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SECOND EDITION

A PRACTICAL GUIDE TO DIGITAL FORENSICS INVESTIGATIONS

DR. DARREN R. HAYES

A Practical Guide To Computer Forensics Investigations

Ying-Ying Zheng



A Practical Guide To Computer Forensics Investigations:

A Practical Guide to Computer Forensics Investigations Darren R. Hayes, 2015 A Practical Guide to Computer Forensics Investigations introduces the newest technologies along with detailed information on how the evidence contained on these devices should be analyzed Packed with practical hands on activities students will learn unique subjects from chapters including Mac Forensics Mobile Forensics Cyberbullying and Child Endangerment This well developed book will prepare students for the rapidly growing field of computer forensics for a career with law enforcement accounting firms banks and credit card companies private investigation companies or government agencies *A Practical Guide to Digital Forensics Investigations* Darren R. Hayes, 2020-10-16 THE DEFINITIVE GUIDE TO DIGITAL FORENSICS NOW THOROUGHLY UPDATED WITH NEW TECHNIQUES TOOLS AND SOLUTIONS Complete practical coverage of both technical and investigative skills Thoroughly covers modern devices networks and the Internet Addresses online and lab investigations documentation admissibility and more Aligns closely with the NSA Knowledge Units and the NICE Cybersecurity Workforce Framework As digital crime soars so does the need for experts who can recover and evaluate evidence for successful prosecution Now Dr Darren Hayes has thoroughly updated his definitive guide to digital forensics investigations reflecting current best practices for securely seizing extracting and analyzing digital evidence protecting the integrity of the chain of custody effectively documenting investigations and scrupulously adhering to the law so that your evidence is admissible in court Every chapter of this new Second Edition is revised to reflect newer technologies the latest challenges technical solutions and recent court decisions Hayes has added detailed coverage of wearable technologies IoT forensics 5G communications vehicle forensics and mobile app examinations advances in incident response and new iPhone and Android device examination techniques Through practical activities realistic examples and fascinating case studies you ll build hands on mastery and prepare to succeed in one of today s fastest growing fields LEARN HOW TO Understand what digital forensics examiners do the evidence they work with and the opportunities available to them Explore how modern device features affect evidence gathering and use diverse tools to investigate them Establish a certified forensics lab and implement best practices for managing and processing evidence Gather data online to investigate today s complex crimes Uncover indicators of compromise and master best practices for incident response Investigate financial fraud with digital evidence Use digital photographic evidence including metadata and social media images Investigate wearable technologies and other Internet of Things devices Learn new ways to extract a full fi le system image from many iPhones Capture extensive data and real time intelligence from popular apps Follow strict rules to make evidence admissible even after recent Supreme Court decisions [Investigative Computer Forensics](#) Erik Laykin, 2013-04-03 Investigative computer forensics is playing an increasingly important role in the resolution of challenges disputes and conflicts of every kind and in every corner of the world Yet for many there is still great apprehension when contemplating leveraging these emerging technologies

preventing them from making the most of investigative computer forensics and its extraordinary potential to dissect everything from common crime to sophisticated corporate fraud Empowering you to make tough and informed decisions during an internal investigation electronic discovery exercise or while engaging the capabilities of a computer forensic professional Investigative Computer Forensics explains the investigative computer forensic process in layman s terms that users of these services can easily digest Computer forensic e discovery expert and cybercrime investigator Erik Laykin provides readers with a cross section of information gleaned from his broad experience covering diverse areas of knowledge and proficiency from the basics of preserving and collecting evidence through to an examination of some of the future shaping trends that these technologies are having on society Investigative Computer Forensics takes you step by step through Issues that are present day drivers behind the converging worlds of business technology law and fraud Computers and networks a primer on how they work and what they are Computer forensic basics including chain of custody and evidence handling Investigative issues to know about before hiring a forensic investigator Managing forensics in electronic discovery How cyber firefighters defend against cybercrime and other malicious online activity Emerging standards of care in the handling of electronic evidence Trends and issues affecting the future of the information revolution and society as a whole Thoroughly researched and practical Investigative Computer Forensics helps you whether attorney judge businessperson or accountant prepare for the forensic computer investigative process with a plain English look at the complex terms issues and risks associated with managing electronic data in investigations and discovery

Practical Guide to Computer Forensi Darren R. Hayes,2020-03-10 Now extensively updated this authoritative intensely practical guide to digital forensics draws upon the author s wide ranging experience in law enforcement including his pioneering work as a forensics examiner in both criminal and civil investigations Writing for students and other readers at all levels of experience Dr Darren Hayes presents comprehensive modern best practices for capturing and analyzing evidence protecting the chain of custody documenting investigations and more all designed for application in actual crime scenes In this edition Hayes tightly aligns his coverage with widely respected government curricula including NSA Knowledge Units and with key professional certifications such as AccessData Certified Examiner ACE A Practical Guide to Digital Forensics Investigations Second Edition presents more hands on activities and case studies than any book of its kind including short questions essay questions and discussion questions in every chapter It addresses issues ranging from device hardware and software to law privacy and ethics scientific and government protocols to techniques for investigation and reporting Reflecting his deep specialized knowledge this edition offers unsurpassed coverage of mobile forensics including a full chapter on mobile apps It also adds new discussions of capturing investigatory data from today s ubiquitous Internet of Things IoT devices as well as digital forensics techniques for incident response and related cybersecurity tasks Throughout Hayes presents detailed chapters on crucial topics that competitive books gloss over including Mac forensics and investigating child endangerment

Guide to Computer Forensics and Investigations, Loose-Leaf Version Bill Nelson, Amelia Phillips, Christopher Steuart, 2024-04-03 Master the skills you need to conduct a successful digital investigation with Nelson Phillips Steuart's GUIDE TO COMPUTER FORENSICS AND INVESTIGATIONS 7th Edition Combining the latest advances in computer forensics with all encompassing topic coverage authoritative information from seasoned experts and real world applications you get the most comprehensive forensics resource available While other resources offer an overview of the field the hands on learning in GUIDE TO COMPUTER FORENSICS AND INVESTIGATIONS teaches you the tools and techniques of the trade introducing you to every step of the digital forensics investigation process from lab setup to testifying in court Designed to provide the most modern approach to the ins and outs of the profession of digital forensics investigation it is appropriate for learners new to the field and an excellent refresher and technology update for current law enforcement investigations or information security professionals

Security, Privacy, and Digital Forensics in the Cloud Lei Chen, Hassan Takabi, Nhien-An Le-Khac, 2019-02-01 In a unique and systematic way this book discusses the security and privacy aspects of the cloud and the relevant cloud forensics Cloud computing is an emerging yet revolutionary technology that has been changing the way people live and work However with the continuous growth of cloud computing and related services security and privacy has become a critical issue Written by some of the top experts in the field this book specifically discusses security and privacy of the cloud as well as the digital forensics of cloud data applications and services The first half of the book enables readers to have a comprehensive understanding and background of cloud security which will help them through the digital investigation guidance and recommendations found in the second half of the book Part One of Security Privacy and Digital Forensics in the Cloud covers cloud infrastructure security confidentiality of data access control in cloud IaaS cloud security and privacy management hacking and countermeasures risk management and disaster recovery auditing and compliance and security as a service SaaS Part Two addresses cloud forensics model challenges and approaches cyberterrorism in the cloud digital forensic process and model in the cloud data acquisition digital evidence management presentation and court preparation analysis of digital evidence and forensics as a service FaaS Thoroughly covers both security and privacy of cloud and digital forensics Contributions by top researchers from the U S the European and other countries and professionals active in the field of information and network security digital and computer forensics and cloud and big data Of interest to those focused upon security and implementation and incident management Logical well structured and organized to facilitate comprehension Security Privacy and Digital Forensics in the Cloud is an ideal book for advanced undergraduate and master's level students in information systems information technology computer and network forensics as well as computer science It can also serve as a good reference book for security professionals digital forensics practitioners and cloud service providers

Modern Forensic Tools and Devices Deepak Rawtani, Chaudhery Mustansar Hussain, 2023-06-27 MODERN FORENSIC TOOLS AND DEVICES The book offers a comprehensive overview of the latest technologies and techniques used in forensic

investigations and highlights the potential impact of these advancements on the field. Technology has played a pivotal role in advancing forensic science over the years, particularly in modern-day criminal investigations. In recent years, significant advancements in forensic tools and devices have enabled investigators to gather and analyze evidence more efficiently than ever. Modern Forensic Tools and Devices Trends in Criminal Investigation is a comprehensive guide to the latest technologies and techniques used in forensic science. This book covers a wide range of topics from computer forensics and personal digital assistants to emerging analytical techniques for forensic samples. A section of the book provides detailed explanations of each technology and its applications in forensic investigations, along with case studies and real-life examples to illustrate their effectiveness. One critical aspect of this book is its focus on emerging trends in forensic science. The book covers new technologies such as cloud and social media forensics, vehicle forensics, facial recognition, and reconstruction, automated fingerprint identification systems, and sensor-based devices for trace evidence, to name a few. Its thoroughly detailed chapters expound upon spectroscopic analytical techniques in forensic science, DNA sequencing, rapid DNA tests, bio-mimetic devices for evidence detection, forensic photography, scanners, microscopes, and recent advancements in forensic tools. The book also provides insights into forensic sampling and sample preparation techniques, which are crucial for ensuring the reliability of forensic evidence. Furthermore, the book explains the importance of proper sampling and the role it plays in the accuracy of forensic analysis.

Audience: The book is an essential resource for forensic scientists, law enforcement officials, and anyone interested in the advancements in forensic science, such as engineers, materials scientists, and device makers.

Digital Forensics Basics Nihad A. Hassan, 2019-02-25. Use this hands-on introductory guide to understand and implement digital forensics to investigate computer crime using Windows, the most widely used operating system. This book provides you with the necessary skills to identify an intruder's footprints and to gather the necessary digital evidence in a forensically sound manner to prosecute in a court of law. Directed toward users with no experience in the digital forensics field, this book provides guidelines and best practices when conducting investigations, as well as teaching you how to use a variety of tools to investigate computer crime. You will be prepared to handle problems such as law violations, industrial espionage, and use of company resources for private use. Digital Forensics Basics is written as a series of tutorials, with each task demonstrating how to use a specific computer forensics tool or technique. Practical information is provided, and users can read a task and then implement it directly on their devices. Some theoretical information is presented to define terms used in each technique, and for users with varying IT skills.

What You'll Learn: Assemble computer forensics lab requirements, including workstations, tools, and more. Document the digital crime scene, including preparing a sample chain of custody form. Differentiate between law enforcement agency and corporate investigations. Gather intelligence using OSINT sources. Acquire and analyze digital evidence. Conduct in-depth forensic analysis of Windows operating systems, covering Windows 10 specific feature forensics. Utilize anti-forensic techniques, including steganography, data destruction techniques, encryption, and anonymity techniques.

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GUIDE TO COMPUTER FORENSICS AND INVESTIGATIONS. CHRISTOPHER. PHILLIPS STEUART (AMELIA. NELSON, BILL.),2024

Advanced Methodologies and Technologies in System Security, Information Privacy, and Forensics Khosrow-Pour, D.B.A., Mehdi,2018-10-05 Cyber attacks are rapidly becoming one of the most prevalent issues globally and as they continue to escalate it is imperative to explore new approaches and technologies that help ensure the security of the online community Beyond cyber attacks personal information is now routinely and exclusively housed in cloud based systems The rising use of information technologies requires stronger information security and system procedures to reduce the risk of information breaches Advanced Methodologies and Technologies in System Security Information Privacy and Forensics presents emerging research and methods on preventing information breaches and further securing system networks While highlighting the rising concerns in information privacy and system security this book explores the cutting edge methods combatting digital risks and cyber threats This book is an important resource for information technology professionals cybercrime researchers network analysts government agencies business professionals academicians and practitioners seeking the most up to date information and methodologies on cybercrime digital terrorism network security and information technology ethics

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