

Security And Privacy In Internet Of Things Iots Models Algorithms And Implementations

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DURHAM ROJAS

Global Survey on Internet Privacy and Freedom of Expression John Wiley & Sons

In this edited book, the authors delineate the challenges of building accountability into the Internet of Things and solutions for delivering on this critical societal challenge. They explain how the accountability principle impacts IoT development by presenting empirical studies of accountability in action.

Privacy by Design for the Internet of Things Springer Science & Business Media

The Internet of Things (IoT) has attracted strong interest from both academia and industry. Unfortunately, it has also attracted the attention of hackers. Security and Privacy in Internet of Things (IoT): Models, Algorithms, and Implementations brings together some of the top IoT security experts from around the world who contribute their knowledge

Engaging Privacy and Information Technology in a Digital Age IOS Press

Elvy explores the consumer ramifications of the Internet of Things through the lens of the commercial law of privacy and security.

Security and Privacy in the Internet of Things UNESCO

This book provides a comprehensive study of the security and privacy research advancements in Internet of Things (IoT). The book lays the context for discussion by introducing the vulnerable intrinsic features of IoT. By providing a comprehensive discussion of the vulnerable features, the book highlights the problem areas of IoT related to security and privacy. • Covers all aspects of security • Algorithms, protocols and technologies used in IoT have been explained and the security flaws in them analyzed with solutions • Discusses ways for achieving better access control and trust in the IoT ecosystem • Contributes exhaustive strategic plans to deal with security issues of IoT • Gathers contributions from leading-edge researchers from academia and industry Graduates, researchers, people from the industry and security professionals who want to explore the IoT security field will find this book useful. The book will give an in-depth insight in to what has happened, what new is happening and what opportunities exist in the field.

Mobile Security and Privacy MIT Press

This is a book about what privacy is and why it matters. Governments and companies keep telling us that Privacy is Dead, but they are wrong. Privacy is about more than just whether our information is collected. It's about human and social power in our digital society. And in that society, that's pretty much everything we do, from GPS mapping to texting to voting to treating disease. We need to realize that privacy is up for grabs, and we need to craft rules to protect our hard-won, but fragile human values like identity, freedom, consumer protection, and trust.

Data Protection and Privacy: (In)visibilities and Infrastructures National Academies Press

Learn to secure your personal data & reclaim your online privacy! É KEY FEATURESÉ - Understand your cyber risk exposure by calculating your Privacy Score^a - Improve your Privacy Score with easy-to-follow recommendations - Different recommendations for different levels of expertise Ð YOUR choice! - An ÖinteractiveÖ book with inline QR code references for further learning! - Instantly applicable recommendations that show immediate results! - Gamification of recommended actions to incentivize best practice behaviors. - Quantifiable* improvement by the end of the book! É DESCRIPTIONÉ This book intends to be a comprehensive step-by-step guide on how to take control of all your digital footprints on the internet. You will begin with a quick analysis that will calculate your current Privacy Score. The aim of this book is to improve this Privacy Score by the end of the book.É By the end of this book, you will have ensured that the information being leaked by your phone, your desktop, your browser, and your internet connection is minimal-to-none. All your online accounts for email, social networks, banking, shopping, etc. will be made secure and (almost) impervious to attackers. You will have complete control over all of your personal information that is available in public view.É Your personal information belongs to you and you alone. It should never ever be available for anyone else to see without your knowledge and without your explicit permission. É WHAT WILL YOU LEARN - How to safeguard your privacy online - How to secure your personal data & keep it private - How to prevent your devices from leaking your private info - How to prevent various websites & services from ÖspyingÖ on you - How to Ölock downÖ your social media profiles - How to identify threats to your privacy and what counter-measures to take WHO THIS BOOK IS FOR Anyone who values their digital security and privacy and wishes to Ölock downÖ their personal data will find this book useful. Corporate IT departments can use this as a reference book to design data security practices and training modules for employees. TABLE OF CONTENTS 1. Prologue 2. Internet and Privacy 3. Android Devices 4. Apple iPhones 5. Smartphone Apps 6. Smart Devices & IoT 7. Desktops Ð Operating Systems 8. Desktops Ð Software Applications 9. Desktops Ð Browsers 10. Services - Email 11. Software-as-a-Service (SaaS) 12. Networks: Connectivity, & Internet 13. Operational Security (OPSEC) 14. Epilogue 15. Bonus Chapter: Useful Tips and Tricks

Security Risk Management for the Internet of Things CRC Press

With the immense amount of data that is now available online, security concerns have been an issue from the start, and have grown as new technologies are increasingly integrated in data collection, storage, and transmission. Online cyber threats, cyber terrorism, hacking, and other cybercrimes have begun to take advantage of this information that can be easily accessed if not properly handled. New privacy and security measures have been developed to address this cause for concern and have become an essential area of research within the past few years and into the foreseeable future. The ways in which data is secured and privatized should be discussed in terms of the technologies being used, the methods and models for security that have been developed, and the ways in which risks can be detected, analyzed, and mitigated. The Research Anthology on Privatizing and Securing Data reveals the latest tools and technologies for privatizing and securing data across different technologies and industries. It takes a deeper dive into both risk detection and mitigation, including an analysis of cybercrimes and cyber threats, along with a sharper focus on the technologies and methods being actively implemented and utilized to secure data online. Highlighted topics include information governance and privacy, cybersecurity, data protection, challenges in big data, security threats, and more. This book is essential for data analysts, cybersecurity professionals, data scientists, security analysts, IT specialists, practitioners, researchers, academicians, and students interested in the latest trends and technologies for

privatizing and securing data.

Research Anthology on Privatizing and Securing Data IGI Global

The censorship and surveillance of individuals, societies, and countries have been a long-debated ethical and moral issue. In consequence, it is vital to explore this controversial topic from all angles. Censorship, Surveillance, and Privacy: Concepts, Methodologies, Tools, and Applications is a vital reference source on the social, moral, religious, and political aspects of censorship and surveillance. It also explores the techniques of technologically supported censorship and surveillance. Highlighting a range of topics such as political censorship, propaganda, and information privacy, this multi-volume book is geared towards government officials, leaders, professionals, policymakers, media specialists, academicians, and researchers interested in the various facets of censorship and surveillance.

Security and Privacy in the Internet of Things Syngress

Computers at Risk presents a comprehensive agenda for developing nationwide policies and practices for computer security. Specific recommendations are provided for industry and for government agencies engaged in computer security activities. The volume also outlines problems and opportunities in computer security research, recommends ways to improve the research infrastructure, and suggests topics for investigators. The book explores the diversity of the field, the need to engineer countermeasures based on speculation of what experts think computer attackers may do next, why the technology community has failed to respond to the need for enhanced security systems, how innovators could be encouraged to bring more options to the marketplace, and balancing the importance of security against the right of privacy.

Information Theoretic Security and Privacy of Information Systems IGI Global

Learn how information theoretic approaches can inform the design of more secure information systems and networks with this expert guide. Covering theoretical models, analytical results, and the state of the art in research, it will be of interest to researchers, graduate students, and practitioners working in communications engineering.

Securing the Internet of Things Springer Nature

While other books in the field focus on specific aspects of privacy or how to avoid invasions, David H. Holtzman--a master technologist, internet pioneer, security analyst, and former military codebreaker--presents a comprehensive insider's exposé of the world of invasive technology, who's using it, and how our privacy is at risk. Holtzman starts out by categorizing privacy violations into "The 7 Sins Against Privacy" and then goes on to explain in compelling and easy to understand language exactly how privacy is being eroded in every aspect of our lives. Holtzman vividly reveals actual invasions and the dangers associated with the loss of privacy, and he takes a realistic look at the trade offs between privacy and such vital issues as security, rights, and economic development. Praise for Privacy Lost "Whether we know it or not, we have all become citizens of the Digital Age. As such we need to take responsibility for our conduct, our safety, and our privacy. David Holtzman is deeply knowledgeable about the industry and passionate about the issues. Regardless of your political views, you will come away from this book better equipped to meet the challenges before us all." --Geoffrey A. Moore, author, Dealing with Darwin: How Great Companies Innovate at Every Phase of Their Evolution "Holtzman has drafted a blueprint all citizens of this great land ought to read if they desire to understand what privacy truly means, why it is important to both their everyday life as well as to their understanding of what it really means to be free, and what they can do to salvage what little privacy is left them. Privacy Lost needs to be readily available on the desks of all concerned citizens--heavily dog-eared and underlined." --Bob Barr, practicing attorney and former Member of the United States House of Representatives

Encyclopedia of Criminal Activities and the Deep Web No Starch Press

The concept of quantum computing is based on two fundamental principles of quantum mechanics: superposition and entanglement. Instead of using bits, qubits are used in quantum computing, which is a key indicator in the high level of safety and security this type of cryptography ensures. If interfered with or eavesdropped in, qubits will delete or refuse to send, which keeps the information safe. This is vital in the current era where sensitive and important personal information can be digitally shared online. In computer networks, a large amount of data is transferred worldwide daily, including anything from military plans to a country's sensitive information, and data breaches can be disastrous. This is where quantum cryptography comes into play. By not being dependent on computational power, it can easily replace classical cryptography. Limitations and Future Applications of Quantum Cryptography is a critical reference that provides knowledge on the basics of IoT infrastructure using quantum cryptography, the differences between classical and quantum cryptography, and the future aspects and developments in this field. The chapters cover themes that span from the usage of quantum cryptography in healthcare, to forensics, and more. While highlighting topics such as 5G networks, image processing, algorithms, and quantum machine learning, this book is ideally intended for security professionals, IoT developers, computer scientists, practitioners, researchers, academicians, and students interested in the most recent research on quantum computing.

Internet and Intranet Security Elsevier

This book comprehensively describes an end-to-end Internet of Things (IoT) architecture that is comprised of devices, network, compute, storage, platform, applications along with management and security components. It is organized into five main parts, comprising of a total of 11 chapters. Part I presents a generic IoT reference model to establish a common vocabulary for IoT solutions. This includes a detailed description of the Internet protocol layers and the Things (sensors and actuators) as well as the key business drivers to realize the IoT vision. Part II focuses on the IoT requirements that impact networking protocols and provides a layer-by-layer walkthrough of the protocol stack with emphasis on industry progress and key gaps. Part III introduces the concept of Fog computing and describes the drivers for the technology, its constituent elements, and how it relates and differs from Cloud computing. Part IV discusses the IoT services platform, the cornerstone of the solution followed by the Security functions and requirements. Finally, Part V provides a treatment of the topic of connected ecosystems in IoT along with practical applications. It then surveys the latest IoT standards and discusses the pivotal role of open source in IoT. "Faculty will find well-crafted questions and answers at the end of each chapter, suitable for review and in classroom discussion topics. In addition, the material in the book can be used by engineers and

technical leaders looking to gain a deep technical understanding of IoT, as well as by managers and business leaders looking to gain a competitive edge and understand innovation opportunities for the future." Dr. Jim Spohrer, IBM "This text provides a very compelling study of the IoT space and achieves a very good balance between engineering/technology focus and business context. As such, it is highly-recommended for anyone interested in this rapidly-expanding field and will have broad appeal to a wide cross-section of readers, i.e., including engineering professionals, business analysts, university students, and professors." Professor Nasir Ghani, University of South Florida

Internet of Things Security Stanford Law & Politics

Mobile Security and Privacy: Advances, Challenges and Future Research Directions provides the first truly holistic view of leading edge mobile security research from Dr. Man Ho Au and Dr. Raymond Choo—leading researchers in mobile security. Mobile devices and apps have become part of everyday life in both developed and developing countries. As with most evolving technologies, mobile devices and mobile apps can be used for criminal exploitation. Along with the increased use of mobile devices and apps to access and store sensitive, personally identifiable information (PII) has come an increasing need for the community to have a better understanding of the associated security and privacy risks. Drawing upon the expertise of world-renowned researchers and experts, this volume comprehensively discusses a range of mobile security and privacy topics from research, applied, and international perspectives, while aligning technical security implementations with the most recent developments in government, legal, and international environments. The book does not focus on vendor-specific solutions, instead providing a complete presentation of forward-looking research in all areas of mobile security. The book will enable practitioners to learn about upcoming trends, scientists to share new directions in research, and government and industry decision-makers to prepare for major strategic decisions regarding implementation of mobile technology security and privacy. In addition to the state-of-the-art research advances, this book also discusses prospective future research topics and open challenges. - Presents the most current and leading edge research on mobile security and privacy, featuring a panel of top experts in the field - Provides a strategic and international overview of the security issues surrounding mobile technologies - Covers key technical topics and provides readers with a complete understanding of the most current research findings along with future research directions and challenges - Enables practitioners to learn about upcoming trends, scientists to share new directions in research, and government and industry decision-makers to prepare for major strategic decisions regarding the implementation of mobile technology security and privacy initiatives

Privacy Is Hard and Seven Other Myths CRC Press

"This publication seeks to identify the relationship between freedom of expression and Internet privacy, assessing where they support or compete with each other in different circumstances. The book maps out the issues in the current regulatory landscape of Internet privacy from the viewpoint of freedom of expression. It provides an overview of legal protection, self-regulatory guidelines, normative challenges, and case studies relating to the topic. With this publication UNESCO aims to provide its Member States and other stakeholders, national and international, with a useful reference tool containing up-to-date and sharp information on emerging issues relevant to both developed and developing countries. Multiple stakeholders, preferably in dialogue, can use it in their own spheres of operation, adapting where appropriate from the range of experiences as recorded in these pages. The publication also supplies additional sources of reference for interested readers to use to further investigate each of the subjects highlighted. The publication explores a range of issues, such as: (1) threats to privacy that have developed through the Internet, (2) international legal standards on privacy and responses to these emerging issues, (3) complex intersections between the rights to privacy and freedom of expression, (4) UNESCO recommendations to states and corporations for better practice, (5) overview of literature, background material and tools on international and national policy and practice on privacy and freedom of expression on the Internet. In the coming years, UNESCO will specifically seek to disseminate information about good practices and international collaboration concerning the points of intersection between freedom of expression and privacy. Research on safeguarding the principle of freedom of expression in Internet policy across a range of issues will continue to be part of UNESCO's normative mandate and technical advice to stakeholders."--Publisher's description

Privacy Lost National Academies Press

An accessible, comic book-like, illustrated introduction to how the internet works under the hood, designed to give people a basic understanding of the technical aspects of the Internet that they need in order to advocate for digital rights. The internet has profoundly changed interpersonal communication, but most of us don't really understand how it works. What enables information to travel across the internet? Can we really be anonymous and private online? Who controls the internet, and why is that important? And... what's with all the cats? How the Internet Really Works answers these questions and more. Using clear language and whimsical illustrations, the authors translate highly technical topics into accessible, engaging prose that demystifies the world's most intricately linked computer network. Alongside a feline guide named Catnip, you'll learn about: • The "How-What-Why" of nodes, packets, and internet protocols • Cryptographic techniques to ensure the secrecy and integrity of your data • Censorship, ways to monitor it, and means for circumventing it • Cybernetics, algorithms, and how computers make decisions • Centralization of internet power, its impact on democracy, and how it hurts human rights • Internet governance, and ways to get involved This book is also a call to action, laying out a roadmap for using your newfound knowledge to influence the evolution of digitally inclusive, rights-respecting internet laws and policies. Whether you're a citizen concerned about staying safe online, a civil servant seeking to address censorship, an advocate addressing worldwide freedom of expression issues, or simply someone with a cat-like curiosity about network infrastructure, you will be delighted -- and enlightened -- by Catnip's felicitously fun guide to understanding how the internet really works!

Law of Internet Security and Privacy No Starch Press

This book features peer reviewed contributions from across the disciplines on themes relating to

protection of data and to privacy protection. The authors explore fundamental and legal questions, investigate case studies and consider concepts and tools such as privacy by design, the risks of surveillance and fostering trust. Readers may trace both technological and legal evolution as chapters examine current developments in ICT such as cloud computing and the Internet of Things. Written during the process of the fundamental revision of revision of EU data protection law (the 1995 Data Protection Directive), this volume is highly topical. Since the European Parliament has adopted the General Data Protection Regulation (Regulation 2016/679), which will apply from 25 May 2018, there are many details to be sorted out. This volume identifies and exemplifies key, contemporary issues. From fundamental rights and offline alternatives, through transparency requirements to health data breaches, the reader is provided with a rich and detailed picture, including some daring approaches to privacy and data protection. The book will inform and inspire all stakeholders. Researchers with an interest in the philosophy of law and philosophy of technology, in computers and society, and in European and International law will all find something of value in this stimulating and engaging work.

Limitations and Future Applications of Quantum Cryptography Nereel Online

As society continues to rely heavily on technological tools for facilitating business, e-commerce, banking, and communication, among other applications, there has been a significant rise in criminals seeking to exploit these tools for their nefarious gain. Countries all over the world are seeing substantial increases in identity theft and cyberattacks, as well as illicit transactions, including drug trafficking and human trafficking, being made through the dark web internet. Sex offenders and murderers explore unconventional methods of finding and contacting their victims through Facebook, Instagram, popular dating sites, etc., while pedophiles rely on these channels to obtain information and photographs of children, which are shared on hidden community sites. As criminals continue to harness technological advancements that are outpacing legal and ethical standards, law enforcement and government officials are faced with the challenge of devising new and alternative strategies to identify and apprehend criminals to preserve the safety of society. The Encyclopedia of Criminal Activities and the Deep Web is a three-volume set that includes comprehensive articles covering multidisciplinary research and expert insights provided by hundreds of leading researchers from 30 countries including the United States, the United Kingdom, Australia, New Zealand, Germany, Finland, South Korea, Malaysia, and more. This comprehensive encyclopedia provides the most diverse findings and new methodologies for monitoring and regulating the use of online tools as well as hidden areas of the internet, including the deep and dark web. Highlighting a wide range of topics such as cyberbullying, online hate speech, and hacktivism, this book will offer strategies for the prediction and prevention of online criminal activity and examine methods for safeguarding internet users and their data from being tracked or stalked. Due to the techniques and extensive knowledge discussed in this publication it is an invaluable addition for academic and corporate libraries as well as a critical resource for policy makers, law enforcement officials, forensic scientists, criminologists, sociologists, victim advocates, cybersecurity analysts, lawmakers, government officials, industry professionals, academicians, researchers, and students within this field of study.

Designing for Privacy and its Legal Framework John Wiley & Sons

This book provides a concise yet comprehensive overview of computer and Internet security, suitable for a one-term introductory course for junior/senior undergrad or first-year graduate students. It is also suitable for self-study by anyone seeking a solid footing in security - including software developers and computing professionals, technical managers and government staff. An overriding focus is on brevity, without sacrificing breadth of core topics or technical detail within them. The aim is to enable a broad understanding in roughly 350 pages. Further prioritization is supported by designating as optional selected content within this. Fundamental academic concepts are reinforced by specifics and examples, and related to applied problems and real-world incidents. The first chapter provides a gentle overview and 20 design principles for security. The ten chapters that follow provide a framework for understanding computer and Internet security. They regularly refer back to the principles, with supporting examples. These principles are the conceptual counterparts of security-related error patterns that have been recurring in software and system designs for over 50 years. The book is "elementary" in that it assumes no background in security, but unlike "soft" high-level texts it does not avoid low-level details, instead it selectively dives into fine points for exemplary topics to concretely illustrate concepts and principles. The book is rigorous in the sense of being technically sound, but avoids both mathematical proofs and lengthy source-code examples that typically make books inaccessible to general audiences. Knowledge of elementary operating system and networking concepts is helpful, but review sections summarize the essential background. For graduate students, inline exercises and supplemental references provided in per-chapter endnotes provide a bridge to further topics and a springboard to the research literature; for those in industry and government, pointers are provided to helpful surveys and relevant standards, e.g., documents from the Internet Engineering Task Force (IETF), and the U.S. National Institute of Standards and Technology.

Security and Privacy in Social Networks Springer

The whirlwind of social media, online dating, and mobile apps can make life a dream—or a nightmare. For every trustworthy website, there are countless jerks, bullies, and scam artists who want to harvest your personal information for their own purposes. But you can fight back, right now. In *The Smart Girl's Guide to Privacy*, award-winning author and investigative journalist Violet Blue shows you how women are targeted online and how to keep yourself safe. Blue's practical, user-friendly advice will teach you how to: -Delete personal content from websites -Use website and browser privacy controls effectively -Recover from and prevent identity theft -Figure out where the law protects you—and where it doesn't -Set up safe online profiles -Remove yourself from people-finder websites Even if your privacy has already been compromised, don't panic. It's not too late to take control. Let *The Smart Girl's Guide to Privacy* help you cut through the confusion and start protecting your online life.