Digital Forensics Elsevier

iPhone and iOS Forensics is a guide to the forensic acquisition and analysis of iPhone and iOS devices, and offers practical advice on how to secure iOS devices, data and apps. The book takes an in-depth look at methods and processes that analyze the iPhone/iPod in an official legal manner, so that all of the methods and procedures outlined in the text can be taken into any courtroom. It includes information data sets that are new and evolving, with official hardware knowledge from Apple itself to help aid investigators.

This book consists of 7 chapters covering device features and functions; file system and data storage; iPhone and iPad data security; acquisitions; data and application analysis; and commercial tool testing. This book will appeal to forensic investigators (corporate and law enforcement) and incident response professionals. Learn techniques to forensically acquire the iPhone, iPad and other iOS devices Entire chapter focused on Data and Application Security that can assist not only forensic investigators, but also application developers and IT security managers In-depth analysis of many of the

common applications (both default and downloaded), including where specific data is found within the file system TechnoSecurity's Guide to E-Discovery and Digital Forensics provides IT security professionals with the information (hardware, software, and procedural requirements) needed to create, manage and sustain a digital forensics lab and investigative team that can accurately and effectively analyze forensic data and recover digital evidence, while preserving the integrity of the electronic evidence for discovery and trial. Internationally known experts in computer

forensics share their years of experience at the forefront of digital forensics Bonus chapters on how to build your own Forensics Lab 50% discount to the upcoming Techno Forensics conference for everyone who purchases a book

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.

Network forensics is an evolution of typical digital forensics, in which evidence is gathered from network traffic in near real time. This book will help security and forensics professionals as well as network administrators build a solid foundation of processes and controls to identify incidents and gather evidence from the network.

Forensic scientists and investigators are some of the fastest growing jobs in the United States with over 70,000 individuals employed in 2008. Specifically in the area of

cybercrime and digital forensics, the federal government is conducting a talent search for 10,000 qualified specialists. Almost every technology company has developed or is developing a cloud computing strategy. To cut costs, many companies are moving toward network-based applications like SalesForce.com, PeopleSoft, and HR Direct. Every day, we are moving companies' proprietary data into a cloud, which can be hosted anywhere in the world. These companies need to understand how to identify where their data is going and what they are sending. Key network forensics skills and

tools are discussed-for example, capturing network traffic, using Snort for network-based forensics, using NetWitness Investigator for network traffic analysis, and deciphering TCP/IP. The current and future states of network forensics analysis tools are addressed. The admissibility of network-based traffic is covered as well as the typical life cycle of a network forensics investigation.

Advanced Digital Forensic Analysis of the Windows Registry

Malware Detection

Threatscape and Best Practices

A Digital Forensic Investigator's Guide to Virtual Environments
Cloud Storage Forensics
The Best Damn Cybercrime and Digital Forensics Book Period
Digital Forensics

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.

Python Forensics provides many never-before-published proven forensic modules, libraries, and solutions that can be used right out of the box. In addition, detailed instruction and documentation provided with the code samples will allow even novice Python programmers to add their own unique twists or use the models presented to build new solutions. Rapid development of new cybercrime investigation tools is an essential ingredient in virtually every case and environment. Whether you are performing post-mortem investigation, executing live triage, extracting evidence from mobile

devices or cloud services, or you are collecting and processing evidence from a network, Python forensic implementations can fill in the gaps. Drawing upon years of practical experience and using numerous examples and illustrative code samples, author Chet Hosmer discusses how to: Develop new forensic solutions independent of large vendor software release schedules Participate in an open-source workbench that facilitates direct involvement in the design and implementation of new methods that augment or replace existing tools Advance your career by creating new solutions along with the

construction of cutting-edge automation solutions to solve old problems Provides hands-on tools, code samples, and detailed instruction and documentation that can be put to use immediately Discusses how to create a Python forensics workbench Covers effective forensic searching and indexing using Python Shows how to use Python to examine mobile device operating systems: iOS, Android, and Windows 8 Presents complete coverage of how to use Python scripts for network investigation 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
Learn to pull "digital fingerprints from alternate data storage (ADS) devices including: iPod, Xbox, digital cameras and more from the cyber sleuths who train the Secret Service, FBI, and Department of Defense in bleeding edge digital forensics techniques. This book sets a new forensic methodology standard for investigators to use. This book begins by describing how

alternate data storage devices are used to both move and hide data. From here a series of case studies using bleeding edge forensic analysis tools demonstrate to readers how to perform forensic investigations on a variety of ADS devices including: Apple iPods, Digital Video Recorders, Cameras, Gaming Consoles (Xbox, PS2, and PSP), Bluetooth devices, and more using state of the art tools. Finally, the book takes a look into the future at "not yet every day devices which will soon be common repositories for hiding and moving data for both legitimate and illegitimate purposes. Authors are

undisputed leaders who train the Secret Service, FBI, and Department of Defense Book presents "one of a kind" bleeding edge information that absolutely can not be found anywhere else Today the industry has exploded and cyber investigators can be found in almost every field
A Digital Forensic Investigator's Guide to Virtual Environments
The Basics of Digital Forensics
Investigation, Analysis and Mobile Security for Apple iPhone, iPad and iOS Devices
Ethics in Forensic Science
iPhone and iOS Forensics

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

File System Forensic Analysis

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

XBOX 360 Forensics is a complete investigation guide for the XBOX game

console. Because the XBOX 360 is no longer just a video game console — it streams movies, connects with social networking sites and chatrooms, transfer files, and more — it just may contain evidence to assist in your next criminal investigation. The digital forensics community has already begun to receive game consoles for examination, but there is currently no map for you to follow as there may be with other digital media. XBOX 360

Forensics provides that map and presents the information in an easy-to-read, easy-to-reference format. This book is organized into 11 chapters that cover topics such as Xbox 360 hardware; XBOX LIVE; configuration of the console; initial forensic acquisition and examination; specific file types for Xbox 360; Xbox 360 hard drive; post-system update drive artifacts; and XBOX Live redemption code and Facebook. This book will appeal to computer forensic

and incident response professionals, including those in federal government, commercial/private sector contractors, and consultants. Game consoles are routinely seized and contain evidence of criminal activity Author Steve Bolt wrote the first whitepaper on XBOX investigations

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

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

Crime Scene Photography

Using Digital Forensics and Investigative Techniques to Identify Cybercrime Suspects

Digital Forensics Field Guides

X-Ways Forensics Practitioner's Guide

A Workbench for Inventing and Sharing

Digital Forensic Technology

An Investigator's Handbook

Alternate Data Storage Forensics

The word "ethical" can be defined as proper conduct. A failure of forensic scientists to act ethically can result in serious adverse outcomes. However, while seemingly simple to define, the application of being "ethical" is somewhat more obscure. That is, when is ethical, ethical, and when is it not? Because we have an adversarial legal system, differences of opinion exist in forensic science. However, there are

instances when differences are so divergent that an individual's ethics are called into question. In light of not only the O.J. Simpson trial - the first national trial to question the ethical behavior of forensic scientists - and the National Academy of Science critique of forensic science, ethical issues have come to the forefront of concern within the forensic community.

Contemporary Digital Forensic Investigations of Cloud and Mobile

Applications comprehensively discusses the implications of cloud (storage) services and mobile applications on digital forensic investigations. The book provides both digital forensic practitioners and researchers with an up-to-date and advanced knowledge of collecting and preserving electronic evidence from different types of cloud services, such as digital remnants of cloud applications accessed through mobile devices. This is the first book that

covers the investigation of a wide range of cloud services. Dr. Kim-Kwang Raymond Choo and Dr. Ali Dehghantanha are leading researchers in cloud and mobile security and forensics, having organized research, led research, and been published widely in the field. Users will gain a deep overview of seminal research in the field while also identifying prospective future research topics and open challenges. Presents the most current, leading edge research on

cloud and mobile application forensics, featuring a panel of top experts in the field Introduces the first book to provide an in-depth overview of the issues surrounding digital forensic investigations in cloud and associated mobile apps Covers key technical topics and provides readers with a complete understanding of the most current research findings Includes discussions on future research directions and challenges

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

Forensic image acquisition is an important part of postmortem incident response and evidence collection. Digital forensic investigators acquire, preserve, and manage digital evidence to support

civil and criminal cases; examine organizational policy violations; resolve disputes; and analyze cyber attacks. Practical Forensic Imaging takes a detailed look at how to secure and manage digital evidence using Linux-based command line tools. This essential guide walks you through the entire forensic acquisition process and covers a wide range of practical scenarios and situations related to the imaging of storage media. You'll learn how to:

–Perform forensic imaging of magnetic hard disks, SSDs and flash drives, optical discs, magnetic tapes, and legacy technologies –Protect attached evidence media from accidental modification –Manage large forensic image files, storage capacity, image format conversion, compression, splitting, duplication, secure transfer and storage, and secure disposal –Preserve and verify evidence integrity with cryptographic and piecewise hashing, public key

signatures, and RFC-3161 timestamping –Work with newer drive and interface technologies like NVME, SATA Express, 4K-native sector drives, SSHDs, SAS, UASP/USB3x, and Thunderbolt –Manage drive security such as ATA passwords; encrypted thumb drives; Opal self-encrypting drives; OS-encrypted drives using BitLocker, FileVault, and TrueCrypt; and others –Acquire usable images from more complex or challenging situations such as RAID

systems, virtual machine images, and damaged media With its unique focus on digital forensic acquisition and evidence preservation, Practical Forensic Imaging is a valuable resource for experienced digital forensic investigators wanting to advance their Linux skills and experienced Linux administrators wanting to learn digital forensics. This is a must-have reference for every digital forensics lab.

Forensic Dental Evidence

Understanding Digital Evidence from the Warrant to the Courtroom
Digital Forensics for Legal Professionals
TechnoSecurity's Guide to E-Discovery and Digital Forensics
A Forensic Evidence Guide for Moving Targets and Data
The Primer for Getting Started in Digital Forensics
Contemporary Digital Forensic Investigations of Cloud and Mobile Applications

Virtualization and Forensics: A Digital Forensic Investigators Guide to Virtual Environments provides an introduction to virtualized environments and their implications on forensic investigations. It emphasizes the need for organizations using virtualization to be proactive rather than reactive. Being proactive means learning the methods in this book to train staff, so when an incident occurs, they can quickly perform the forensics and minimize the damage to their systems. The book is organized into three parts. Part I deals with the virtualization process and the different types of virtualized environments. It explains how virtualization happens along with the various methods of virtualization, hypervisors, and the main categories of virtualization. It discusses server virtualization, desktop

virtualization, and the various portable virtualization programs, emulators, and appliances. Part II details how virtualization interacts with the basic forensic process. It describes the methods used to find virtualization artifacts in dead and live environments, and identifies the virtual activities that affect the examination process. Part III addresses advanced virtualization issues, such as the challenges of virtualized environments, cloud computing, and the future of virtualization. Named a 2011 Best Digital Forensics Book by InfoSec Reviews Gives you the end-to-end knowledge needed to identify server, desktop, and portable virtual environments, including: VMware, Parallels, Microsoft, and Sun Covers technological advances in virtualization tools, methods, and

issues in digital forensic investigations Explores trends and emerging technologies surrounding virtualization technology 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

"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.
This handbook is written for police investigators and forensic personnel who are tasked with developing investigations that require expertise in dentistry. The focus is providing the information necessary to recognize and professionally manage dental evidence. Investigators will understand the scientific nomenclature, scientific issues and the specialized forensic nature of this type of forensic investigation. The emphasis is on human identification from dental structures, the identification of people from bite marks, and the signs and

significance of dental injuries present in violent crime. Law enforcement personnel, coroners, and other death investigators often encounter crime scenes and victims that require dental expertise. Attorneys are asked to present dental evidence in court. This book delivers the backbone information for these individuals to better assess their needs in both casework and litigation. Forensic Dentistry contains numerous photographs of crime scene evidence and bite marks on victims and details for the reader the types of dental evidence and what is expected regarding collection, documentation, and the capabilities of analytical methods. This book is the first of its kind to present essential information to the field investigator in a format that allows easy reference and comprehensive detail.

* Contains previously unavailable information on digital photography and dental evidence * Includes dozens of photos that illustrate the proper collection and preservation of evidence * Provides desperately needed and essential information necessary to recognize, and professionally manage dental evidence

Digital Forensics with Open Source Tools

Securing Digital Evidence with Linux Tools

Digital Evidence and Computer Crime

Placing the Suspect Behind the Keyboard

Teaching the Jury through Effective Use of Visuals

Artificial Intelligence Tools for Cyber Attribution

Malware Forensics Field Guide for Windows Systems

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

Virtualization and Forensics: A Digital Forensic Investigators Guide to Virtual Environments offers an in-depth view into the world of virtualized environments and the implications they have on forensic investigations. Named a 2011 Best Digital Forensics Book by InfoSec Reviews, this guide gives you the end-to-end knowledge needed to identify server, desktop, and portable virtual environments, including: VMware, Parallels, Microsoft, and Sun. It covers technological advances in virtualization tools, methods, and issues in digital forensic investigations, and explores trends and emerging technologies surrounding virtualization technology. This book consists of three parts. Part I explains the process of

virtualization and the different types of virtualized environments. Part II details how virtualization interacts with the basic forensic process, describing the methods used to find virtualization artifacts in dead and live environments as well as identifying the virtual activities that affect the examination process. Part III addresses advanced virtualization issues, such as the challenges of virtualized environments, cloud computing, and the future of virtualization. This book will be a valuable resource for forensic investigators (corporate and law enforcement) and incident response professionals. Named a 2011 Best Digital Forensics Book by InfoSec Reviews Gives you the end-to-end knowledge needed to identify server,

desktop, and portable virtual environments, including: VMware, Parallels, Microsoft, and Sun
Covers technological advances in virtualization tools, methods, and issues in digital forensic investigations
Explores trends and emerging technologies surrounding virtualization technology
This SpringerBrief discusses how to develop intelligent systems for cyber attribution regarding cyber-attacks. Specifically, the authors review the multiple facets of the cyber attribution problem that make it difficult for “out-of-the-box” artificial intelligence and machine learning techniques to handle. Attributing a cyber-operation through the use of multiple pieces of technical evidence (i.e., malware

reverse-engineering and source tracking) and conventional intelligence sources (i.e., human or signals intelligence) is a difficult problem not only due to the effort required to obtain evidence, but the ease with which an adversary can plant false evidence. This SpringerBrief not only lays out the theoretical foundations for how to handle the unique aspects of cyber attribution – and how to update models used for this purpose – but it also describes a series of empirical results, as well as compares results of specially-designed frameworks for cyber attribution to standard machine learning approaches. Cyber attribution is not only a challenging problem, but there are also problems in performing such

research, particularly in obtaining relevant data. This SpringerBrief describes how to use capture-the-flag for such research, and describes issues from organizing such data to running your own capture-the-flag specifically designed for cyber attribution. Datasets and software are also available on the companion website.

Strategic Leadership in Digital Evidence: What Executives Need to Know provides leaders with broad knowledge and understanding of practical concepts in digital evidence, along with its impact on investigations. The book's chapters cover the differentiation of related fields, new market technologies, operating systems, social networking,

and much more. This guide is written at the layperson level, although the audience is expected to have reached a level of achievement and seniority in their profession, principally law enforcement, security and intelligence. Additionally, this book will appeal to legal professionals and others in the broader justice system. Covers a broad range of challenges confronting investigators in the digital environment Addresses gaps in currently available resources and the future focus of a fast-moving field Written by a manager who has been a leader in the field of digital forensics for decades

Practical Forensic Imaging

Digital Triage Forensics

Encyclopedia of Forensic Sciences
Cyber Crime Investigations
A Comprehensive Handbook
Python Forensics
Digital Forensics for Network, Internet, and Cloud Computing

Written by experts on the frontlines, Investigating Internet Crimes provides seasoned and new investigators with the background and tools they need to investigate crime occurring in the online world. This invaluable guide provides step-by-step instructions for investigating Internet crimes, including locating, interpreting, understanding, collecting, and documenting online electronic evidence to benefit investigations. Cybercrime is the

fastest growing area of crime as more criminals seek to exploit the speed, convenience and anonymity that the Internet provides to commit a diverse range of criminal activities. Today's online crime includes attacks against computer data and systems, identity theft, distribution of child pornography, penetration of online financial services, using social networks to commit crimes, and the deployment of viruses, botnets, and email scams such as phishing. Symantec's 2012 Norton Cybercrime Report stated that the world spent an estimated $110 billion to combat cybercrime, an average of nearly $200 per victim. Law enforcement agencies and corporate security officers around the world with the responsibility for enforcing, investigating and prosecuting cybercrime are overwhelmed, not only by the sheer number of

crimes being committed but by a lack of adequate training material. This book provides that fundamental knowledge, including how to properly collect and document online evidence, trace IP addresses, and work undercover. Provides step-by-step instructions on how to investigate crimes online Covers how new software tools can assist in online investigations Discusses how to track down, interpret, and understand online electronic evidence to benefit investigations Details guidelines for collecting and documenting online evidence that can be presented in court

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 forensic 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, protected, 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 a forensic 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.

Understanding Forensic Digital Imaging offers the principles of

forensic digital imaging and photography in a manner that is straightforward and easy to digest for the professional and student. It provides information on how to photograph any setting that may have forensic value, details how to follow practices that are acceptable in court, and recommends what variety of hardware and software are most valuable to a practitioner. In addition to chapters on basic topics such as light and lenses, resolution, and file formats, the book contains forensic-science-specific information on SWGIT and the use of photography in investigations and in court. Of particular note is Chapter 17, Establishing Quality Requirements, which offers information on how to create a good digital image, and is more comprehensive than any other source currently available. Covers

topics that are of vital importance to the practicing professional Serves as an up-to-date reference in the rapidly evolving world of digital imaging Uses clear and concise language so that any reader can understand the technology and science behind digital imaging

Digital Forensics Trial Graphics: Teaching the Jury Through Effective Use of Visuals helps digital forensic practitioners explain complex technical material to laypeople (i.e., juries, judges, etc.). The book includes professional quality illustrations of technology that help anyone understand the complex concepts behind the science. Users will find invaluable information on theory and best practices along with guidance on how to design and deliver successful explanations. Helps users learn skills for the effective

presentation of digital forensic evidence via graphics in a trial setting to laypeople such as juries and judges Presents the principles of visual learning and graphic design as a foundation for developing effective visuals Demonstrates the best practices of slide design to develop effective visuals for presentation of evidence Professionally developed graphics, designed specifically for digital forensics, that you can use at trial Downloadable graphics available at:
http://booksite.elsevier.com/9780128034835

Android Forensics

Strategic Leadership in Digital Evidence

A Digital Forensics Guide to Examining Artifacts

What Executives Need to Know

XBOX 360 Forensics

An Introduction to Solving Crimes in Cyberspace

Investigation, Analysis, and Mobile Security for Google Android

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 Crime Scene Photography is a book wrought from years of experience, with material carefully selected for ease of use and effectiveness in training, and field tested by the author in his role as a Forensic Services Supervisor for the Baltimore County Police Department. While there are many books on non-forensic photography, none of them adequately adapt standard image-taking to crime scene photography. The forensic

photographer, or more specifically the crime scene photographer, must know how to create an acceptable image that is capable of withstanding challenges in court. This book blends the practical functions of crime scene processing with theories of photography to guide the reader in acquiring the skills, knowledge and ability to render reliable evidence. Required reading by the IAI Crime Scene Certification Board for all levels of certification Contains over 500 photographs Covers the concepts and principles of photography as well as the "how to" of creating a final product Includes end-of-chapter exercises

This is the first digital forensics book that covers the complete lifecycle of digital evidence and the chain of custody. This comprehensive handbook includes international procedures, best practices, compliance, and a companion web site with downloadable forms. Written by world-renowned digital forensics experts, this book is a must for any digital forensics lab. It provides anyone who handles digital evidence with a guide to proper procedure throughout the chain of custody--from incident response through analysis in the lab. A step-by-step guide to designing, building and using a digital forensics lab A comprehensive

guide for all roles in a digital forensics laboratory Based on international standards and certifications

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
Meeting the Requirements of ISO 17020, ISO 17025, ISO 27001 and Best Practice Requirements
Handbook of Digital Forensics and Investigation
Big Data Analytics and Computing for Digital Forensic Investigations
Virtualization and Forensics
From Reactive to Proactive Process, Second Edition
Forensic Science, Computers and the Internet

Windows Registry Forensics

The open source nature of the platform has not only established a new direction for the industry, but enables a developer or forensic analyst to understand the device at the most fundamental level. Android Forensics covers an open source mobile device platform based on the Linux 2.6 kernel and managed by the Open Handset Alliance. The Android platform is a major source of digital forensic investigation and analysis. This book provides a thorough review of the Android platform including supported hardware devices, the structure of the Android development project and implementation of core services (wireless communication, data storage and other low-level

functions). Finally, it will focus on teaching readers how to apply actual forensic techniques to recover data. Ability to forensically acquire Android devices using the techniques outlined in the book Detailed information about Android applications needed for forensics investigations Important information about SQLite, a file based structured data storage relevant for both Android and many other platforms.

This book captures the state of the art research in the area of malicious code detection, prevention and mitigation. It contains cutting-edge behavior-based techniques to analyze and detect obfuscated malware. The book analyzes current trends in malware activity online, including botnets and

malicious code for profit, and it proposes effective models for detection and prevention of attacks using. Furthermore, the book introduces novel techniques for creating services that protect their own integrity and safety, plus the data they manage.
Digital Forensics: Threatscape and Best Practices surveys the problems and challenges confronting digital forensic professionals today, including massive data sets and everchanging technology. This book provides a coherent overview of the threatscape in a broad range of topics, providing practitioners and students alike with a comprehensive, coherent overview of the threat landscape and what can be done to manage and prepare for it. Digital Forensics:

Threatscape and Best Practices delivers you with incisive analysis and best practices from a panel of expert authors, led by John Sammons, bestselling author of The Basics of Digital Forensics. Learn the basics of cryptocurrencies (like Bitcoin) and the artifacts they generate Learn why examination planning matters and how to do it effectively Discover how to incorporate behaviorial analysis into your digital forensics examinations Stay updated with the key artifacts created by the latest Mac OS, OS X 10.11, El Capitan Discusses the threatscapes and challenges facing mobile device forensics, law enforcement, and legal cases The power of applying the electronic discovery workflows to digital forensics

Discover the value of and impact of social media forensics

*Dissecting the dark side of the Internet with its infectious worms, botnets, rootkits, and Trojan horse programs (known as malware) is a treaterous condition for any forensic investigator or analyst. Written by information security experts with real-world investigative experience, Malware Forensics Field Guide for Windows Systems is a "tool" with checklists for specific tasks, case studies of difficult situations, and expert analyst tips. *A condensed hand-held guide complete with on-the-job tasks and checklists *Specific for Windows-based systems, the largest running OS in the world *Authors are world-*

renowned leaders in investigating and analyzing malicious code
Digital Forensics Trial Graphics
Implementing Digital Forensic Readiness
Processing the Digital Crime Scene
Investigating Internet Crimes
Understanding Forensic Digital Imaging
Bridging the Gaps Between Security Professionals, Law Enforcement, and Prosecutors
Digital Forensics Processing and Procedures

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 redusing 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 X-Ways Forensics Practitioner's Guide is more than a manual-it's a complete reference guide to the full use of one of the most powerful forensic applications available, software that is used by a wide array of law enforcement agencies and private forensic examiners on a daily basis. In the X-Ways Forensics Practitioner's Guide, the authors provide you with complete coverage of this powerful tool, walking you through configuration and X-Ways

fundamentals, and then moving through case flow, creating and importing hash databases, digging into OS artifacts, and conducting searches. With X-Ways Forensics Practitioner's Guide, you will be able to use X-Ways Forensics to its fullest potential without any additional training. The book takes you from installation to the most advanced features of the software. Once you are familiar with the basic components of X-Ways, the authors demonstrate never-before-documented features using real life examples and information on how to present investigation results. The book culminates with chapters on reporting, triage and preview methods, as well as electronic discovery and cool X-Ways apps. Provides detailed explanations of the complete forensic investigation processe using X-Ways Forensics. Goes beyond the basics:

hands-on case demonstrations of never-before-documented features of X-Ways. Provides the best resource of hands-on information to use X-Ways 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

Digital ForensicsThreatscape and Best PracticesSyngress