Machine Learning Forensics For Law Enforcement Security And Intelligence

Informatics and Intelligent Applications
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Strengthening Forensic Science in the United States

Artificial Intelligence (AI) in Forensic Sciences
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IPhone Forensics
The Best Damn Cybercrime and Digital Forensics Book Period
Computational Intelligence in Digital Forensics: Forensic Investigation and Applications
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Information Security, Privacy and Digital Forensics
Digital Forensics and Cyber Crime Investigation
Aiding Forensic Investigation Through Deep Learning and Machine Learning Frameworks

Confluence of AI, Machine, and Deep Learning in Cyber Forensics
Cyber Warfare and Terrorism: Concepts, Methodologies, Tools, and Applications
ECIAIR 2019 European Conference on the Impact of Artificial Intelligence and Robotics
Handbook of Research on Machine and Deep Learning Applications for Cyber Security
Cyber Crime and Forensic Computing
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Deep Learning Techniques for IoT Security and Privacy
Advances in Informatics, Management and Technology in Healthcare
Implementing Digital Forensic Readiness

LOGAN LEWIS

Informatics and Intelligent Applications
IGI Global
Computational Intelligence techniques have been widely explored in various domains including forensics. Analysis in forensic encompasses the study of pattern analysis that answer the question

of interest in security, medical, legal, genetic studies and etc. However, forensic analysis is usually performed through experiments in lab which is expensive both in cost and time. Therefore, this book seeks to explore the progress and advancement of computational intelligence technique in different focus areas of forensic studies. This aims to build stronger connection between computer scientists and forensic field experts. This book, Computational Intelligence in Digital Forensics: Forensic Investigation and Applications, is the first volume in the Intelligent Systems Reference Library series. The book presents original research results and innovative applications of computational intelligence in digital forensics. This edited volume contains seventeen chapters and presents the latest state-of-the-art advancement of Computational Intelligence in Digital Forensics; in both theoretical and application papers related to novel discovery in intelligent forensics. The chapters are further organized into three sections: (1) Introduction, (2) Forensic Discovery and Investigation, which discusses the computational intelligence technologies employed in Digital Forensic, and (3) Intelligent Forensic Science Applications, which encompasses the applications of computational intelligence in Digital Forensic, such as human anthropology, human biometrics, human

by products, drugs, and electronic devices.
Digital Forensics with Open Source Tools Springer Nature
""This book examines the legal issues and regulations surrounding digital data and how the law applies to online issues such as defamation, cyberbullying, scams, and data protection and privacy. It also explores the legal implications of technologies such as artificial intelligence and blockchain"--Provided by publisher"--
Machine Learning Forensics for Law Enforcement, Security, and Intelligence IGI Global
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 Triage Forensics
Elsevier
The book first explores the cybersecurity's landscape and the inherent susceptibility of online communication system such as e-mail, chat conversation and social media in cybercrimes. Common sources and resources of digital crimes, their causes and effects together with the emerging threats for society are illustrated in this book. This book not only explores the growing needs of cybersecurity and digital forensics but also investigates relevant technologies and methods to meet the said needs. Knowledge discovery, machine learning and data analytics are explored for collecting cyber-intelligence and forensics evidence on cybercrimes. Online communication documents, which are the main source of cybercrimes are investigated from two perspectives: the crime

and the criminal. AI and machine learning methods are applied to detect illegal and criminal activities such as bot distribution, drug trafficking and child pornography. Authorship analysis is applied to identify the potential suspects and their social linguistics characteristics. Deep learning together with frequent pattern mining and link mining techniques are applied to trace the potential collaborators of the identified criminals. Finally, the aim of the book is not only to investigate the crimes and identify the potential suspects but, as well, to collect solid and precise forensics evidence to prosecute the suspects in the court of law.

Digital Forensic Science CRC Press

Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. Strengthening Forensic Science in the United States: A Path Forward provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of

Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. Strengthening Forensic Science in the United States gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

Digital Archaeology IGI Global

It is crucial that forensic science meets challenges such as identifying hidden patterns in data, validating results for accuracy, and understanding varying criminal activities in order to be authoritative so as to hold up justice and public safety. Artificial intelligence, with its potential subsets of machine learning and deep learning, has the potential to transform the domain of forensic science by handling diverse data, recognizing

patterns, and analyzing, interpreting, and presenting results. Machine Learning and deep learning frameworks, with developed mathematical and computational tools, facilitate the investigators to provide reliable results. Further study on the potential uses of these technologies is required to better understand their benefits. Aiding Forensic Investigation Through Deep Learning and Machine Learning Frameworks provides an outline of deep learning and machine learning frameworks and methods for use in forensic science to produce accurate and reliable results to aid investigation processes. The book also considers the challenges, developments, advancements, and emerging approaches of deep learning and machine learning. Covering key topics such as biometrics, augmented reality, and fraud investigation, this reference work is crucial for forensic scientists, law enforcement, computer scientists, researchers, scholars, academicians, practitioners, instructors, and students.

Cyber forensics Investigation Process

Academic Conferences and publishing limited

The judiciary is in the early stages of a transformation in which AI (Artificial Intelligence) technology will help to make the judicial process faster, cheaper, and more predictable without compromising the integrity of judges' discretionary reasoning. Judicial decision-making is

an area of daunting complexity, where highly sophisticated legal expertise merges with cognitive and emotional competence. How can AI contribute to a process that encompasses such a wide range of knowledge, judgment, and experience? Rather than aiming at the impossible dream (or nightmare) of building an automatic judge, AI research has had two more practical goals: producing tools to support judicial activities, including programs for intelligent document assembly, case retrieval, and support for discretionary decision-making; and developing new analytical tools for understanding and modeling the judicial process, such as case-based reasoning and formal models of dialectics, argumentation, and negotiation. Judges, squeezed between tightening budgets and increasing demands for justice, are desperately trying to maintain the quality of their decision-making process while coping with time and resource limitations. Flexible AI tools for decision support may promote uniformity and efficiency in judicial practice, while supporting rational judicial discretion. Similarly, AI may promote flexibility, efficiency and accuracy in other judicial tasks, such as drafting various judicial documents. The contributions in this volume exemplify some of the directions that the AI transformation of the judiciary will take.

Understanding Forensic Digital

Imaging Prentice Hall "Android Forensics" covers an open source mobile device platform based on the Linux 2.6 kernel and managed by the Open Handset Alliance. 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).

Machine Learning for Authorship Attribution and Cyber Forensics IOS Press Increasingly, crimes and fraud are digital in nature, occurring at breakneck speed and encompassing large volumes of data. To combat this unlawful activity, knowledge about the use of machine learning technology and software is critical. Machine Learning Forensics for Law Enforcement, Security, and Intelligence integrates an assortment of deductive and instructive tools, techniques, and technologies to arm professionals with the tools they need to be prepared and stay ahead of the game. Step-by-step instructions The book is a practical guide on how to conduct forensic investigations using self-organizing clustering map (SOM) neural networks, text extraction, and rule generating software to "interrogate the evidence." This powerful data is indispensable for fraud detection, cybersecurity, competitive counterintelligence, and

corporate and litigation investigations. The book also provides step-by-step instructions on how to construct adaptive criminal and fraud detection systems for organizations. Prediction is the key Internet activity, email, and wireless communications can be captured, modeled, and deployed in order to anticipate potential cyber attacks and other types of crimes. The successful prediction of human reactions and server actions by quantifying their behaviors is invaluable for pre-empting criminal activity. This volume assists chief information officers, law enforcement personnel, legal and IT professionals, investigators, and competitive intelligence analysts in the strategic planning needed to recognize the patterns of criminal activities in order to predict when and where crimes and intrusions are likely to take place.

Android Forensics Academic Press Approximately 80 percent of the worlds population now owns a cell phone, which can hold evidence or contain logs about communications concerning a crime. Cameras, PDAs, and GPS devices can also contain information related to corporate policy infractions and crimes. Aimed to prepare investigators in the public and private sectors, Digital Forensics

Machine Learning Forensics for Law Enforcement, Security, and Intelligence IGI Global

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

Strengthening Forensic Science in the United States Springer Nature 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.

Artificial Intelligence (AI) in Forensic Sciences IGI Global

This book states that the major aim audience are people who have some familiarity with Internet of

things (IoT) but interested to get a comprehensive interpretation of the role of deep Learning in maintaining the security and privacy of IoT. A reader should be friendly with Python and the basics of machine learning and deep learning. Interpretation of statistics and probability theory will be a plus but is not certainly vital for identifying most of the book's material.

Judicial Applications of Artificial Intelligence Syngress

Increasingly, crimes and fraud are digital in nature, occurring at breakneck speed and encompassing large volumes of data. To combat this unlawful activity, knowledge about the use of machine learning technology and software is critical. Machine Learning Forensics for Law Enforcement, Security, and Intelligence integrates an assortment of deductive

Digital Forensics and Investigations Springer Nature

Section 1: What is Digital Forensics? Chapter 1. Digital Evidence is Everywhere Chapter 2. Overview of Digital Forensics Chapter 3. Digital Forensics -- The Sub-Disciplines Chapter 4. The Foundations of Digital Forensics -- Best Practices Chapter 5. Overview of Digital Forensics Tools Chapter 6. Digital Forensics at Work in the Legal System Section 2: Experts Chapter 7. Why Do I Need an Expert? Chapter 8. The Difference between Computer Experts and Digital Forensic Experts Chapter 9. Selecting a Digital

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IPhone Forensics Elsevier

Data science, informatics and technology have inspired health professionals and informaticians to improve healthcare for the benefit of all patients, and the field of biomedical and health informatics is one which has become increasingly important in recent years. This volume presents the papers delivered at ICIMTH 2022, the 20th International Conference on Informatics, Management, and Technology in Healthcare, held in Athens, Greece, from 1-3 July 2022. The ICIMTH Conference is an annual scientific event attended by scientists from around the world working in the field of biomedical and health informatics. This year, thanks to the improvement in the situation as regards the COVID-19 pandemic and the consequent lifting of restrictions, the conference was once again a live event, but virtual sessions by means

of teleconferencing were also enabled for those unable to travel due to local restrictions. The field of biomedical and health informatics was examined from a very broad perspective, with participants presenting the research and application outcomes of informatics from cell to populations, including several technologies such as imaging, sensors, biomedical equipment, and management and organizational aspects, including legal and social issues. More than 230 submissions were received, with a total of 130 accepted as full papers and 19 as short communication and poster papers after review. As expected, a significant number of papers were related to the COVID-19 pandemic. Providing a state-of-the-art overview of biomedical and health informatics, the book will be of interest to all those working in the field of healthcare, researchers and practitioners alike

The Best Damn Cybercrime and Digital Forensics Book Period

Springer

Through the rise of big data and the internet of things, terrorist organizations have been freed from geographic and logistical confines and now have more power than ever before to strike the average citizen directly at home. This, coupled with the inherently asymmetrical nature of cyberwarfare, which grants great advantage to the attacker, has created an unprecedented national security risk that both

governments and their citizens are woefully ill-prepared to face. Examining cyber warfare and terrorism through a critical and academic perspective can lead to a better understanding of its foundations and implications. Cyber Warfare and Terrorism: Concepts, Methodologies, Tools, and Applications is an essential reference for the latest research on the utilization of online tools by terrorist organizations to communicate with and recruit potential extremists and examines effective countermeasures employed by law enforcement agencies to defend against such threats. Highlighting a range of topics such as cyber threats, digital intelligence, and counterterrorism, this multi-volume book is ideally designed for law enforcement, government officials, lawmakers, security analysts, IT specialists, software developers, intelligence and security practitioners, students, educators, and researchers.

Computational Intelligence in Digital Forensics: Forensic Investigation and Applications Walter de Gruyter GmbH & Co KG Security Smarts for the Self-Guided IT Professional Find out how to excel in the field of computer forensics investigations. Learn what it takes to transition from an IT professional to a computer forensic examiner in the private sector. Written by a Certified Information Systems Security Professional, Computer

Forensics: InfoSec Pro Guide is filled with real-world case studies that demonstrate the concepts covered in the book. You'll learn how to set up a forensics lab, select hardware and software, choose forensic imaging procedures, test your tools, capture evidence from different sources, follow a sound investigative process, safely store evidence, and verify your findings. Best practices for documenting your results, preparing reports, and presenting evidence in court are also covered in this detailed resource. Computer Forensics: InfoSec Pro Guide features: Lingo—Common security terms defined so that you're in the know on the job IMHO—Frank and relevant opinions based on the author's years of industry experience Budget Note—Tips for getting security technologies and processes into your organization's budget In Actual Practice—Exceptions to the rules of security explained in real-world contexts Your Plan—Customizable checklists you can use on the job now Into Action—Tips on how, why, and when to apply new skills and techniques at work

Artificial Intelligence, Computational Modelling and Criminal Proceedings Cengage Learning

Advancing technologies, especially computer technologies, have necessitated the creation of a comprehensive investigation and collection methodology for digital and online

evidence. The goal of cyber forensics is to perform a structured investigation while maintaining a documented chain of evidence to find out exactly what happened on a computing device or on a network and who was responsible for it. Critical Concepts, Standards, and Techniques in Cyber Forensics is a critical research book that focuses on providing in-depth knowledge about online forensic practices and methods. Highlighting a range of topics such as data mining, digital evidence, and fraud investigation, this book is ideal for security analysts, IT specialists, software engineers, researchers, security professionals, criminal science professionals, policymakers, academicians, and students.

Digital Forensics for Legal Professionals

Pearson Education

As the advancement of technology continues, cyber security continues to play a significant role in today□s world. With society becoming more dependent on the internet, new opportunities for virtual attacks can lead to the exposure of critical information. Machine and deep learning techniques to prevent this exposure of information are being applied to address mounting concerns in computer security. The Handbook of Research on Machine and Deep Learning Applications for Cyber Security is a pivotal reference source that provides vital research on the application of

machine learning techniques for network security research. While highlighting topics such as web security, malware detection, and secure information sharing, this publication explores recent research findings in the area of electronic security as well as challenges and countermeasures in cyber security research. It is ideally designed for software engineers, IT specialists, cybersecurity analysts, industrial experts, academicians, researchers, and post-graduate students.

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