succeed in this exciting field, you need strong technical and investigative skills. In this guide, one of the world's leading computer orensics experts teaches you all the skills you'll need. Writing for students and professionals at all levels, Dr. Darren Hayes presents complete best practices for capturing and analyzing evidence, protecting the chain of custody, documenting investigations, and scrupulously adhering to the law, so your evidence can always be used. Hayes introduces today's latest technologies and technical challenges, offering detailed coverage of crucial topics such as mobile forensics, Mac forensics, cyberbullying, and child endangerment. This guide's practical activities and case studies give you hands-on mastery of modern digital forensics tools and techniques. Its many realistic examples reflect the author's extensive and pioneering work as a forensics examiner in both criminal and civil investigations. Understand what computer forensics examiners do, and the types of digital evidence they work with Explore Windows and Mac computers, understand how their features affect evidence gathering, and use free tools to investigate their contents Extract data from diverse storage devices Establish a certified forensics lab and implement good practices for managing and processing evidence Gather data and perform investigations online Capture Internet communications, video, images, and other content Write comprehensive reports that withstand defense objections and enable successful prosecution Follow strict search and surveillance rules to make your evidence admissible Investigate network breaches, including dangerous Advanced Persistent Threats (APTs) Retrieve immense amounts of evidence from smartphones, even without seizing them Successfully investigate financial fraud performed with digital devices Use digital photographic evidence, including metadata and social media images

Digital Forensics Explained

Mastering Windows Network Forensics and Investigation

Digital Forensic Science

Conducting a Successful Incident Response

Big Data Analytics and Computing for Digital Forensic Investigations

Cybercrime Investigations

Digital Forensics, Investigation, and Response, Fourth Edition examines the fundamentals of system forensics, addresses the tools, techniques, and methods used to perform computer forensics and investigation, and explores incident and intrusion response,

Implementing Digital Forensic Readiness: From Reactive to Proactive Process, Second Edition presents the optimal way for digital forensic and IT security professionals to implement a proactive approach to digital forensics. The book details how digital forensic processes can align strategically with business operations and an already existing information and data security program. Detailing proper collection, preservation, storage, and presentation of digital evidence, the procedures outlined illustrate how digital evidence can be an essential tool in mitigating risk and reducing the impact of both internal and external, digital incidents, disputes, and crimes. By utilizing a digital forensic readiness approach and stances, a company's preparedness and ability to take action quickly and respond as needed. In addition, this approach enhances the ability to gather evidence, as well as the relevance, reliability, and credibility of any such evidence. New chapters to this edition include Chapter 4 on Code of Ethics and Standards, Chapter 5 on Digital Forensics as a Business, and Chapter 10 on Establishing Legal Admissibility. This book offers best practices to professionals on enhancing their digital forensic program, or how to start and develop one the right way for effective forensic readiness in any corporate or enterprise setting.

The Basics of Digital Forensics provides a foundation for people new to the digital forensics field. This book teaches you how to conduct examinations by discussing what digital forensics is, the methodologies used, key tactical concepts, and the tools needed to perform examinations. Details on digital forensics for computers, networks, cell phones, GPS, the cloud and the Internet are discussed. Also, learn how to collect evidence, document the scene, and how deleted data can be recovered. The new Second Edition of this book provides you with completely up-to-date real-world examples and all the key technologies used in digital forensics, as well as new coverage of network intrusion response, how hard drives are organized, and electronic discovery. You'll also learn how to incorporate quality assurance into an investigation, how to prioritize evidence items to examine (triage), case processing, and what goes into making an expert witness. The Second Edition also features expanded resources and references, including online resources that keep you current, sample legal documents, and suggested further reading. Learn what Digital Forensics entails Build a toolkit and prepare an investigative plan Understand the common artifacts to look for in an exam Second Edition features all-new coverage of hard drives, triage, network intrusion response, and electronic discovery; as well as updated case studies, expert interviews, and expanded resources and references Since the last edition of this book was written more than a decade ago, cybercrime has evolved. Motives have not changed, but new means and opportunities have arisen with the advancement of the digital age. Investigating Computer-Related Crime: Second Edition incorporates the results of research and practice in a variety of venues, growth in the field, and new technology to offer a fresh look at the topic of digital investigation. Following an introduction to cybercrime and its impact on society, this book examines: Malware and the important differences between targeted attacks and general attacks The framework for conducting a digital investigation, how it is conducted, and some of the key issues that arise over the course of an investigation How the computer forensic process fits into an investigation The concept of system glitches vs. cybercrime and the importance of weeding out incidents that don't need investigating Investigative politics that occur during the course of an investigation, whether to involve law enforcement, and when an investigation should be stopped How to prepare for cybercrime before it happens End-to-end digital investigation Evidence collection, preservation, management, and effective use How to critique your investigation and maximize lessons learned This edition reflects a heightened focus on cyber stalking and cybercrime scene assessment, updates the tools used by digital forensic examiners, and places increased emphases on following the cyber trail and the concept of end-to-end digital investigation. Discussion questions at the end of each chapter are designed to stimulate further debate into this fascinating field.

Digital Forensics and Investigations

System Forensics, Investigation, and Response

Forensic Investigations and Risk Management in Mobile and Wireless Communications

Evidence Collection and Management

Digital Evidence and Computer Crime

Confluence of AI, Machine, and Deep Learning in Cyber Forensics

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.

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

Digital Forensics with Open Source Tools is the definitive book on investigating and analyzing computer systems and media using open source tools. The book is a technical procedural guide, and explains the use of open source tools on Mac, Linux and Windows systems as a platform for performing computer forensics. Both well-known and novel forensic methods are demonstrated using command-line and graphical open source computer forensic tools for examining a wide range of target systems and artifacts. Written by world-renowned forensic practitioners, this book uses the most current examination and analysis techniques in the field. It consists of 9 chapters that cover a range of topics such as the open source examination platform; disk and file system analysis; Windows systems and artifacts; Linux systems and artifacts; Mac OS X systems and artifacts; Internet artifacts; and automating analysis and extending capabilities. The book lends itself to use by students and those entering the field who do not have means to purchase new tools for different investigations. This book will appeal to forensic practitioners from areas including incident response teams and computer forensic investigators; forensic technicians from legal, audit, and consulting firms; and law enforcement agencies. Written by world-renowned forensic practitioners Details core concepts and techniques of forensic file system analysis Covers analysis of artifacts from the Windows, Mac, and Linux operating systems

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.

Computer Incident Response and Forensics Team Management

Network Forensics

An Incident-Based Approach to Forensic Investigations

Implementing Digital Forensic Readiness

Learn Computer Forensics

Breakthroughs in Research and Practice

Digital forensics has been a discipline of Information Security for decades now. Its principles, methodologies, and techniques have remained consistent despite the evolution of technology, and, ultimately, it can be applied to any form of digital data. However, within a corporate environment, digital forensic professionals are particularly challenged. They must maintain the legal admissibility and forensic viability of digital evidence in support of a broad range of different business functions that include incident response, electronic discovery (ediscovery), and ensuring the controls and accountability of such information across networks. Digital Forensics and Investigations: People, Process, and Technologies to Defend the Enterprise provides the methodologies and strategies necessary for these key business functions to seamlessly integrate digital forensic capabilities to guarantee the admissibility and integrity of digital evidence. In many books, the focus on digital evidence is primarily in the technical, software, and investigative elements, of which there are numerous publications. What tends to get overlooked are the people and process elements within the organization. Taking a step back, the book outlines the importance of integrating and accounting for the people, process, and technology components of digital forensics. In essence, to establish a holistic paradigm--and best-practice procedure and policy approach--to defending the enterprise. This book serves as a roadmap for professionals to successfully integrate an organization 's people, process, and technology with other key business functions in an enterprise 's digital forensic capabilities.

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.

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
Digital Forensics for Legal Professionals provides you with a guide to digital technology forensics in plain English. In the authors' years of experience in working with attorneys as digital forensics experts, common questions arise again and again: "What do I ask for?? "Is the evidence relevant?? "What does this item in the forensic report mean?? "What should I ask the other expert?? "What should I ask you?? "Can you explain that to a jury?? This book answers many of those questions in clear language that is understandable by non-technical people. With many illustrations and diagrams that will be usable in court, they explain technical concepts such as unallocated space, forensic copies, timeline artifacts and metadata in simple terms that make these concepts accessible to both attorneys and juries. The authors also explain how to determine what evidence to ask for, evidence might be that could be discoverable, and the methods for getting to it including relevant subpoena and motion language. Additionally, this book provides an overview of the current state of digital forensics, the right way to select a qualified expert, what to expect from a qualified expert and how to properly use experts before and during trial. Includes a companion Web site with: courtroom illustrations, and examples of discovery motions Provides examples of direct and cross examination questions for digital evidence Contains a reference of definitions of digital forensic terms, relevant case law, and resources for the attorney
Computer Forensics and Digital Investigation with EnCase Forensic
Digital Triage Forensics
Handbook of Computer Crime Investigation
The Basics of Digital Forensics
Digital Forensics, Investigation, and Response
File System Forensic Analysis

Developing a knowledge model helps to formalize the difficult task of analyzing crime incidents in addition to preserving and presenting the digital evidence for legal processing. The use of data analytics techniques to collect evidence assists investigators in following the standard set of forensic procedures, techniques, and methods used for evidence collection and extraction. Varieties of data sources and information can be uniquely identified, physically isolated from the crime scene, stored, and transmitted for investigation using AI techniques. With such large volumes of forensic data being processed, different deep learning techniques may be employed.

Confluence of AI, Machine, and Deep Learning in Cyber Forensics contains cutting-edge research on the latest AI techniques being used to design and build solutions that address prevailing issues in cyber forensics and that will support efficient and effective investigations. This book seeks to understand the value of the deep learning algorithm to handle evidence data as well as the usage of neural networks to analyze investigation data. Other themes that are explored include machine learning algorithms that allow machines to interact with the evidence, deep learning algorithms that can handle evidence acquisition and preservation, and techniques in both fields that allow for the analysis of huge amounts of data collected during an investigation. This book is ideally intended for forensics experts, forensic investigators, cyber forensic practitioners, researchers, academicians, and students interested in cyber forensics, computer science and engineering, information technology, and electronics and communication.

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 settings are 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 forensic 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, search, 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 Private Investigator. He has worked more than 100 cases in criminal, civil, and corporate environments.

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 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 cited 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 applications, 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 a complete understanding of the most current research findings Includes discussions on future research directions and challenges