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River Publishers Book Catalogue

Series in Security and Digital Forensics

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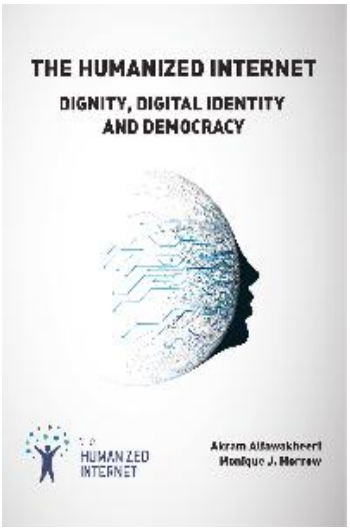

River Publishers Series in Security and Digital Forensics

The Humanized Internet

Dignity, Digital Identity and Democracy

Authors:
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ISBN: 9788770220323
e-ISBN: 9788770220316

Description:
In reading this book, there are key themes that are constant such as the notion of identity and identity sets; e-sovereignty and privacy and most importantly the function of an Internet that is inclusive, not "controlled" by a few organizations for their own profitability. Certainly, "enterprising" the Internet has been a process over these past years and there is no intent to set judgement here but rather pause for a moment and reflect on the impact of these technologies to individuals.

Yes, this is *The Humanized Internet*.

These tenets may sound libertarian but in fact we are speaking about core principles to guide the development and perhaps the return of the Internet to the people especially those who are underserved .

"Do No Evil" should not be a company motto but rather foundational to the development of any technologies that do impact us as individual consumers of these technologies and corresponding products. Indeed there is a polarity between an Internet that is used for mass empowerment and one that can be used for mass destruction. Privacy, security and the management of your digital footprint should be done by you.

With the progression of Human and Machine interaction due to advances in Biotech and Brain/Computer interface Cloud, Virtual and Mixed Reality, we need to understand the impact of these technologies to identity overall. Do we require a new definition of identity? What is e-Sovereignty and it application moving forward if we posit that the institutions that exist today may indeed no longer be relevant in their current structure. We have read about the abuses when your data falls into the hands of other entities, intentionally or not.

The Humanized Internet is therefore a call to action, your action.

Keywords: Humanized Internet, Future Internet, Cyber Security, Blockchain, Society and Democracy, Digital Identity

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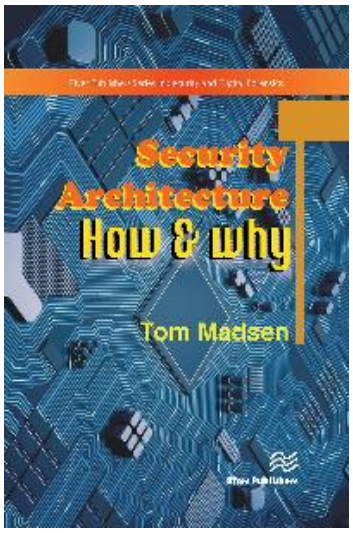


River Publishers Series in Security and Digital Forensics

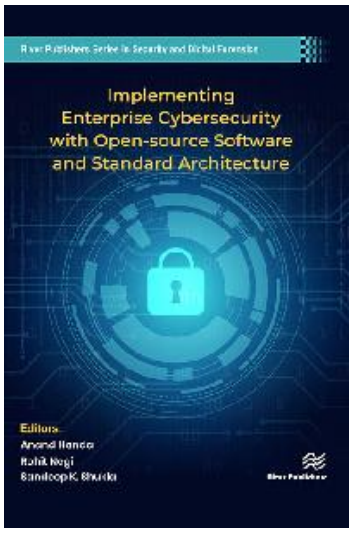
Security Architecture How & Why

Author: Tom Madsen, Accenture, Denmark

ISBN: 9788770225847
e-ISBN: 9788770225830
Available From: January 2022
Price: € 95.00

Description:
Security Architecture, or Enterprise Information security architecture, as it was originally coined by Gartner back in 2006, has been applied to many things and different areas, making a concrete definition of Security architecture a difficult proposition. But having an architecture for the cyber security needs of an organization is important for many reasons, not least because having an architecture makes working with cyber security a much easier job, since we can now build on a, hopefully, solid foundation. Developing a security architecture is a daunting job, for almost anyone, and in a company that has not had a cyber security program implemented before, the job becomes even harder. The benefits of having a concrete cyber security architecture in place cannot be overstated! The challenge here is that a security architecture is not something that can stand alone, it absolutely must be aligned with the business in which is being implemented. This book emphasizes the importance, and the benefits, of having a security architecture in place. The book will be aligned with most of the sub frameworks in the general framework called SABSA, or Sherwood Applied Business Security Architecture. SABSA is comprised of several individual frameworks and there are several certifications that you can take in SABSA. Aside from getting a validation of your skills, SABSA as a framework focusses on aligning the Security Architecture with the business and its strategy. Each of the chapters in this book will be aligned with one or more of the components in SABSA, the components will be described along with the introduction to each of the chapters.

Keywords: Cyber Security, Security Architecture, Cyber Security Design, IT Architecture, Security management



River Publishers Series in Security and Digital Forensics

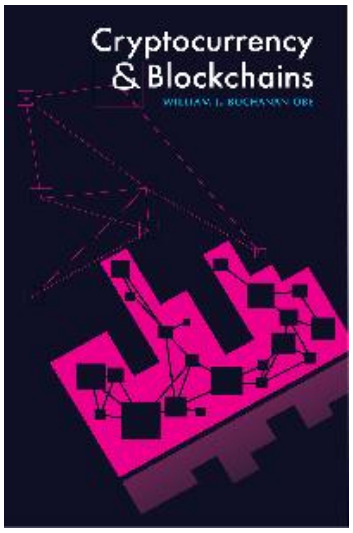
Implementing Enterprise Cybersecurity with Open-source Software and Standard Architecture

Editors:
Anand Handa, C3i Center, Indian Institute of Technology, India
Rohit Negi, C3i Center, Indian Institute of Technology, India
Sandeep K. Shukla, C3i Center, Indian Institute of Technology, India

ISBN: 9788770224239
e-ISBN: 9788770224222
Available From: August 2021
Price: € 98.50

Description:
Many small and medium scale businesses cannot afford to procure expensive cybersecurity tools. In many cases, even after procurement, lack of a workforce with knowledge of the standard architecture of enterprise security, tools are often used ineffectively. The Editors have developed multiple projects which can help in developing cybersecurity solution architectures and the use of the right tools from the open-source software domain. This book has 8 chapters describing these projects in detail with recipes on how to use open-source tooling to obtain standard cyber defense and the ability to do self-penetration testing and vulnerability assessment. This book also demonstrates work related to malware analysis using machine learning and implementation of honeypots, network Intrusion Detection Systems in a security operation center environment. It is essential reading for cybersecurity professionals and advanced students.

Keywords: Honeypot, Honeynet, Open-source Security Tools, Web Security, Application Security, Database Security, Network Security, Threat Intelligence, Threat Analytics, Network Analytics, Malware Analysis, Cuckoo Sandbox, Machine Learning, Static and Dynamic Analysis, NIDS, HIDS, SOC, Security Architecture, SIEM, Firewall, Virtualization, Phishing Detection, Android Application, Feature Engineering.



River Publishers Series in Security and Digital Forensics

Cryptocurrency and Blockchains

Author: William J. Buchanan, OBE, Edinburgh Napier University, UK

ISBN: 9788793609327
e-ISBN: 9788793609310
Available From: July 2021
Price: € 60.00

Description:
Cryptocurrency and Blockchains outlines many of the key developments in building a more trustworthy world. It includes a background within the main methods used within creating data infrastructure which use Blockchain methods, and how these will change existing methods of authentication and identity provision. This will include a discussion of a range of application areas including with health care, law, finance and government services, and how smart contracts can be used to make transactions more trustworthy.

Within the cryptocurrency part, the book outlines the trust infrastructure within the main cryptocurrency methods and around the usage of electronic tokens to transfer credits.

An important element of the book is to look forwards a world where every transaction is made trustworthy, and were privacy requirements are respected.

Keywords: Cryptocurrency, Blockchain, electronic tokens, trustworthy transactions, privacy, authentication and identity provision

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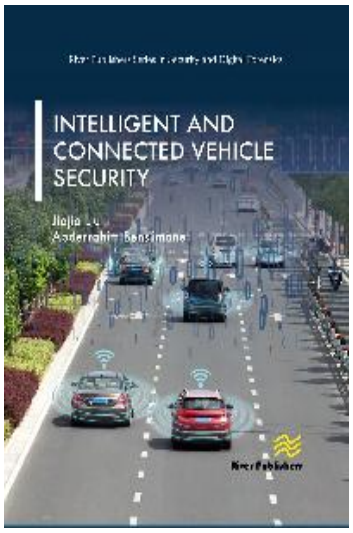

River Publishers Series in Security and Digital Forensics

Intelligent and Connected Vehicle Security

Authors:
Jiajia Liu, Northwestern Polytechnical University, China
Abderrahim Benslimane, Avignon University, France

ISBN: 9788770223676
e-ISBN: 9788770223669
Available From: July 2021
Price: € 95.00

Description:

Intelligent and Connected Vehicles (ICVs) are moving into the mainstream of the worldwide automotive industry. A lot of advanced technologies, like artificial intelligence, big data, millimeter wave radar, LiDAR and high-definition camera based real-time environmental perception, etc., are increasingly being applied in ICVs, making them more intelligent and connected with devices surrounding the vehicles. However, although the versatile connection and information exchange among ICVs, external devices and human beings provides vehicles with a better and faster perception of surrounding environments and a better driving experience for users, they also create a series of intrusion portals for malicious attackers which threaten the safety of drivers and passengers. This book is concerned with the recognition and protection against such threats.

Security for ICVs includes information across the fields of automobile engineering, artificial intelligence, computer, microelectronics, automatic control, communication technology, big data, edge/cloud computing and others. This book comprehensively and systematically introduces security threats to ICVs coming from automotive technology development, on-board sensors, vehicle networking, automobile communications, intelligent transportation, big data, cloud computing, etc. Then, through discussion of some typical automobile cyber-attack cases studies, readers will gain a deeper understanding of the working principle of ICVs, so that they can test vehicles more objectively and scientifically. In this way they will find the existence of vulnerabilities and security risks and take the corresponding protective measures to prevent malicious attacks. Technical topics discussed in the book include but are not limited to:

- Electronic Control Unit and Vehicular Bus Security
- Intra-vehicle Communication Security
- V2X Communication Security
- VANET Security
- Unmanned Driving Security and Navigation Deception

Keywords: Intelligent and Connected Vehicle (ICV), Connected and Autonomous Vehicle (CAV), Vehicle to Everything (V2X), C-V2X, Environment Awareness System, Advanced Driving Assistance System (ADAS), In-vehicle Network, Wireless Communication System, Controller Area Network (CAN), Electronic Control Unit (ECU), Hacker Attack, On-Broad Diagnostic II (OBD-II), ISO-TP, Security.

River Publishers Series in Security and Digital Forensics

Blockchain Technology and Applications

Author: Ahmed Banafa, San Jose State University, USA and Stanford University, USA

ISBN: 9788770221061
e-ISBN: 9788770221054
Available From: June 2020
Price: € 90.00

Description:

Blockchain is an emerging technology that can radically improve security in transaction networks, it provides the basis for a dynamic distributed ledger that can be applied to save time when recording transactions between parties, remove costs associated with intermediaries, and reduce risks of fraud and tampering. This book explores the fundamentals and applications of Blockchain technology; the transparent, secure, immutable and distributed database used currently as the underlying technology for Cryptocurrency. Decentralized peer-to-peer network, distributed ledger and the trust model that defines Blockchain technology will be explained. Components of Blockchain, its operations, underlying algorithms, and essentials of trust will be defined. Types of Blockchain networks including private and public Blockchain networks will be introduced. Concepts of smart contracts, proof of work and proof of stack will be clarified. The relationship between Blockchain technology, Internet of Things (IoT), Artificial Intelligence (AI), Cybersecurity and Digital Transformation will be explored in this book. Myths about Blockchain will be exposed and a look at the future of Blockchain will be presented.

Topics will be covered in this book: Blockchain technology, Smart contracts, Hashing, SHA-256 Hash, Verification, Validation, Consensus models, Digital Mining, Hard fork, Soft fork, Bitcoin, Ethereum, Proof of work, Proof of stack, Myths about Blockchain, Decentralized peer-to-peer network, Types of Blockchain networks, Hot and Cold Wallets, Double Spend, Decentralized Applications, Transaction networks, Sidechains, 51% attack, Cryptocurrency, Digital transformation, Internet of Things (IoT), Artificial Intelligence (AI), Cybersecurity and the Future of Blockchain.

Keywords: Blockchain, IoT, Internet of Things, Artificial Intelligence, Hashing, Verification, Validation, Consensus Model, Cybersecurity, Smart Contracts, Digital Transformation, Hard Fork, Soft Fork, Bitcoin, Ethereum, Decentralized Peer-To-Peer Network, Transaction Networks, Cryptocurrency, Block Header, Proof of Work, Proof of Stack, SHA-256 Hash, Encryption, Digital Mining, Private Blockchain, Public Blockchain, Federated Blockchain, Consortium Blockchain, Decentralized Applications, Genesis Block, Initial Coin Offering, Merkle Tree, Private Key, Public Key, Satoshi Nakamoto, Hot Wallet, Cold Wallet, 51% Attack, Digital Signature, Turing Complete, Permissioned Blockchain, Double Spend.

River Publishers Series in Security and Digital Forensics

Developing a Cybersecurity Immune System for Industry 4.0

Authors:
Sergei Petrenko, Innopolis University, Russia

ISBN: 9788770221887
e-ISBN: 9788770221870
Available From: June 2020
Price: € 95.00

Description:
Cyber immune systems try to mimic the adaptive immune system of humans and animals because of its capability to detect and fend off new, unseen pathogens. Today's current cyber security systems provide an effective defense mechanism against known cyber-attacks but are not so good when it comes to defending against unknown attacks. This book describes the possible development and organization of self-healing computing based on cyber immunity techniques and aimed at working in the new realm of Industry 4.0. Industry 4.0 is the trend towards automation and data exchange in manufacturing technologies and processes which include cyber-physical systems (CPS), the internet of things (IoT), industrial internet of things (IIOT), cloud computing, cognitive computing and artificial intelligence. The book describes the author's research and development of cyber-immunity systems that will prevent the destruction of critical information infrastructure by future unknown cyber-attacks and thus avoid the significant or catastrophic consequences of such attacks. The book is designed for undergraduate and post-graduate students, for engineers in related fields as well as managers of corporate and state structures, chief information officers (CIO), chief information security officers (CISO), architects, and research engineers in the field of cybersecurity.

This book contains four chapters

- Cyber Immunity Concept of the Industry 4.0;
- Mathematical Framework for Immune Protection of Industry 4.0;
- Trends and prospects of the development of Immune Protection of Industry 4.0;
- From detecting cyber-attacks to self-healing Industry 4.0;

Keywords: Computer Immunology, Immune Response, “Friend or Foe”, Danger Theory, Immuno-computing, Hybrid Intelligent Cybersecurity Systems, Self-healing Computing, Cyber Immunity of Industry 4.0, ?yber-Resilience, ?yber-Security, Group and Mass Cyber-attacks, Digital Economy, Critical Information Infrastructure, New models and methods for collecting and processing big data (Big Data) and streaming data processing (ETL), In-Depth Knowledge (Deep Learning), Semantic and Cognitive Analysis (Computational Cognitivism).

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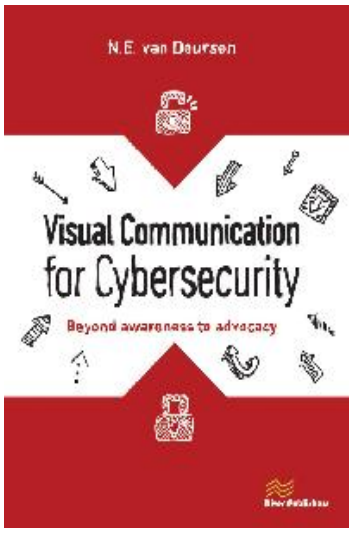


River Publishers Series in Security and Digital Forensics

Visual Communication for Cybersecurity

Beyond Awareness to Advocacy

Author: Nicole van Deursen, Researcher, the Netherlands

ISBN: 9788770220903
e-ISBN: 9788770220897
Available From: March 2020
Price: € 75.00

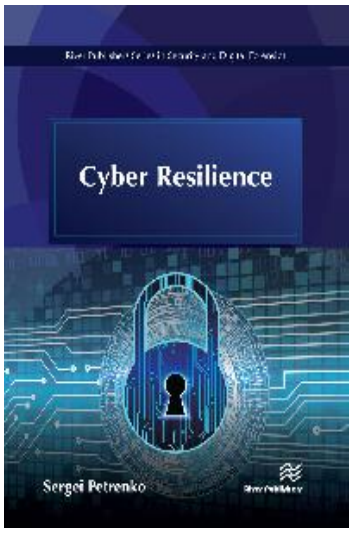
Description:
Cybersecurity needs a change in communication. It is time to show the world that cybersecurity is an exciting and diverse field to work in. Cybersecurity is not only about hackers and technical gobbledygook. It is a diverse field of work with a lot of collaboration with other disciplines. Over the years, security professionals have tried different awareness strategies to promote their work and to improve the knowledge of their audience but without much success. Communication problems are holding back advances in in the field.

Visual Communication for Cybersecurity explores the possibilities of visual communication as a tool to improve the communication about cybersecurity and to better connect with non-experts. Visual communication is useful to explain complex topics and to solve complex problems. Visual tools are easy to share through social media and have the possibility to reach a wide audience. When applied strategically, visual communication can contribute to a people-centric approach to security, where employees are encouraged to actively engage in security activities rather than simply complying with the policies.

Cybersecurity education does not usually include communication theory or creative skills. Many experts think that it is not part of their job and is best left to the communication department or they think that they lack any creative talent. This book introduces communication theories and models, gives practical tips, and shows many examples. The book can support students in cybersecurity education and professionals searching for alternatives to bullet-point presentations and textual reports. On top of that, if this book succeeds in inspiring the reader to start creating visuals, it may also give the reader the pleasure of seeing new possibilities and improving their performance.

The book is divided into different parts for readers with different interests. There is no need to read the book from cover to cover; the chapters are organized thematically. Readers that are interested in how to apply communication theory to cybersecurity will enjoy the chapters about learning, the context in which communication takes place, and how people are persuaded. Readers that are looking for inspiration and examples of how to use visuals in their daily tasks go straight to the third section of the book. The last section is a workbook that will help the reader to take the first steps towards using visual communication at work.

Keywords: Cybersecurity; communication theory; visual communication; visual literacy; information security awareness



River Publishers Series in Security and Digital Forensics

Cyber Resilience

Author: Sergei Petrenko, Innopolis University, Russia
ISBN: 9788770221160
e-ISBN: 9788770221153
Available From: October 2019
Price: € 95.00

Description:
Modern cyber systems acquire more emergent system properties, as far as their complexity increases: cyber resilience, controllability, self-organization, proactive cyber security and adaptability. Each of the listed properties is the subject of the cybernetics research and each subsequent feature makes sense only if there is a previous one.

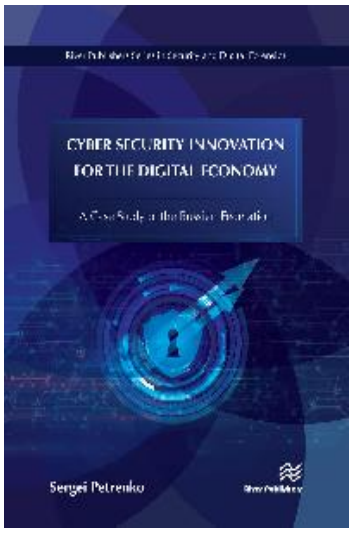
Cyber resilience is the most important feature of any cyber system, especially during the transition to the sixth technological stage and related Industry 4.0 technologies: Artificial Intelligence (AI), Cloud and foggy computing, 5G +, IoT/IIoT, Big Data and ETL, Q-computing, Blockchain, VR/AR, etc. We should even consider the cyber resilience as a primary one, because the mentioned systems cannot exist without it. Indeed, without the sustainable formation made of the interconnected components of the critical information infrastructure, it does not make sense to discuss the existence of 4.0 Industry cyber-systems. In case when the cyber security of these systems is mainly focused on the assessment of the incidents' probability and prevention of possible security threats, the cyber resilience is mainly aimed at preserving the targeted behavior and cyber systems' performance under the conditions of known (about 45 %) as well as unknown (the remaining 55 %) cyber attacks.

This monograph shows that modern Industry 4.0. Cyber systems do not have the required cyber resilience for targeted performance under heterogeneous mass intruder cyber-attacks. The main reasons include a high cyber system structural and functional complexity, a potential danger of existing vulnerabilities and "sleep" hardware and software tabs, as well as an inadequate efficiency of modern models, methods, and tools to ensure cyber security, reliability, response and recovery. A new formulation of the cyber resilience problem under heterogeneous mass cyber-attacks is proposed, in which the cyber system performance recovery in destructive software impacts prevents significant or catastrophic consequences. Here, the idea of ensuring the cyber resilience is to give the cyber systems the ability to develop immunity to disturbances of the computational processes under destructive influences, by analogy with the immune system protecting a living organism.

The book contains three chapters, devoted to the following topics:

- Development of the Cyber Resilience Management Concept of modern technological platforms and cyber-systems of 4.0 Industry;
- Development of a corporate cyber risk management methodology;
- Technical implementation of the corporate program of business sustainability management based on the best practices (standards).

Keywords: Cyber Systems of 4.0 Industry, Cyber Resilience Management Concept, Quantitative Metrics and Cyber Resistance measures, Cyber Resiliency Engineering Framework, Business continuity management.



River Publishers Series in Security and Digital Forensics

Cyber Security Innovation for the Digital Economy

A Case Study of the Russian Federation

Author: Sergei Petrenko, Innopolis University, Russia

ISBN: 9788770220224

e-ISBN: 9788770220217

Available From: December 2018

Price: € 90.00

Description:

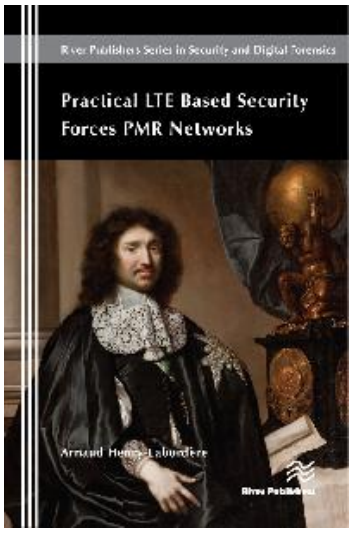
Cyber Security Innovation for the Digital Economy considers possible solutions to the relatively new scientific-technical problem of developing innovative solutions in the field of cyber security for the Digital Economy. The solutions proposed are based on the results of exploratory studies conducted by the author in the areas of Big Data acquisition, cognitive information technologies (cogno-technologies), new methods of analytical verification of digital ecosystems on the basis of similarity invariants and dimensions, and "computational cognitivism," involving a number of existing models and methods.

In practice, this successfully allowed the creation of new entities - the required safe and trusted digital ecosystems - on the basis of the development of digital and cyber security technologies, and the resulting changes in their behavioral preferences. Here, the ecosystem is understood as a certain system of organizations, created around a certain Technological Platform that use its services to make the best offers to customers and access to them to meet the ultimate needs of clients - legal entities and individuals. The basis of such ecosystems is a certain technological platform, created on advanced innovative developments, including the open interfaces and code, machine learning, cloud technologies, Big Data collection and processing, artificial intelligence technologies, etc. The mentioned Technological Platform allows creating the best offer for the client both from own goods and services and from the offers of external service providers in real time.

This book contains four chapters devoted to the following subjects:

- Relevance of the given scientific-technical problems in the cybersecurity of Digital Economy
- Determination of the limiting capabilities
- Possible scientific and technical solutions
- Organization of perspective research studies in the area of Digital Economy cyber security in Russia.

Keywords: Cyber security, Big Data, Big Data Analytics, cognomorphic and neural-like software engineering, trusted cloud and fog technologies, new LTE and 5G communication technologies, Digital Economy, Trusted Digital Economy Technological Platforms



River Publishers Series in Security and Digital Forensics

Practical LTE Based Security Forces PMR Networks

Author: Arnaud Henry-Labordère, Ecole Nationale des Ponts et Chaussées & Halys, France

ISBN: 9788793609792
e-ISBN: 9788793609785
Available From: September 2018
Price: € 90.00

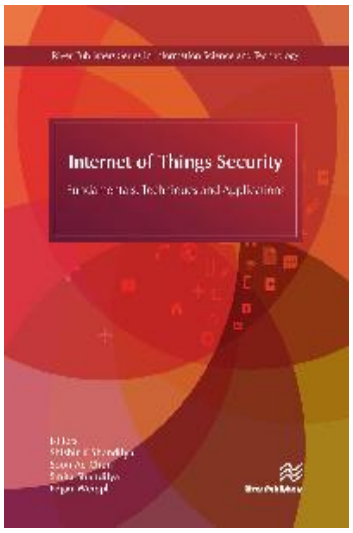
Description:

Security forces PMR networks are moving from proprietary technologies for their "Mission Critical Push-To-Talk" basic service, and their data services which must provide large bandwidth real-time access, to the databases. LTE Based is adopted with backup access to public MNOs to complement their own radio coverage. Specific technologies such as multicasting of visio are required so the MCPTT works within a restricted bandwidth. The need to be able to change the main MNOs to provide resilient coverage requires specific choices of SIM cards, with OTAble security domains.

Practical LTE Based Security Forces PMR Networks assumes that the reader has a basic knowledge of the 4G network architecture and services, and the book focusses on the specific features and choices required to fulfill the need of security forces PMR networks. These include tactical and centralized, including LTE based voice services VoLTE and IMS. It can be used as a reference or textbook, with many detailed call flows and traces being included.

The author, who has also a long teaching career in Operations Research, provides mathematical models for the optimization of tactical network federations, multicast coverage and allocation of preemptive priorities to PMR group members. He is a pioneer in the area of Virtual Roaming, an application of graph theory and telecommunications to provide roaming without direct relations, having previously published books on SMS Hubs, SS7 Hubs, Diameter Hubs, GTP Hubs. The use of M2M (monitoring devices) for security forces with mobility is covered in detail in the book, including the new LoRa virtual roaming which goes beyond the scope of PMR.

Keywords: Telecommunication networks, LTE for security forces, federation of tactical networks, LoRa virtual roaming, multi security domain SIM cards, 4G multicasting, 4G SMS, 4G geo-localisation, 4G multicast



River Publishers Series in Security and Digital Forensics

Internet of Things Security: Fundamentals, Techniques and Applications

Editors:
Shishir K. Shandilya, Vellore Insitute of Technology, VIT Bhopal University, India
Soon Ae Chun, City University of New York, USA
Smita Shandilya, Sagar Institute of Research, Technology and Science, India
Edgar Weippl, SBA Research, Austria

ISBN: 9788793609532
e-ISBN: 9788793609525
Available From: August 2018
Price: € 90.00

Description:
Internet of Things (IoT) security deals with safeguarding the devices and communications of IoT systems, by implementing protective measures and avoiding procedures which can lead to intrusions and attacks. However, security was never the prime focus during the development of the IoT, hence vendors have sold IoT solutions without thorough preventive measures. The idea of incorporating networking appliances in IoT systems is relatively new, and hence IoT security has not always been considered in the product design.

To improve security, an IoT device that needs to be directly accessible over the Internet should be segmented into its own network, and have general network access restricted. The network segment should be monitored to identify potential anomalous traffic, and action should be taken if a problem arises. This has generated an altogether new area of research, which seeks possible solutions for securing the devices, and communication amongst them.

Internet of Things Security: Fundamentals, Techniques and Applications provides a comprehensive overview of the overall scenario of IoT Security whilst highlighting recent research and applications in the field. Technical topics discussed in the book include:

- Machine-to-Machine Communications
- IoT Architecture
- Identity of Things
- Block Chain
- Parametric Cryptosystem
- Software and Cloud Components

Keywords: Smart Devices, Machine to Machine Communication, Machine Learning, Next and Future Generation Internet, Internet of Things

River Publishers Series in Security and Digital Forensics

GDPR and Cyber Security for Business Information Systems

Authors:
Antoni Gobeo, Edinburgh Napier University, UK
Connor Fowler, Edinburgh Napier University, UK
William J. Buchanan, Edinburgh Napier University, UK
ISBN: 9788793609136
e-ISBN: 9788770220798
Available From: August 2018
Price: € 60.00

Description:
The General Data Protection Regulation is the latest, and one of the most stringent, regulations regarding Data Protection to be passed into law by the European Union. Fundamentally, it aims to protect the Rights and Freedoms of all the individuals included under its terms; ultimately the privacy and security of all our personal data. This requirement for protection extends globally, to all organisations, public and private, wherever personal data is held, processed, or transmitted concerning any EU citizen.

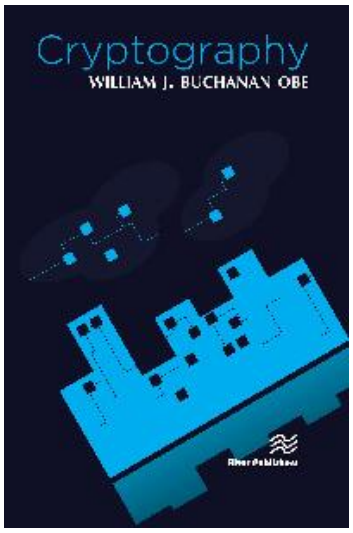
Cyber Security is at the core of data protection and there is a heavy emphasis on the application of encryption and state of the art technology within the articles of the GDPR. This is considered to be a primary method in achieving compliance with the law. Understanding the overall use and scope of Cyber Security principles and tools allows for greater efficiency and more cost effective management of Information systems.

GDPR and Cyber Security for Business Information Systems is designed to present specific and practical information on the key areas of compliance to the GDPR relevant to Business Information Systems in a global context.

Key areas covered include:

- Principles and Rights within the GDPR
- Information Security
- Data Protection by Design and Default
- Implementation Procedures
- Encryption methods
- Incident Response and Management
- Data Breaches

Keywords: Principles and Rights within the GDPR, Information Security, Data Protection by Design and Default, Implementation Procedures, Encryption methods, Incident Response and Management, Data Breaches



River Publishers Series in Security and Digital Forensics

Cryptography

Author: William J. Buchanan, OBE, Edinburgh Napier University, UK

ISBN: 9788793379107
e-ISBN: 9788793609143
Available From: September 2017
Price: € 57.00

Description:
Cryptography has proven to be one of the most contentious areas in modern society. For some it protects the rights of individuals to privacy and security, while for others it puts up barriers against the protection of our society. This book aims to develop a deep understanding of cryptography, and provide a way of understanding how privacy, identity provision and integrity can be enhanced with the usage of encryption.

The book has many novel features including:

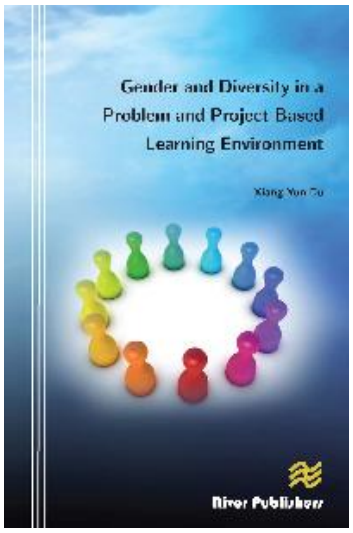
- full provision of Web-based material on almost every topic covered
- provision of additional on-line material, such as videos, source code, and labs
- coverage of emerging areas such as Blockchain, Light-weight Cryptography and Zero-knowledge Proofs (ZKPs)

Key areas covered include:

- Fundamentals of Encryption
- Public Key Encryption
- Symmetric Key Encryption
- Hashing Methods
- Key Exchange Methods
- Digital Certificates and Authentication
- Tunneling
- Crypto Cracking
- Light-weight Cryptography
- Blockchain
- Zero-knowledge Proofs

This book provides extensive support through the associated website of: http://asecuritysite.com/encryption

Keywords: Ciphers, Secret Key Encryption, Hashing, Public Key, Key Exchange, Authentication and Digital Certificates, Tunneling, Crypto Cracking, Light-weight Cryptography, Blockchain, Zero Knowledge proofs, Wifi



River Publishers Series in Security and Digital Forensics

Gender and Diversity in a Problem and Project Based Learning Environment

Author: Xiangyun Du, Associate Professor, Department of Learning and Philosophy, Aalborg University

ISBN: 9788792329844

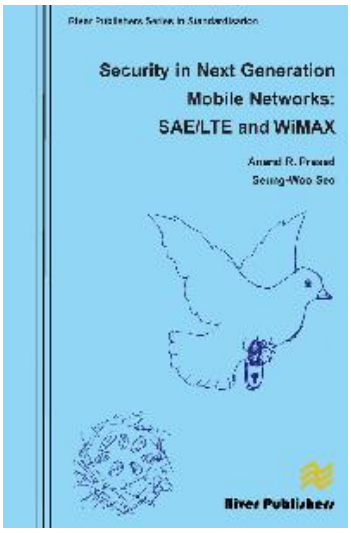
Available From: December 2011

Price: € 75.00

Description:

Problem and Project Based Learning (PBL) has been well used as an educational philosophy and methodology in the construction of student centered and contextualized learning environment. PBL is also regarded as an effective method in producing engineering graduates who can not only meet the needs of professional competences, but also are prepared for new challenges in the globalized and technological context. However, can PBL be a solution to the challenge of a general lack of university students studying engineering and technology in many countries? The book reports an ethnographical study on the learning experiences of engineering students in the PBL environment in Denmark. This book also attempts to question the issue of diversity in engineering education via the exploration of whether or in which ways the PBL environment is friendly to diverse groups of learners such as women.

Keywords: Gender and Diversity in a Problem and Project Based Learning Environment



River Publishers Series in Security and Digital Forensics

Security in Next Generation Mobile Networks: SAE/LTE and WiMAX

Author: Anand R. Prasad, NEC Corporation, Japan and Seung-Woo Seo, Seoul National University, South Korea

ISBN: 9788792329639

Available From: August 2011

Price: € 85.00

Description:

Starting from voice services with simple terminals, today a mobile device is nothing sort of a small PC in the form of smart-phones. The result has been a huge increase in data-services giving mobile communication access to critical aspects of human society / life. This has led to standardization of SAE/LTE (System Architecture Evolution / Long Term Evolution) by 3GPP and IEEE 802.16e / WiMAX. Together with penetration of mobile communications and new standardization come new security issues and thus the need for new security solutions. This book provides a fresh look at those security aspects, with main focus on the latest security developments of 3GPP SAE/LTE and WiMAX. SAE/LTE is also known as Evolved Packet System (EPS).

The intended audience for this book is mobile network and device architects, designers, researchers and students. The goal of the authors, who have a combined experience of more than 25 years in mobile security standardization, architecture, research, and education, is to provide the book?s readers with a fresh and up-to-date look at the architecture and challenges of EPS and WiMAX security. This book includes 6 chapters, where the first 3 chapters are intended to be introductory ones, and the remaining 3 chapters provide more in-depth discussions. The book starts with Chapter 1 where we give a background of Next Generation Mobile Networks (NGMN) activity and requirements. Following explanation of NGMN, Chapter 2 provides an overview of security, telecommunication systems and their requirements. Chapter 3 provides some background on standardization. Chapter 4 discusses the EPS (or SAE/LTE) security architecture developed by 3GPP. In particular, this chapter covers the authentication and key agreement method for SAE/LTE together with newly defined key hierarchy. This chapter also addresses the challenging aspects of SAE/LTE interworking and mobility with UMTS together with the necessary key-exchange technologies. The focus of Chapter 5 is WiMAX (IEEE 802.16) security. Chapter 5 provides an in-depth discussion of the WiMAX security requirements, the authentication aspects of PKMv2, and the overall WiMAX network security aspects. In Chapter 6 we briefly cover security for (i) Home(evolved)NodeB (H(e)NB) is the Femto solution from 3GPP), (ii) Machine-to-Machine (M2M) security and (iii) Multimedia Broadcast and Multicast Service (MBMS) and Group Key Management.

Contents:

Keywords: SAE/LTE, EPS, 3GPP, security, standards, WiMAX, IEEE 802.16, PKMv2, AKA, key management, key hierarchy, Femto, H(e)NB, MBMS, M2M, NGMN

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River Publishers Series in Security and Digital Forensics

Future Trends and Challenges for ICT Standardization

Editor: Ramjee Prasad, Founding Chairman of GISFI & Director CTIF, Denmark
ISBN: 9788792329387
Available From: February 2010
Price: € 70.00

Description:
This book comes in response to the Future Trends and Challenges for ICT Standardization. The technological areas covered are:

- the need, importance and management of radio spectrum,
- the development of future radio access technologies,
- the convergence of telecommunications and broadcasting,
- the possibilities and challenges brought by the Internet of Things (IoT),
- the environment sustainability through the use of Green ICT,

The book aims at identifying the importance of ICT standardization for strengthening the Indian industrial and business sector through Global ICT Standardization Forum for India (GISFI-www.gisfi.org). Further, it outlines the major challenges and trends in the ICT development worldwide, while mapping the Indian efforts on the background of the overall progress.

The motivation behind this book is that a more informed context is made available to ensure sustainable scientific and economic growth.
Finally, the book puts forward the best research roadmaps, strategies and challenges contributed by engineers from the industry, academia, and Government. It addresses the benefits to the entire society resulting from standardization.

Keywords: Future Trends and Challenges for ICT Standardization

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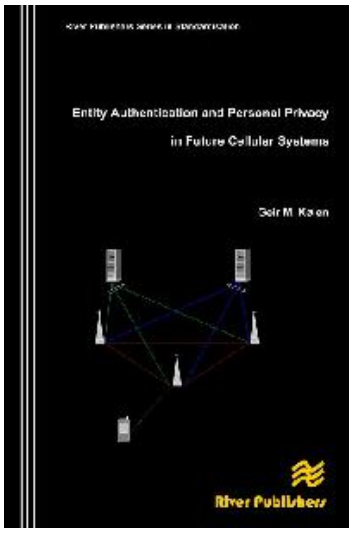


River Publishers Series in Security and Digital Forensics

Entity Authentication and Personal Privacy in Future Cellular Systems

Editor: Dr. Geir M. Koien, Telenor R&I, Norway and University of Agder, Norway

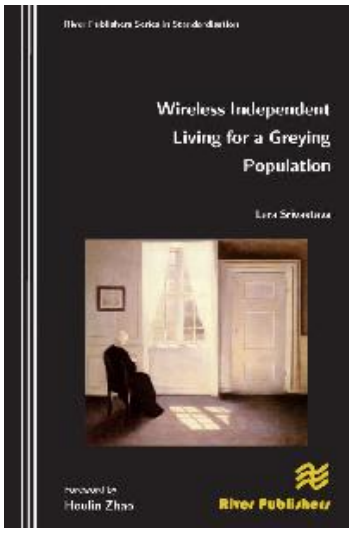
ISBN: 9788792329325
Available From: September 2009
Price: € 85.00

Description:

There are now (Q1 2009) more than 4 billion cellular subscribers in the world and this number is constantly growing. With this in mind it should be clear that use of mobile communication has already become both pervasive and ubiquitous. It has become a global commodity really. Entity Authentication and Personal Privacy in Future Cellular Systems aims at explaining and examining access security as it is found in mobile/cellular systems. A thorough investigation of how access security and personal privacy is handled in the 3GPP system is conducted. This includes both the 2G systems GSM/GPRS and the 3G system UMTS. The emerging fourth generation LTE architecture is also examined. The first part of the book deals exclusively with presenting access security as found in the 3GPP system. Particular attention is given to the authentication and key agreement procedures. The 3GPP systems have evolved and the access security architecture in LTE is substantially more advanced and mature than what you would find in GSM/GPRS, but even the LTE security architecture has its limitations. In part two of the book we go on to examine what is missing from the current cellular access security architectures. Some of the shortcomings found in GSM/GPRS and later UMTS have been partially addressed in LTE, but the burden of backwards compatibility has meant that many issues could not easily be resolved. Free from those restrictions, we shall see that one can provide substantially improved subscriber privacy and enhanced entity authentication, while also avoiding the delegated authentication control that all 3GPP systems have.
The design of authentication protocols is discussed in depth, and this would also include looking into the role of formal verification in the design of security protocols.

Errata	
ERRATA SECTION 3.3.8	Download
ERRATA SECTION 3.3.8 notes	Download

Keywords: Entity Authentication and Personal Privacy in Future Cellular Systems



River Publishers Series in Security and Digital Forensics

Wireless Independent Living for a Greying Population

Author: Lara Srivastava, CtiF, Aalborg University/International Telecommunications Union
ISBN: 9788792329226
Available From: April 2009
Price: € 85.00

Description:
It is widely known today that not only are the aged ageing, or the old getting older, but they are also increasing in number the world over. At the same time, proper care and support for our aged is increasingly at risk. Without some form of support, the quantitative extension of life cannot be matched by a qualitative one. This may mean that the opportunity provided by a longer life is squandered, and life itself, of course, is nothing if not opportunity. Societies find that self-sufficiency and independence not only contribute to individual well-being, but are also economically desirable due to the resultant increase in productivity.
The challenges of daily living for a growing population of the aged form the basis of the independent living platform, the AGE@HOME platform, which is described in this book. The platform combines both existing and emerging technologies suitable for the home. Its use and application is considered in the wider context of Web 2.0, the internet of things, and other elements of the burgeoning digital world. It is time that a holistic and multi-disciplinary approach to this constantly enlarging area of human existence is taken.
This book is written for researchers and designers of wireless tools, analog and digital circuits as well as academics who are active in the various fields of Human Sciences.

Foreword
"This book appears at the right moment when several developments have made age and its consequences an important element of human existence. It makes for informative reading, being based on considerations related to independence for the aged and the application of emerging technologies to enhance this independence....."
From the foreword by:
Houlin Zhao
Deputy Secretary-General of the
International Telecommunication Union

Keywords: Wireless Independent Living for a Greying Population