Cyber Threat Assessment Fortinet

Prevent destructive attacks to your Azure public cloud infrastructure, remove vulnerabilities, and instantly report cloud security readiness. This book provides comprehensive guidance from a security insider's perspective. Cyber Security on Azure explains how this 'security as a service' (SECaaS) business solution can help you better manage security risk and enable data security control using encryption options such as Advanced Encryption Standard (AES) cryptography. Discover best practices to support network security groups, web application firewalls, and database auditing for threat protection. Configure custom security notifications of potential cyberattack vectors to prevent unauthorized access by hackers, hacktivists, and industrial spies. What You'll Learn This book provides step-by-step guidance on how to: Support enterprise security policies Improve cloud security Configure intrusion detection Identify potential vulnerabilities Prevent enterprise security failures Who This Book Is For IT, cloud, and security administrators; CEOs, CIOs, and other business professionals

Threat actors, be they cyber criminals, terrorists, hacktivists or disgruntled employees, are employing sophisticated attack techniques and anti-forensics tools to cover their attacks and breach attempts. As emerging and hybrid technologies continue to influence daily business decisions, the proactive use of cyber forensics to better assess the risks that the exploitation of these technologies pose to enterprise-wide operations is rapidly becoming a strategic business objective. This book moves beyond the typical, technical approach to discussing cyber forensics processes and procedures. Instead, the authors examine how cyber forensics can be applied to identifying, collecting, and examining evidential data from emerging and hybrid technologies, while taking steps to proactively manage the influence and impact, as well as the policy and governance aspects of these technologies and their effect on business operations. A world-class team of cyber forensics researchers, investigators, practitioners and law enforcement professionals have come together to provide the reader with insights and recommendations into the proactive application of cyber forensic methodologies and procedures to both protect data and to identify digital evidence related to the misuse of these data. This book is an essential guide for both the technical and non-technical executive, manager, attorney, auditor, and general practitioner who is seeking an authoritative source on how cyber forensics may be applied to both evidential data collection and to proactively managing today’s and tomorrow’s emerging and hybrid technologies. The book will also serve as a primary or supplemental text in both under- and post-graduate academic programs addressing information, operational and emerging technologies, cyber forensics, networks, cloud computing and cybersecurity.

Cyber risk is the second highest perceived business risk according to U.S. risk managers and corporate insurance experts. Digital assets now represent over 85% of an organization’s value. In a survey of Fortune 1000 organizations, 83% surveyed described cyber risk as an organizationally complex topic, with most using only qualitative metrics that provide little, if any insight into an effective cyber strategy. Written by one of the foremost cyber risk experts in the world and with contributions from other senior professionals in the field, Managing Cyber Risk provides corporate cyber stakeholders – managers, executives, and directors – with context and tools to accomplish several strategic objectives. These include enabling managers to understand and have proper governance oversight of this crucial area and ensuring improved cyber resilience. Managing Cyber Risk helps businesses to understand cyber risk quantification in business terms that lead risk owners to determine how much cyber insurance they should buy based on the size and the scope of policy, the cyber budget required, and how to prioritize risk remediation based on reputational, operational, legal, and financial impacts. Directors are held to standards of fiduciary duty, loyalty, and care. These insights provide the ability to demonstrate that directors have appropriately discharged their duties, which often dictates the ability to successfully rebut claims made against such individuals. Cyber is a strategic business issue that requires quantitative metrics to ensure cyber resiliency. This handbook acts as a roadmap for executives to understand how to increase cyber resiliency and is unique since it quantifies exposures at the digital asset level.

The Practical, Comprehensive Guide to Applying Cybersecurity Best Practices and Standards in Real Environments In Effective Cybersecurity, William Stallings introduces the technology, operational procedures, and management practices needed for successful cybersecurity. Stallings makes extensive use of standards and best practices documents that are often used to guide or mandate cybersecurity implementation. Going beyond these, he offers in-depth tutorials on the “how” of implementation, integrated into a unified framework and realistic plan of action. Each chapter contains a clear technical overview, as well as a detailed discussion of action items and appropriate policies. Stallings offers many pedagogical features designed to help readers master the material: clear learning objectives, keyword lists, review questions, and QR codes linking to relevant standards documents and web resources. Effective Cybersecurity aligns with the comprehensive Information Security Forum document “The Standard of Good Practice for Information Security,” extending ISF’s work with extensive insights from ISO, NIST, COBIT, other official standards and guidelines, and modern professional, academic, and industry literature. • Understand the cybersecurity discipline and the role of standards and best practices • Define security governance, assess risks, and manage strategy and tactics • Safeguard information and privacy, and ensure GDPR compliance • Harden systems across the system development life cycle (SDLC) • Protect servers, virtualized systems, and storage • Secure networks and electronic communications, from email to VoIP • Apply the most appropriate methods for user authentication • Mitigate security risks in supply chains and cloud environments This knowledge is indispensable to every cybersecurity professional. Stallings presents it systematically and coherently, making it practical and actionable.

This professional guide and reference examines the challenges of assessing security vulnerabilities in computing infrastructure. Various aspects of vulnerability assessment are covered in detail, including recent advancements in reducing the requirement for expert knowledge through novel applications of artificial intelligence. The work also offers a series of case studies on how to develop and perform vulnerability assessment techniques using start-of-the-art intelligent mechanisms. Topics and features: provides tutorial activities and thought-provoking questions in each chapter, together with numerous case studies; introduces the fundamentals of vulnerability assessment, and reviews the state of the art of research in this area; discusses vulnerability assessment frameworks, including frameworks for industrial control and cloud systems; examines a range of applications that make use of artificial intelligence to enhance the vulnerability assessment processes; presents visualisation techniques that can be used to assist the vulnerability assessment process. In addition to serving the needs of security practitioners and researchers, this accessible volume is also ideal for students and instructors seeking a primer on artificial intelligence for vulnerability assessment, or a supplementary text for courses on computer security, networking, and artificial intelligence.

Cyber security has become a topic of concern over the past decade as private industry, public administration, commerce, and communication have gained a greater online presence. As many individual and organizational activities continue to evolve in the digital sphere, new vulnerabilities arise. Cyber Security and Threats: Concepts, Methodologies, Tools, and Applications contains a compendium of the latest academic material on new methodologies and applications in the areas of digital security and threats. Including innovative studies on cloud security, online threat protection, and cryptography, this multi-volume book is an ideal source for IT specialists, administrators, researchers, and students interested in uncovering new ways to thwart cyber breaches and protect sensitive digital information.

Identify vulnerabilities across applications, network and systems using simplified cybersecurity scripting KEY FEATURES ? Exciting coverage on red teaming methodologies and penetration testing techniques. ? Explore the exploitation development environment and process of creating exploit scripts. ? Includes powerful Python libraries to analyze the web and helps identifying critical vulnerabilities. ? Conduct wireless attacks and identify potential threats using Python. DESCRIPTION This book starts with an understanding of penetration testing and red teaming methodologies and teaches Python 3.x from scratch for those who are not familiar with programming. The book gives the skills of how to create scripts for cracking, and brute force attacks. The second part of this book focuses on the network and wireless level. The book teaches you the skills of how to create an offensive tool using Python 3.x to identify different services and ports using different Python network modules and conducting network attacks. In the network monitoring section, you will be able to monitor layers 3 and 4. And finally, you will be able to conduct different attacks on wireless. The last part of this book focuses on web applications and exploitation developments. It focuses on how to create scripts to extract web information such as links, images, documents, etc. It also focuses on how to create scripts to identify and exploit web vulnerabilities and how to bypass WAF. The last chapter of this book focuses on exploitation development starting with how to play with the stack and then moving on to how to use Python in fuzzing and creating exploitation scripts. WHAT YOU WILL LEARN ? Learn to code Python scripts from scratch to identify web vulnerabilities. ? Conduct network attacks, create offensive tools, and identify vulnerable services and ports. ? Perform deep monitoring of network up to layers 3 and 4. ? Execute web scraping scripts to extract images, documents, and links. WHO THIS BOOK IS FOR This book is for Penetration Testers, Security Researchers, Red Teams, Security Auditors and IT Administrators who want to start with an action plan in protecting their IT systems. All you need is some basic understanding of programming concepts and working of IT systems. Hands-on experience with python will be more beneficial but not required. TABLE OF CONTENTS 1. Start with Penetration Testing and Basic Python 2. Cracking with Python 3. Service and Applications Brute Forcing with Python 4. Python Services Identifications - Ports and Banner 5. Python Network Modules and Nmap 6. Network Monitoring with Python 7. Attacking Wireless with Python 8. Analyze Web Applications with Python 9. Attack Web Application with Python 10. Exploitation Development with Python

This book pinpoints current and impending threats to the healthcare industry's data security.

Can a system be considered truly reliable if it isn't fundamentally secure? Or can it be considered secure if it's unreliable? Security is crucial to the design and operation of scalable systems in production, as it plays an important part in product quality, performance, and availability. In this book, experts from Google share best practices to help your organization design scalable and reliable systems that are fundamentally secure. Two previous O’Reilly books from Google—Site Reliability Engineering and The Site Reliability Workbook—demonstrated how and why a commitment to the entire service lifecycle enables organizations to successfully build, deploy, monitor, and maintain software systems. In this latest guide, the authors offer insights into system design, implementation, and maintenance from practitioners who specialize in security and reliability. They also discuss how building and adopting their recommended best practices requires a culture that’s supportive of such change. You’ll learn about secure and reliable systems through: Design strategies Recommendations for coding, testing, and debugging practices Strategies to prepare for, respond to, and recover from incidents Cultural best practices that help teams across your organization collaborate effectively

In this contributed volume, leading international researchers explore configuration modeling and checking, vulnerability

and risk assessment, configuration analysis, and diagnostics and discovery. The authors equip readers to understand automated security management systems and techniques that increase overall network assurability and usability. These constantly changing networks defend against cyber attacks by integrating hundreds of security devices such as firewalls, IPSec gateways, IDS/IPS, authentication servers, authorization/RBAC servers, and crypto systems. Automated Security Management presents a number of topics in the area of configuration automation. Early in the book, the chapter authors introduce modeling and validation of configurations based on high-level requirements and discuss how to manage the security risk as a result of configuration settings of network systems. Later chapters delve into the concept of configuration analysis and why it is important in ensuring the security and functionality of a properly configured system. The book concludes with ways to identify problems when things go wrong and more. A wide range of theoretical and practical content make this volume valuable for researchers and professionals who work with network systems.
BUILD YOUR CYBERSECURITY PROGRAM WITH THIS COMPLETELY UPDATED GUIDE Security practitioners now have a comprehensive blueprint to build their cybersecurity programs. Building an Effective Cybersecurity Program (2nd Edition) instructs security architects, security managers, and security engineers how to properly construct effective cybersecurity programs using contemporary architectures, frameworks, and models. This comprehensive book is the result of the author’s professional experience and involvement in designing and deploying hundreds of cybersecurity programs. The extensive content includes: Recommended design approaches, Program structure, Cybersecurity technologies, Governance Policies, Vulnerability, Threat and intelligence capabilities, Risk management, Defense-in-depth, DevSecOps, Service management, …and much more! The book is presented as a practical roadmap detailing each step required for you to build your effective cybersecurity program. It also provides many design templates to assist in program builds and all chapters include self-study questions to gauge your progress.

With this new 2nd edition of this handbook, you can move forward confidently, trusting that Schreider is recommending the best components of a cybersecurity program for you. In addition, the book provides hundreds of citations and references allow you to dig deeper as you explore specific topics relevant to your organization or your studies. Whether you are a new manager or current manager involved in your organization’s cybersecurity program, this book will answer many questions you have on what is involved in building a program. You will be able to get up to speed quickly on program development practices and have a roadmap to follow in building or improving your organization’s cybersecurity program. If you are new to cybersecurity in the short period of time it will take you to read this book, you can be the smartest person in the room grasping the complexities of your organization’s cybersecurity program. If you are a manager already involved in your organization’s cybersecurity program, you have much to gain from reading this book. This book will become your go to field manual guiding or affirming your program decisions.

Over the years, a plethora of reports has emerged that assess the causes, dynamics, and effects of cyber threats. This proliferation of reports is an important sign of the increasing prominence of cyber attacks for organizations, both public and private, and citizens all over the world. In addition, cyber attacks are drawing more and more attention in the media. Such efforts can help to better awareness and understanding of cyber threats and pave the way to improved prevention, mitigation, and resilience. This report aims to help in this task by assessing what we know about cyber security threats based on a review of 70 studies published by public authorities, companies, and research organizations from about 15 countries over the last few years. It answers the following questions: what do we know about the number, origin, and impact of cyber attacks? What are the current and emerging cyber security trends? And how well are we prepared to face these threats?

This report describes a way for the U.S. Department of Defense to better secure unclassified networks holding defense information--through the establishment of a cybersecurity program designed to strengthen the protections of these networks.

This book responds to the claim that criminology is becoming socially and politically irrelevant despite its exponential expansion as an academic sub-discipline. It does so by addressing the question 'what is to be done' in relation to a number of major issues associated with crime and punishment. The original contributions to this volume are provided by leading international experts in a wide range of issues. They address imprisonment, drugs, gangs, cybercrime, prostitution, domestic violence, crime control, as well as white collar and corporate crime. Written in an accessible style, this collection aims to contribute to the development of a more public criminology and encourages students and researchers at all levels to engage in a form of criminology that is more socially relevant and more useful.

We depend on information and information technology (IT) to make many of our day-to-day tasks easier and more convenient. Computers play key roles in transportation, health care, banking, and energy. Businesses use IT for payroll and accounting, inventory and sales, and research and development. Modern military forces use weapons that are increasingly coordinated through computer-based networks. Cybersecurity is vital to protecting all of these functions. Cyberspace is vulnerable to a broad spectrum of hackers, criminals, terrorists, and state actors. Working in cyberspace, these malevolent actors can steal money, intellectual property, or classified information; impersonate law-abiding parties for their own purposes; damage important data; or deny the availability of normally accessible services. Cybersecurity issues arise because of three factors taken together - the presence of malevolent actors in cyberspace, societal reliance on IT for many important functions, and the presence of vulnerabilities in IT systems. What steps can policy makers take to protect our government, businesses, and the public from those would take advantage of system vulnerabilities? At the Nexus of Cybersecurity and Public Policy offers a wealth of information on practical measures, technical and nontechnical challenges, and potential policy responses. According to this report, cybersecurity is a never-ending battle; threats will evolve as adversaries adopt new tools and techniques to compromise security. Cybersecurity is therefore an ongoing process that needs to evolve as new threats are identified. At the Nexus of Cybersecurity and Public Policy is a call for action to make cybersecurity a public safety priority. For a number of years, the cybersecurity issue has received increasing public attention; however, most policy focus has been on the short-term costs of improving systems. In its explanation of the fundamentals of cybersecurity and the discussion of potential policy responses, this book will be a resource for policy makers, cybersecurity and IT professionals, and anyone who wants to understand threats to cyberspace.

If you’re involved in cybersecurity as a software developer, forensic investigator, or network administrator, this practical guide shows you how to apply the scientific method when assessing techniques for protecting your information systems. You’ll learn how to conduct scientific experiments on everyday tools and procedures, whether you’re evaluating corporate security systems, testing your own security product, or looking for bugs in a mobile game. Once author Josiah Dykstra gets you up to speed on the scientific method, he helps you focus on standalone, domain-specific topics, such as cryptography, malware analysis, and system security engineering. The latter chapters include practical case studies that demonstrate how to use available tools to conduct domain-specific scientific experiments. Learn the steps necessary to conduct scientific experiments in cybersecurity Explore fuzzing to test how your software handles various inputs Measure the performance of the Snort intrusion detection system Locate malicious “needles in a haystack” in your network and IT environment Evaluate cryptography design and application in IoT products Conduct an experiment to identify relationships between similar malware binaries Understand system-level security requirements for enterprise networks and web services

This practical, tutorial-style book uses the Kali Linux distribution to teach Linux basics with a focus on how hackers would use them. Topics include Linux command line basics, filesystems, networking, BASH basics, package management, logging, and the Linux kernel and drivers. If you're getting started along the exciting path of hacking, cybersecurity, and pentesting, Linux Basics for Hackers is an excellent first step. Using Kali Linux, an advanced penetration testing distribution of Linux, you'll learn the basics of using the Linux operating system and acquire the tools and techniques you'll need to take control of a Linux environment. First, you'll learn how to install Kali on a virtual machine and get an introduction to basic Linux concepts. Next, you'll tackle broader

Linux topics like manipulating text, controlling file and directory permissions, and managing user environment variables. You'll then focus in on foundational hacking concepts like security and anonymity and learn scripting skills with bash and Python. Practical tutorials and exercises throughout will reinforce and test your skills as you learn how to: - Cover your tracks by changing your network information and manipulating the rsyslog logging utility - Write a tool to scan for network connections, and connect and listen to wireless networks - Keep your internet activity stealthy using Tor, proxy servers, VPNs, and encrypted email - Write a bash script to scan open ports for potential targets - Use and abuse services like MySQL, Apache web server, and OpenSSH - Build your own hacking tools, such as a remote video spy camera and a password cracker Hacking is complex, and there is no single way in. Why not start at the beginning with Linux Basics for Hackers?

Micro-segmentation - Day 1 brings together the knowledge and guidance for planning, designing, and implementing a modern security architecture for the software-defined data center based on micro-segmentation. VMware NSX makes network micro-segmentation feasible for the first time. It enables granular firewalling and security policy enforcement for every workload in the data center, independent of the network topology and complexity. Micro-segmentation with NSX already helped over a thousand organizations improve the security posture of their software-defined data center by fundamentally changing the way they approach security architecture. Micro-segmentation - Day 1 is your roadmap to simplify and enhance security within software-defined data centers running NSX. You will find insights and recommendations proven in the field for moving your organization from a perimeter-centric security posture to a micro-segmented architecture that provides enhanced security and visibility within your data center.

Cybersecurity experts from across industries and sectors share insights on how to think like scientists to master cybersecurity challenges Humankind’s efforts to explain the origin of the cosmos birthed disciplines such as physics and chemistry. Scientists conceived of the cosmic ‘Big Bang’ as an explosion of particles—everything in the universe centered around core elements and governed by laws of matter and gravity. In the modern era of digital technology, we are experiencing a similar explosion of ones and zeros, an exponentially expanding universe of bits of data centered around the core elements of speed and connectivity. One of the disciplines to emerge from our efforts to make sense of this new universe is the science of cybersecurity. Cybersecurity is as central to the Digital Age as physics and chemistry were to the Scientific Age. The Digital Big Bang explores current and emerging knowledge in the field of cybersecurity, helping readers think like scientists to master cybersecurity principles and overcome cybersecurity challenges. This innovative text adopts a scientific approach to cybersecurity, identifying the science’s fundamental elements and examining how these elements intersect and interact with each other. Author Phil Quade distills his over three decades of cyber intelligence, defense, and attack experience into an accessible, yet detailed, single-volume resource. Designed for non-specialist business leaders and cybersecurity practitioners alike, this authoritative book is packed with real-world examples, techniques, and strategies no organization should be without. Contributions from many of the world’s leading cybersecurity experts and policymakers enable readers to firmly grasp vital cybersecurity concepts, methods, and practices. This important book: Guides readers on both fundamental tactics and advanced strategies Features observations, hypotheses, and conclusions on a wide range of cybersecurity issues Helps readers work with the central elements of cybersecurity, rather than fight or ignore them Includes content by cybersecurity leaders from organizations such as Microsoft, Target, ADP, Capital One, Verisign, AT&T, Samsung, and many others Offers insights from national-level security experts including former Secretary of Homeland Security Michael Chertoff and former Director of National Intelligence Mike McConnell The Digital Big Bang is an invaluable source of information for anyone faced with the challenges of 21st century cybersecurity in all industries and sectors, including business leaders, policy makers, analysts and researchers as well as IT professionals, educators, and students.

Organizations around the world are in a struggle for survival, racing to transform themselves in a herculean effort to adapt to the digital age, all while protecting themselves from headline-grabbing cybersecurity threats. As organizations succeed or fail, the centrality and importance of cybersecurity and the role of the CISO—Chief Information Security Officer—becomes ever more apparent. It's becoming clear that the CISO, which began as a largely technical role, has become nuanced, strategic, and a cross-functional leadership position. Fight Fire with Fire: Proactive Cybersecurity Strategies for Today's Leaders explores the evolution of the CISO's responsibilities and delivers a blueprint to effectively improve cybersecurity across an organization. Fight Fire with Fire draws on the deep experience of its many all-star contributors. For example: Learn how to talk effectively with the Board from engineer-turned-executive Marianne Bailey, a top spokesperson well-known for global leadership in cyber Discover how to manage complex cyber supply chain risk with Terry Roberts, who addresses this complex area using cutting-edge technology and emerging standards Tame the exploding IoT threat landscape with Sonia Arista, a CISO with decades of experience across sectors, including healthcare where edge devices monitor vital signs and robots perform surgery These are just a few of the global trailblazers in cybersecurity who have banded together to equip today's leaders to protect their enterprises and inspire tomorrow's leaders to join them. With fires blazing on the horizon, there is no time for a seminar or boot camp. Cyber leaders need information at their fingertips. Readers will find insight on how to close the diversity and skills gap and become well-versed in modern cyber threats, including attacks coming from organized crime and nation-states. This book highlights a three-pronged approach that encompasses people, process, and technology to empower everyone to protect their organization. From effective risk management to supply chain security and communicating with the board, Fight Fire with Fire presents discussions from industry leaders that cover every critical competency in information security. Perfect for IT and information security professionals seeking perspectives and insights they can't find in certification exams or standard textbooks, Fight Fire with Fire is an indispensable resource for everyone hoping to improve their understanding of the realities of modern cybersecurity through the eyes of today's top security leaders.

Enhance your organization's secure posture by improving your attack and defense strategies Key Features Gain a clear understanding of the attack methods, and patterns to recognize abnormal behavior within your organization with Blue Team tactics. Learn to unique techniques to gather exploitation intelligence, identify risk and demonstrate impact with Red Team and Blue Team strategies. A practical guide that will give you hands-on experience to mitigate risks and prevent attackers from infiltrating your system. Book Description The book will start talking about the security posture before moving to Red Team tactics, where you will learn the basic syntax for the Windows and Linux tools that are commonly used to perform the necessary operations. You will also gain hands-on experience of using new Red Team techniques with powerful tools such as python and PowerShell, which will enable you to discover vulnerabilities in your system and how to exploit them. Moving on, you will learn how a system is usually compromised by adversaries, and how they hack user's identity, and the various tools used by the Red Team to find vulnerabilities in a system. In the next section, you will learn about the defense strategies followed by the Blue Team to enhance the overall security of a system. You will also learn about an in-depth strategy to ensure that there are security controls in each network layer, and how you can carry out the recovery process of a compromised system. Finally, you will learn how to create a vulnerability management strategy and the different techniques for manual log analysis. By the end of this book, you will be well-versed with Red Team and Blue Team techniques and will have learned the techniques used nowadays to attack and defend systems. What you will learn Learn the importance of having a solid foundation for your security posture Understand the attack strategy using cyber security kill chain Learn how to enhance your defense strategy by improving your security policies, hardening your network, implementing active sensors, and leveraging threat intelligence Learn how to perform an incident investigation Get an in-depth understanding of the recovery process Understand continuous security monitoring and how to implement a vulnerability management strategy Learn how to perform log analysis to identify suspicious activities Who this book is for This book aims at IT professional who want to venture the IT security domain. IT pentester, Security consultants, and ethical hackers will also find this course useful. Prior knowledge of penetration testing would be beneficial.

A comprehensive analysis of the international law applicable to cyber operations, including a systematic study of attribution, lawfulness and remedies.

Network Access Control (NAC) is an approach to computer network security that attempts to unify endpoint security technology (such as antivirus, host intrusion prevention, and vulnerability assessment), user or system authentication and network security enforcement. This book is your ultimate resource for Network Access Control (NAC). Here you will find the most up-to-date information, analysis, background and everything you need to know. In easy to read chapters, with extensive references and links to get you to know all there is to know about Network Access Control (NAC) right away, covering: Network Access Control, Network security, Administrative domain, AEGIS SecureConnect, Aladdin Knowledge Systems, Alert Logic, Anomaly-based intrusion detection system, Anti-pharming, Anti-phishing software, Anti-worm, Application-level gateway, ARP spoofing, Asprox botnet, Attack (computer), Attack tree, Authentication server, Avaya Secure Network Access, Avaya VPN Router, Bagle (computer worm), Barracuda Networks, Bastion host, Black hole (networking), BLACKER, Blue Cube Security, BNC (software), Botnet, BredoLab botnet, Bro (software), Byzantine Foothold, Captive portal, Capture the flag, Check Point, Check Point Abra, Check Point VPN-1, Christmas tree packet, Cisco ASA, Cisco Global Exploiter, Cisco PIX, Cisco Secure Integrated Software, Cisco Security Agent, Cisco Systems VPN Client, Clear Channel Assessment attack, Client Puzzle Protocol, Cloudvpn, Codenomicon, Columbitech, Computer security, Context-based access control, ContraVirus, Core Impact, Core Security, Countermeasure (computer), Cryptek, Cutwail botnet, CVSS, CyberCIEGE, Dark Internet, Data breach, Deep packet inspection, Defense in depth (computing), Denial-of-service attack, Device fingerprint, DHIPDS, Differentiated security, Digital Postmarks, Digital security, Distributed firewall, DMZ (computing), DNS hijacking, Donbot botnet, Dual-homed, Egress filtering, Entrust, Evil bit, Extensible Threat Management (XTM), Extranet, Fail2ban, Fake AP, Finjan, Firewalk (computing), Firewall (computing), Firewall pinhole, Firewalls and Internet Security, Fortinet, Forward-confirmed reverse DNS, General Dynamics C4 Systems, Generalized TTL security mechanism, Global Internet Freedom Consortium, Golden Frog Inc, Greynet, Grum botnet, Guided tour puzzle protocol, Gumblar, Hole punching, Honeyd, HoneyMonkey, Honeynet Project, Honeypot (computing), Honeytoken, Host Identity Protocol, ICMP hole punching, Identity driven networking, IEC 62351, IEEE 802.1X, IF-MAP, Ingress filtering, Institute for Applied Network Security, Integrated Windows Authentication, Inter-protocol communication, Inter-protocol exploitation, Internet censorship, Internet security, Internet Storm Center, IntruShield, Network intrusion detection system, Intrusion prevention system, IP address spoofing, IP blocking, IP fragmentation attacks, Kaspersky Anti-Virus, Kerberos (protocol), Kerio Control, Key distribution center, Knowledge-based authentication, Kraken botnet, Lethic botnet, List of cyber attack threat trends, Lock-Keeper, Lorcon, Lumeta Corporation, MAC flooding, Managed security service, Managed VoIP Service, Mariposa botnet, Mega-D botnet, Messaging Security, Metasploit Project, Middlebox, Miredo, Mobile virtual private network, Monoculture (computer science), Mu Dynamics, MySecureCyberspace, NAT traversal, NeoAccel, NetBox Blue, Network Admission Control, Network Based Application Recognition, Network encryption cracking, Network intelligence, Network security policy, Network Security Toolkit, Nfront security, NIST RBAC model, NTLM, Null session, OCML...and much more This book explains in-depth the real drivers and workings of Network Access Control (NAC). It reduces the risk of your technology, time and resources investment decisions by enabling you to compare your understanding of Network Access Control (NAC) with the objectivity of experienced professionals.

This publication highlights the fast-moving technological advancement and infiltration of Artificial Intelligence into society. Concepts of evolution of society through interconnectivity are explored, together with how the fusion of human and technological interaction leading to Augmented Humanity is fast becoming more than just an endemic phase, but a cultural phase shift to digital societies. It aims to balance both the positive progressive outlooks such developments bring with potential issues that may stem from innovation of this kind, such as the invasive procedures of bio hacking or ethical connotations concerning the usage of digital twins. This publication will also give the reader a good level of understanding on fundamental cyber defence principles, interactions with Critical National Infrastructure (CNI) and the Command, Control, Communications and Intelligence (C3I) decision-making framework. A detailed view of the cyber-attack landscape will be garnered; touching on the tactics, techniques and procedures used, red and blue teaming initiatives, cyber resilience and the protection of larger scale systems. The integration of AI, smart societies, the human-centric approach and Augmented Humanity is discernible in the exponential growth, collection and use of [big] data; concepts woven throughout the diversity of topics covered in this publication; which also discusses the privacy and transparency of data ownership, and the potential dangers of exploitation through social media. As humans are become ever more interconnected, with the prolificacy of smart wearable devices and wearable body area networks, the availability of and abundance of user data and metadata derived from individuals has grown exponentially. The notion of data ownership, privacy and situational awareness are now at the forefront in this new age.

Everybody says be careful online, but what do they mean? Lacey is a cyber-smart dog who protects kids by teaching them how to stay safe online. Join Lacey and her friend Gabbi on a fun, cyber safe adventure and learn the ins and outs of how to behave and how to keep yourself safe online. In this day in age our kids are accessing the internet about as soon as they can read! Cyber Safe is a fun way to ensure they understand their surroundings in our digital world.

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Over the years, irresponsible business practices have resulted in industrial waste, which is negatively impacting the environment. As a result, it is imperative to develop new solutions to reverse the damage. Collective Creativity for Responsible and Sustainable Business Practice is an authoritative reference source for the latest scholarly research on the elimination of environmental degradation through new discoveries and opportunities provided by collective creativity. Featuring extensive coverage across a range of relevant perspective and topics, such as sustainable business model innovation, social marketing, and education and business co-operatives, this comprehensive and timely publication is an essential reference source for business leaders, managers, academics, and community leaders seeking current research on sustainable management practices.

This book offers a systematic analysis of the various existing strategic cyber deterrence options and introduces active cyber defense as a technically capable and legally viable alternative strategy for the deterrence of cyber attacks. It examines the array of malicious actors operating in the domain and their methods of attack and motivations.

This report finds that the trend to digitization, when combined with a lack of executive-level awareness of the risks involved, means that nuclear plant personnel may not realize the full extent of their cyber vulnerability and are thus inadequately prepared to deal with potential attacks. Specific findings include the following: --The conventional belief that all nuclear facilities are "air gapped” (isolated from the public Internet) is a myth. The commercial benefits of Internet connectivity means that a number of nuclear facilities now have VPN connections installed, which facility operators are sometimes unaware of. --Search engines can readily identify critical infrastructure components with such connections. --Even where facilities are air gapped, this safeguard can be breached with nothing more than a flash drive. --Supply chain vulnerabilities mean that equipment used at a nuclear facility risks compromise at any stage. --A lack of training, combined with communication breakdowns between engineers and security personnel, means that nuclear plant personnel often lack an understanding of key cyber security procedures. --Reactive rather than proactive approaches to cyber security contribute to the possibility that a nuclear facility might not know of a cyber attack until it is already substantially underway. In the light of these risks, the report outlines a blend of policy and technical measures that will be required to counter the threats and meet the challenges.

This book aims to provide the latest research developments and results in the domain of AI techniques for smart cyber ecosystems. It presents a holistic insight into AI-enabled theoretic approaches and methodology in IoT networking, security analytics using AI tools, and network automation, which ultimately enable intelligent cyber space. This book will be a valuable resource for students, researchers, engineers, policy makers working in various areas related to cybersecurity and privacy for Smart cities. This book includes chapters titled “An Overview of the Artificial Intelligence Evolution and its Fundamental Concepts, and their relationship with IoT Security”, “Smart City: Evolution and fundamental concepts”, “Advances in AI-Based Security for Internet of Things in Wireless Virtualization Environment”, “A conceptual model for optimal resource sharing of networked microgrids focusing uncertainty – paving path to eco-friendly smart cities”, “A Novel Framework for Cyber Secure Smart City", “Contemplate Security Challenges & Threats for Smart Cities”, “Self-Monitoring Obfuscated IoT Network”, “Introduction to Side Channel Attacks and Investigation of Power Analysis & Fault Injection Attack Techniques”, “Collaborative Digital Forensic Investigations Model for Law Enforcement: Oman as a Case Study”, “Internet of Things Security and Privacy in Smart Cities: Status and Challenges”, “5G Security and the Internet of Things”, “The Problem of Deepfake Videos and How to Counteract Them in Smart Cities”, “The Rise of Ransomware aided by Vulnerable IoT devices”, and “Security Issues in Self-Driving Cars within Smart Cities”, “PhishFree: A Honeybee Inspired System for Smart City Free of Phishing Attacks”, “Trust Aware Crowd Associated Network-based Approach for Optimal Waste Management in Smart Cities” This book provides state-of-the-art of research results and discusses current issues, challenges, solutions and recent trends related to security and organization within IoT and Smart Cities. We expect this book to be of significant importance not only to researchers and practitioners in academia, government agencies and industries, but also for policy makers and system managers. We anticipate this book to be a valuable resource for all those working in this new and exciting area, and a “must have” for all university libraries.

Modern critical infrastructures comprise of many interconnected cyber and physical assets, and as such are large scale cyber-physical systems. Hence, the conventional approach of securing these infrastructures by addressing cyber security and physical security separately is no longer effective. Rather more integrated approaches that address the security of cyber and physical assets at the same time are required. This book presents integrated (i.e. cyber and physical) security approaches and technologies for the critical infrastructures that underpin our societies. Specifically, it introduces advanced techniques for threat detection, risk assessment and security information sharing, based on leading edge technologies like machine learning, security knowledge modelling, IoT security and distributed ledger infrastructures. Likewise, it presets how established security technologies like Security Information and Event Management (SIEM), pen-testing, vulnerability assessment and security data analytics can be used in the context of integrated Critical Infrastructure Protection. The novel methods and techniques of the book are exemplified in case studies involving critical infrastructures in four industrial sectors, namely finance, healthcare, energy and communications. The peculiarities of critical infrastructure protection in each one of these sectors is discussed and addressed based on sector-specific solutions. The advent of the fourth industrial revolution (Industry 4.0) is expected to increase the cyber-physical nature of critical infrastructures as well as their interconnection in the scope of sectorial and cross-sector value chains. Therefore, the demand for solutions that foster the interplay between cyber and physical security, and enable Cyber-Physical Threat Intelligence is likely to explode. In this book, we have shed light on the structure of such integrated security systems, as well as on the technologies that will underpin their operation. We hope that Security and Critical Infrastructure Protection stakeholders will find the book useful when planning their future security strategies.

Strategic Cyber DeterrenceThe Active Cyber Defense OptionRowman & Littlefield

The notion of 'resilience' is gaining currency in European and transatlantic security policy discussions. The EU and NATO are each building the capacity of their member states to anticipate, preempt and resolve disruptive challenges to vital societal functions. The EU and NATO are also exploring ways to work more effectively together in this area. But is resilience enough to deal with disruptive threats in a deeply interconnected world? In this new study, authors and experts argue that while state-by-state approaches to resilience are important, they are likely to be insufficient in a world where few critical infrastructures are limited to national borders, and where robust resilience efforts by one country may mean little if its neighbor's systems are weak. They argue not only that resilience must be shared, it must be projected forward, and that traditional notions of territorial security must be supplemented with actions to address flow security - protecting critical links that bind societies to one another.

Melanie Mitchell separates science fact from science fiction in this sweeping examination of the current state of AI and how it is remaking our world No recent scientific enterprise has proved as alluring, terrifying, and filled with extravagant promise and frustrating setbacks as artificial intelligence. The award-winning author Melanie Mitchell, a leading computer scientist, now reveals AI's turbulent history and the recent spate of apparent successes, grand hopes, and emerging fears surrounding it. In Artificial Intelligence, Mitchell turns to the most urgent questions concerning AI today: How intelligent—really—are the best AI programs? How do they work? What can they actually do, and when do they fail? How humanlike do we expect them to become, and how soon do we need to worry about them surpassing us? Along the way, she introduces the dominant models of modern AI and machine learning, describing cutting-edge AI programs, their human inventors, and the historical lines of thought underpinning recent achievements. She meets with fellow experts such as Douglas Hofstadter, the cognitive scientist and Pulitzer Prize–winning author of the modern classic Gödel, Escher, Bach, who explains why he is “terrified” about the future of AI. She explores the profound disconnect between the hype and the actual achievements in AI, providing a clear sense of what the field has accomplished and how much further it has to go. Interweaving stories about the science of AI and the people behind it, Artificial Intelligence brims with clear-sighted, captivating, and accessible accounts of the most interesting and provocative modern work in the field, flavored with Mitchell's humor and personal observations. This frank, lively book is an indispensable guide to understanding today's AI, its quest for “human-level” intelligence, and its impact on the future for us all.

There are hundreds--if not thousands--of techniques used to compromise both Windows and Unix-based systems. Malicious code and new exploit scripts are released on a daily basis, and each evolution becomes more and more sophisticated. Keeping up with the myriad of systems used by hackers in the wild is a formidable task, and scrambling to patch each potential vulnerability or address each new attack one-by-one is a bit like emptying the Atlantic with paper cup.If you're a network administrator, the pressure is on you to defend your systems from attack. But short of devoting your life to becoming a security expert, what can you do to ensure the safety of your mission critical systems? Where do you start?Using the steps laid out by professional security analysts and consultants to identify and assess risks, Network Security Assessment offers an efficient testing model that an administrator can adopt, refine, and reuse to create proactive defensive strategies to protect their systems from the threats that are out there, as well as those still being developed.This thorough and insightful guide covers offensive technologies by grouping and analyzing them at a higher level--from both an offensive and defensive standpoint--helping administrators design and deploy networks that are immune to offensive exploits, tools, and scripts. Network administrators who need to develop and implement a security assessment program will find everything they're looking for--a proven, expert-tested methodology on which to base their own comprehensive program--in this time-saving new book.

This book on computer security threats explores the computer security threats and includes a broad set of solutions to defend the computer systems from these threats. The book is triggered by the understanding that digitalization and growing dependence on the Internet poses an increased risk of computer security threats in the modern world. The chapters discuss different research frontiers in computer security with algorithms and implementation details for use in the real world. Researchers and practitioners in areas such as statistics, pattern recognition, machine learning, artificial intelligence, deep learning, data mining, data analytics and visualization are contributing to the field of computer security. The intended audience of this book will mainly consist of researchers, research students, practitioners, data analysts, and business professionals who seek information on computer security threats and its defensive measures.

Over the last decade, as companies have continued to march forward on the digitization of everything, the cybersecurity risk profile has continued to change. Since 2005, there have been over 9,000 publicly disclosed data breaches. In the last five years, the financial losses due to cyber-attacks have risen by over 62%. Identifying, mitigating and managing cybersecurity risks in today's environment is a challenging task. On July 29, 2017, Equifax discovered criminal hackers had broken into its systems. Graeme Payne was one of the first senior executives to be told about the attack. Six weeks later, Equifax announced that the personal information of over 140 million US consumers had been exposed in one of the largest data breaches of the 21st Century. What followed was a challenging response that drew widespread criticism. Graeme Payne was fired on October 2, the day before former Chairman & CEO Richard Smith testified to Congress that the root cause of the data breach was a human error and a technological failure. Graeme Payne would later be identified as "the human error". In The New Era of Cybersecurity Breaches, Graeme Payne describes the new era of cybersecurity breaches, the challenges of managing cybersecurity, and the story of the Equifax Cybersecurity Breach. Graeme tells the story of how Equifax became a valuable target for cybercriminals, the conclusions reached by various investigators regarding the cause of the breach, the challenges faced by Equifax in responding to the breach, and the widespread consequences that continue to have an impact. The New Era of Cybersecurity Breaches is a must-read for board members, executives, managers and security leaders. This book will help you understand: The importance of implementing strong procedural, technical, and people controls to secure your systems. Essential lessons in preparing for, and responding to, a major data breach when (not if) one occurs. The critical role boards and senior leaders have in your organization's cybersecurity program. The lessons learned from major cybersecurity breaches, including the Equifax 2017 Data Breach, can be applied to your company to "test and improve" your cybersecurity posture.

As industrial control systems (ICS), including SCADA, DCS, and other process control networks, become Internet-facing, they expose crucial services to attack. Threats like Duqu, a sophisticated worm found in the wild that appeared to share portions of its code with the Stuxnet worm, emerge with increasing frequency. Explaining how to develop and implement an effective cybersecurity program for ICS, Cybersecurity for Industrial Control Systems: SCADA, DCS, PLC, HMI, and SIS provides you with the tools to ensure network security without sacrificing the efficiency and functionality of ICS. Highlighting the key issues that need to be addressed, the book begins with a thorough introduction to ICS. It discusses business, cost, competitive, and regulatory drivers and the conflicting priorities of convergence. Next, it explains why security requirements differ from IT to ICS. It differentiates when standard IT security solutions can be used and where SCADA-specific practices are required. The book examines the plethora of potential threats to ICS, including hi-jacking malware, botnets, spam engines, and porn dialers. It outlines the range of vulnerabilities inherent in the ICS quest for efficiency and functionality that necessitates risk behavior such as remote access and control of critical equipment. Reviewing risk assessment techniques and the evolving risk assessment process, the text concludes by examining what is on the horizon for ICS security, including IPv6, ICSv6 test lab designs, and IPv6 and ICS sensors.

Computer users have a significant impact on the security of their computer and personal information as a result of the actions they perform (or do not perform). Helping the average user of computers, or more broadly information technology, make sound security decisions, Computer Security Literacy: Staying Safe in a Digital World focuses on practica