Applied Cyber Security And The Smart Grid Implementing Security Controls Into The Modern Power Infrastructure

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How to Measure Anything in Cybersecurity Risk

DURHAM PALMER

Applied Cyber Security and the Smart Grid Jones & Bartlett Learning
Electrical energy usage is increasing every year due to population growth and new forms of consumption. As such, it is increasingly imperative to research methods of energy control and safe use. Security Solutions and Applied Cryptography in Smart Grid Communications is a pivotal reference source for the latest research on the development of smart grid technology and best practices of utilization. Featuring extensive coverage across a range of relevant perspectives and topics, such as threat detection, authentication, and intrusion detection, this book is ideally designed for academicians, researchers, engineers and students seeking current research on ways in which to implement smart grid platforms all over the globe.
Applied Network Security Springer
"As networks become ever more complex, securing them becomes more and more difficult. The solution is visualization. Using today's state-of-the-art data visualization techniques, you can gain a far deeper understanding of what's happening on your network right now. You can uncover hidden patterns of data, identify emerging vulnerabilities and attacks, and respond decisively with countermeasures that are far more likely to succeed than conventional methods." "In Applied Security Visualization, leading network security visualization expert Raffael Marty introduces all the concepts, techniques, and tools you need to use visualization on your network. You'll learn how to identify and utilize the right data sources, then transform your data into visuals that reveal what you really need to know. Next, Marty shows how to use visualization to perform broad network security analyses, assess specific threats, and even improve business compliance."--Jacket.
Computer and Cyber Security Springer
Applied Information Security guides students through the installation and basic operation of IT Security software used in the industry today. This text is a great supplement for IT Security textbooks, offering over 21 chapters worth of hands-on assignments.
Computer Security Fundamentals John Wiley & Sons
From transportation to healthcare, IoT has been heavily implemented into practically every professional industry, making these systems highly susceptible to security breaches. Because IoT connects not just devices but also people and other entities, every component of an IoT system remains vulnerable to

attacks from hackers and other unauthorized units. This clearly portrays the importance of security and privacy in IoT, which should be strong enough to keep the entire platform and stakeholders secure and smooth enough to not disrupt the lucid flow of communication among IoT entities. Applied Approach to Privacy and Security for the Internet of Things is a collection of innovative research on the methods and applied aspects of security in IoT-based systems by discussing core concepts and studying real-life scenarios. While highlighting topics including malware propagation, smart home vulnerabilities, and bio-sensor safety, this book is ideally designed for security analysts, software security engineers, researchers, computer engineers, data scientists, security professionals, practitioners, academicians, and students seeking current research on the various aspects of privacy and security within IoT.
Cyber Risk Management IGI Global
Many people think of the Smart Grid as a power distribution group built on advanced smart metering—but that's just one aspect of a much larger and more complex system. The "Smart Grid" requires new technologies throughout energy generation, transmission and distribution, and even the homes and businesses being served by the grid. This also represents new information paths between these new systems and services, all of which represents risk, requiring a more thorough approach to where and how cyber security controls are implemented. This insight provides a detailed architecture of the entire Smart Grid, with recommended cyber security measures for everything from the supply chain to the consumer. Discover the potential of the Smart Grid Learn in depth about its systems See its vulnerabilities and how best to protect it
Applying Methods of Scientific Inquiry Into Intelligence, Security, and Counterterrorism Kogan Page Publishers
Protect your business and family against cyber attacks Cybersecurity is the protection against the unauthorized or criminal use of electronic data and the practice of ensuring the integrity, confidentiality, and availability of information. Being "cyber-secure" means that a person or organization has both protected itself against attacks by cyber criminals and other online scoundrels, and ensured that it has the ability to recover if it is attacked. If keeping your business or your family safe from cybersecurity threats is on your to-do list, Cybersecurity For Dummies will introduce you to the basics of becoming cyber-secure! You'll learn what threats exist, and how to identify, protect against, detect, and respond to these threats, as well as how to recover if you have been breached! The who and why of cybersecurity threats Basic cybersecurity concepts What to do to be cyber-secure Cybersecurity careers What to think about to stay cybersecure in the future Now is the time to identify vulnerabilities that may make you a victim of cyber-crime — and to defend yourself before it is too late.
Applied Information Security John Wiley & Sons
This new volume, edited by industrial and organizational psychologists, will look at the important topic of cyber security work in the US and around the world. With contributions from experts in the fields of industrial and organizational psychology, human factors, computer science, economics, and applied anthropology, the book takes the position that employees in cyber security

professions must maintain attention over long periods of time, must make decisions with imperfect information with the potential to exceed their cognitive capacity, may often need to contend with stress and fatigue, and must frequently interact with others in team settings and multiteam systems. Consequently, psychosocial dynamics become a critical driver of cyber security effectiveness. Chapters in the book reflect a multilevel perspective (individuals, teams, multiteam systems) and describe cognitive, affective and behavioral inputs, processes and outcomes that operate at each level. The book chapters also include contributions from both research scientists and cyber security policy-makers/professionals to promote a strong scientist-practitioner dynamic. The intent of the book editors is to inform both theory and practice regarding the psychosocial dynamics of cyber security work.

Cyber Security: Analytics, Technology and Automation Elsevier ONE-VOLUME INTRODUCTION TO COMPUTER SECURITY Clearly explains core concepts, terminology, challenges, technologies, and skills Covers today's latest attacks and countermeasures The perfect beginner's guide for anyone interested in a computer security career Dr. Chuck Easttom brings together complete coverage of all basic concepts, terminology, and issues, along with all the skills you need to get started. Drawing on 30 years of experience as a security instructor, consultant, and researcher, Easttom helps you take a proactive, realistic approach to assessing threats and implementing countermeasures. Writing clearly and simply, he addresses crucial issues that many introductory security books ignore, while addressing the realities of a world where billions of new devices are Internet-connected. This guide covers web attacks, hacking, spyware, network defense, security appliances, VPNs, password use, and much more. Its many tips and examples refl ect new industry trends and the state-of-the-art in both attacks and defense. Exercises, projects, and review questions in every chapter help you deepen your understanding and apply all you've learned. LEARN HOW TO Identify and prioritize potential threats to your network Use basic networking knowledge to improve security Get inside the minds of hackers, so you can deter their attacks Implement a proven layered approach to network security Resist modern social engineering attacks Defend against today's most common Denial of Service (DoS) attacks Halt viruses, spyware, worms, Trojans, and other malware Prevent problems arising from malfeasance or ignorance Choose the best encryption methods for your organization Compare security technologies, including the latest security appliances Implement security policies that will work in your environment Scan your network for vulnerabilities Evaluate potential security consultants Master basic computer forensics and know what to do if you're attacked Learn how cyberterrorism and information warfare are evolving

Proceedings of the International Conference on Applied CyberSecurity (ACS) 2021 Syngress This is a monumental reference for the theory and practice of computer security. Comprehensive in scope, this text covers applied and practical elements, theory, and the reasons for the design of applications and security techniques. It covers both the management and the engineering issues

of computer security. It provides excellent examples of ideas and mechanisms that demonstrate how disparate techniques and principles are combined in widely-used systems. This book is acclaimed for its scope, clear and lucid writing, and its combination of formal and theoretical aspects with real systems, technologies, techniques, and policies.

Applied Information Security CRC Press GAME THEORY AND MACHINE LEARNING FOR CYBER SECURITY Move beyond the foundations of machine learning and game theory in cyber security to the latest research in this cutting-edge field In Game Theory and Machine Learning for Cyber Security, a team of expert security researchers delivers a collection of central research contributions from both machine learning and game theory applicable to cybersecurity. The distinguished editors have included resources that address open research questions in game theory and machine learning applied to cyber security systems and examine the strengths and limitations of current game theoretic models for cyber security. Readers will explore the vulnerabilities of traditional machine learning algorithms and how they can be mitigated in an adversarial machine learning approach. The book offers a comprehensive suite of solutions to a broad range of technical issues in applying game theory and machine learning to solve cyber security challenges. Beginning with an introduction to foundational concepts in game theory, machine learning, cyber security, and cyber deception, the editors provide readers with resources that discuss the latest in hypergames, behavioral game theory, adversarial machine learning, generative adversarial networks, and multi-agent reinforcement learning. Readers will also enjoy: A thorough introduction to game theory for cyber deception, including scalable algorithms for identifying stealthy attackers in a game theoretic framework, honeypot allocation over attack graphs, and behavioral games for cyber deception An exploration of game theory for cyber security, including actionable game-theoretic adversarial intervention detection against advanced persistent threats Practical discussions of adversarial machine learning for cyber security, including adversarial machine learning in 5G security and machine learning-driven fault injection in cyber-physical systems In-depth examinations of generative models for cyber security Perfect for researchers, students, and experts in the fields of computer science and engineering, Game Theory and Machine Learning for Cyber Security is also an indispensable resource for industry professionals, military personnel, researchers, faculty, and students with an interest in cyber security.

Psychosocial Dynamics of Cyber Security CRC Press

This book explores fundamental principles for securing IT systems and illustrates them with hands-on experiments that may be carried out by the reader using accompanying software. The experiments highlight key information security problems that arise in modern operating systems, networks, and web applications. The authors explain how to identify and exploit such problems and they show different countermeasures and their implementation. The reader thus gains a detailed understanding of how vulnerabilities arise and practical experience tackling them. After presenting the basics of security

principles, virtual environments, and network services, the authors explain the core security principles of authentication and access control, logging and log analysis, web application security, certificates and public-key cryptography, and risk management. The book concludes with appendices on the design of related courses, report templates, and the basics of Linux as needed for the assignments. The authors have successfully taught IT security to students and professionals using the content of this book and the laboratory setting it describes. The book can be used in undergraduate or graduate laboratory courses, complementing more theoretically oriented courses, and it can also be used for self-study by IT professionals who want hands-on experience in applied information security. The authors' supporting software is freely available online and the text is supported throughout with exercises.

Applied Cryptography for Cyber Security and Defense: Information Encryption and Cyphering John Wiley & Sons

Mathematical methods and theories with interdisciplinary applications are presented in this book. The eighteen contributions presented in this Work have been written by eminent scientists; a few papers are based on talks which took place at the International Conference at the Hellenic Artillery School in May 2015. Each paper evaluates possible solutions to long-standing problems such as the solvability of the direct electromagnetic scattering problem, geometric approaches to cyber security, ellipsoid targeting with overlap, non-equilibrium solutions of dynamic networks, measuring ballistic dispersion, elliptic regularity theory for the numerical solution of variational problems, approximation theory for polynomials on the real line and the unit circle, complementarity and variational inequalities in electronics, new two-slope parameterized achievement scalarizing functions for nonlinear multiobjective optimization, and strong and weak convexity of closed sets in a Hilbert space. /divGraduate students, scientists, engineers and researchers in pure and applied mathematical sciences, operations research, engineering, and cyber security will find the interdisciplinary scientific perspectives useful to their overall understanding and further research.

Applied Security Visualization Prentice Hall

Digital certificates, a new form of electronic ID, is a new security technology that establishes a digital identity for a person or a company and guarantees the authenticity of information delivered over the Web or via email. This title explores all of the critical aspects of digital certificates in detail and provides basic information on cryptography. The CD-ROM contains a complete system for controlling access to information on the Internet based on digital certificate technology.

Applied Information Security IGI Global

Comprehensive resource providing strategic defense mechanisms for malware, handling cybercrime, and identifying loopholes using artificial intelligence (AI) and machine learning (ML) Applying Artificial Intelligence in Cyber Security Analytics and Cyber Threat Detection is a comprehensive look at state-of-the-art theory and practical guidelines pertaining to the subject, showcasing recent innovations, emerging trends, and concerns as well as applied challenges encountered, and

solutions adopted in the fields of cybersecurity using analytics and machine learning. The text clearly explains theoretical aspects, framework, system architecture, analysis and design, implementation, validation, and tools and techniques of data science and machine learning to detect and prevent cyber threats. Using AI and ML approaches, the book offers strategic defense mechanisms for addressing malware, cybercrime, and system vulnerabilities. It also provides tools and techniques that can be applied by professional analysts to safely analyze, debug, and disassemble any malicious software they encounter. With contributions from qualified authors with significant experience in the field, Applying Artificial Intelligence in Cyber Security Analytics and Cyber Threat Detection explores topics such as: Cybersecurity tools originating from computational statistics literature and pure mathematics, such as nonparametric probability density estimation, graph-based manifold learning, and topological data analysis Applications of AI to penetration testing, malware, data privacy, intrusion detection system (IDS), and social engineering How AI automation addresses various security challenges in daily workflows and how to perform automated analyses to proactively mitigate threats Offensive technologies grouped together and analyzed at a higher level from both an offensive and defensive standpoint Providing detailed coverage of a rapidly expanding field, Applying Artificial Intelligence in Cyber Security Analytics and Cyber Threat Detection is an essential resource for a wide variety of researchers, scientists, and professionals involved in fields that intersect with cybersecurity, artificial intelligence, and machine learning.

Applied Information Security Labs

Addison-Wesley Professional

PART OF THE NEW JONES & BARTLETT LEARNING INFORMATION SYSTEMS SECURITY & ASSURANCE SERIES Security Policies and Implementation Issues, Third Edition offers a comprehensive, end-to-end view of information security policies and frameworks from the raw organizational mechanics of building to the psychology of implementation. Written by industry experts, the new Third Edition presents an effective balance between technical knowledge and soft skills, while introducing many different concepts of information security in clear simple terms such as governance, regulator mandates, business drivers, legal considerations, and much more. With step-by-step examples and real-world exercises, this book is a must-have resource for students, security officers, auditors, and risk leaders looking to fully understand the process of implementing successful sets of security policies and frameworks. Instructor Materials for Security Policies and Implementation Issues include: PowerPoint Lecture Slides Instructor's Guide Sample Course Syllabus Quiz & Exam Questions Case Scenarios/Handouts About the Series This book is part of the Information Systems Security and Assurance Series from Jones and Bartlett Learning. Designed for courses and curriculums in IT Security, Cybersecurity, Information Assurance, and Information Systems Security, this series features a comprehensive, consistent treatment of the most current thinking and trends in this critical subject area. These titles deliver fundamental information-security principles packed with real-world applications and examples. Authored by

Certified Information Systems Security Professionals (CISSPs), they deliver comprehensive information on all aspects of information security. Reviewed word for word by leading technical experts in the field, these books are not just current, but forward-thinking—putting you in the position to solve the cybersecurity challenges not just of today, but of tomorrow, as well.

Operations Research, Engineering, and Cyber Security Createspace Independent Publishing Platform

Information security does not have to be complicated. A clear understanding of the fundamentals can help establish a solid information security foundation for individuals, small businesses and large organizations. This 100-page book provides a primer for those new to the field, and a refresher for the more seasoned practitioner. The goal is to help clear some of the fog that can get in the way of implementing best practices. Practical and effective information security does not have to be complicated-- it can be achieved by learning and applying cyber security basics.

Applied Approach to Privacy and Security for the Internet of Things Syngress

A ground shaking exposé on the failure of popular cyber risk management methods How to Measure Anything in Cybersecurity Risk exposes the shortcomings of current "risk management" practices, and offers a series of improvement techniques that help you fill the holes and ramp up security. In his bestselling book How to Measure Anything, author Douglas W. Hubbard opened the business world's eyes to the critical need for better measurement. This book expands upon that premise and draws from The Failure of Risk Management to sound the alarm in the cybersecurity realm. Some of the field's premier risk management approaches actually create more risk than they mitigate, and questionable methods have been duplicated across industries and embedded in the products accepted as gospel. This book sheds light on these blatant risks, and provides alternate techniques that can help improve your current situation. You'll also learn which approaches are too risky to save, and are actually more damaging than a total lack of any security. Dangerous risk management methods abound; there is no industry more critically in need of solutions than cybersecurity. This book provides solutions where they exist, and advises when to change tracks entirely. Discover the shortcomings of cybersecurity's "best practices" Learn which risk management approaches actually create risk Improve your current practices with practical alterations Learn which methods are beyond saving, and worse than doing nothing Insightful and enlightening, this book will inspire a closer examination of your company's own risk management practices in the context of cybersecurity. The end goal is airtight data protection, so finding cracks in the vault is a positive thing—as long as you get there before the bad guys do. How to Measure Anything in Cybersecurity Risk is your guide to more robust protection through better quantitative processes, approaches, and techniques.

Applied Network Security Monitoring Springer Science & Business Media

Cybersecurity has gained in awareness and media coverage in the last decade. Not a single week passes without a major security incident that affects a company, sector, or governmental agencies. This proceedings of the

International Conference on Applied CyberSecurity 2021 (ACS21), held in Dubai on 13 and 14 November, contains thirteen original contributions. More than half of the contributions are about applications of machine learning to accomplish several cybersecurity tasks, such as malware, phishing email detection, and Botnet detection. This was consistent with the current research and market trends. We divided this book into two parts; the first is focused on machine learning applications to cybersecurity, whereas the second groups the other approaches. This book is suitable for cybersecurity researchers and practitioners as well as fresh graduates. It is also suitable for artificial intelligence researchers interested in exploring applications in cybersecurity.
Security Policies and Implementation Issues Springer Nature
Organizations, worldwide, have adopted practical and applied approaches for mitigating risks and managing information security program. Considering complexities of a large-scale, distributed IT environments, security should be proactively planned for and prepared ahead, rather than as used as reactions to changes in the landscape. Strategic and Practical Approaches for Information Security Governance: Technologies and Applied Solutions presents high-quality research papers and practice articles on management and governance issues in the field of information security. The main focus of the book is to provide an organization with insights into practical and applied solutions, frameworks, technologies and practices on technological and organizational factors. The book aims to be a collection of knowledge for professionals, scholars, researchers and academicians working in this field that is fast evolving and growing as an area of information assurance.
Cybersecurity for Executives in the Age of Cloud John Wiley & Sons
Research Methods for Cyber Security teaches scientific methods for generating impactful knowledge, validating theories, and adding critical rigor to the cyber security field. This book shows how to develop a research plan, beginning by starting research with a question, then offers an introduction to the broad range of useful research methods for cyber security research: observational, mathematical, experimental, and applied. Each research method chapter concludes with recommended outlines and suggested templates for submission to peer reviewed venues. This book concludes with information on cross-cutting issues within cyber security research. Cyber security research contends with numerous unique issues, such as an extremely fast environment evolution, adversarial behavior, and the merging of natural and social science phenomena. Research Methods for Cyber Security addresses these concerns and much more by teaching readers not only the process of science in the context of cyber security research, but providing assistance in execution of research as well. Presents research methods from a cyber security science perspective Catalyzes the rigorous research necessary to propel the cyber security field forward Provides a guided method selection for the type of research being conducted, presented in the context of real-world usage

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