Cybersecurity Attack And Defense Strategies Infrastructure Security With Red Team And Blue Team Tactics

This contemporary strategy book provides practical guidance to enable private and public sector develop high-impact and cost-effective cyber resilience strategies
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.
Build smart cybersecurity systems with the power of machine learning and deep learning to protect your corporate assets Key Features Identify and predict security threats using artificial intelligence Develop intelligent systems that can detect unusual and suspicious patterns and attacks Learn how to test the effectiveness of your AI cybersecurity algorithms and tools Book Description Today's organizations spend billions of dollars globally on cybersecurity. Artificial intelligence has emerged as a great solution for building smarter and safer security systems that allow you to predict and detect suspicious network activity, such as phishing or unauthorized intrusions. This cybersecurity book presents and demonstrates popular and successful AI approaches

and models that you can adapt to detect potential attacks and protect your corporate systems. You'll learn about the role of machine learning and neural networks, as well as deep learning in cybersecurity, and you'll also learn how you can infuse AI capabilities into building smart defensive mechanisms. As you advance, you'll be able to apply these strategies across a variety of applications, including spam filters, network intrusion detection, botnet detection, and secure authentication. By the end of this book, you'll be ready to develop intelligent systems that can detect unusual and suspicious patterns and attacks, thereby developing strong network security defenses using AI. What you will learn Detect email threats such as spamming and phishing using AI Categorize APT, zero-days, and polymorphic malware samples Overcome antivirus limits in threat detection Predict network intrusions and detect anomalies with machine learning Verify the strength of biometric authentication procedures with deep learning Evaluate cybersecurity strategies and learn how you can improve them Who this book is for If you’re a cybersecurity professional or ethical hacker who wants to build intelligent systems using the power of machine learning and AI, you’ll find this book useful. Familiarity with cybersecurity concepts and knowledge of Python programming is essential to get the most out of this book.

Insights into the true history of cyber warfare, and the strategies, tactics, and cybersecurity tools that can be used to better defend yourself and your organization against cyber threat. Key Features Define and determine a cyber-defence strategy

based on current and past real-life examples Understand how future technologies will impact cyber warfare campaigns and society Future-ready yourself and your business against any cyber threat Book Description The era of cyber warfare is now upon us. What we do now and how we determine what we will do in the future is the difference between whether our businesses live or die and whether our digital self survives the digital battlefield. Cyber Warfare – Truth, Tactics, and Strategies takes you on a journey through the myriad of cyber attacks and threats that are present in a world powered by AI, big data, autonomous vehicles, drones video, and social media. Dr. Chase Cunningham uses his military background to provide you with a unique perspective on cyber security and warfare. Moving away from a reactive stance to one that is forward-looking, he aims to prepare people and organizations to better defend themselves in a world where there are no borders or perimeters. He demonstrates how the cyber landscape is growing infinitely more complex and is continuously evolving at the speed of light. The book not only covers cyber warfare, but it also looks at the political, cultural, and geographical influences that pertain to these attack methods and helps you understand the motivation and impacts that are likely in each scenario. Cyber Warfare – Truth, Tactics, and Strategies is as real-life and up-to-date as cyber can possibly be, with examples of actual attacks and defense techniques, tools. and strategies presented for you to learn how to think about defending your own systems and data. What you will learn Hacking at scale – how machine learning (ML) and

artificial intelligence (AI) skew the battlefield Defending a boundaryless enterprise Using video and audio as weapons of influence Uncovering DeepFakes and their associated attack vectors Using voice augmentation for exploitation Defending when there is no perimeter Responding tactically to counter-campaign-based attacks Who this book is for This book is for any engineer, leader, or professional with either a responsibility for cyber security within their organizations, or an interest in working in this ever-growing field.

Do you create tons of accounts you will never again visit? Do you get annoyed thinking up new passwords, so you just use the same one across all your accounts? Does your password contain a sequence of numbers, such as "123456"? This book will show you just how incredibly lucky you are that nobody's hacked you before.

Cyber weapons and the possibility of cyber conflict—including interference in foreign political campaigns, industrial sabotage, attacks on infrastructure, and combined military campaigns—require policymakers, scholars, and citizens to rethink twenty-first-century warfare. Yet because cyber capabilities are so new and continually developing, there is little agreement about how they will be deployed, how effective they can be, and how they can be managed. Written by leading scholars, the fourteen case studies in this volume will help policymakers, scholars, and students make sense of contemporary cyber conflict through historical analogies to past military-technological problems. The chapters are divided into three groups. The first—What Are Cyber

Weapons Like?—examines the characteristics of cyber capabilities and how their use for intelligence gathering, signaling, and precision striking compares with earlier technologies for such missions. The second section—What Might Cyber Wars Be Like?—explores how lessons from several wars since the early nineteenth century, including the World Wars, could apply—or not—to cyber conflict in the twenty-first century. The final section—What Is Preventing and/or Managing Cyber Conflict Like?—offers lessons from past cases of managing threatening actors and technologies.
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.

An accessible introduction to cybersecurity concepts and practices Cybersecurity Essentials provides a comprehensive introduction to the field, with expert coverage of essential topics required for entry-level cybersecurity certifications. An effective defense consists of four distinct challenges: securing the infrastructure, securing devices, securing local networks, and securing the perimeter. Overcoming these challenges requires a detailed understanding of the concepts and practices within each realm. This book covers each challenge individually for greater depth of information, with real-world scenarios that show what vulnerabilities look like in everyday computing scenarios. Each part concludes with a summary of key concepts, review questions, and hands-on exercises, allowing you to test your understanding while exercising your new critical skills. Cybersecurity jobs range from basic configuration to advanced systems analysis and defense assessment. This book provides the foundational information you need to understand the basics of the field, identify your place within it, and start down the security certification path. Learn security and surveillance fundamentals Secure and protect remote access and devices Understand network topologies, protocols, and strategies Identify threats and mount an effective defense Cybersecurity Essentials gives you the building blocks for an entry level security certification and provides a foundation of cybersecurity knowledge

This peer reviewed work addresses how Businesses and Information Technology Security Professionals have spent a tremendous amount of time, money and resources to deploy a

Defense in Depth approach to Information Technology Security. Yet successful attacks against RSA, HB Gary, Booz, Allen & Hamilton, the United States Military, and many others are examples of how Defense in Depth, as practiced, is unsustainable and the examples show that the enemy cannot be eliminated permanently. A closer look at how Defense in Depth evolved and how it was made to fit within Information Technology is important to help better understand the trends seen today. Knowing that Defense in Depth, as practiced, actually renders the organization more vulnerable is vital to understanding that there must be a shift in attitudes and thinking to better address the risks faced in a more effective manner. Based on examples in this paper, a change is proposed in the current security and risk management models from the Defense in Depth model to Sustained Cyber-Siege Defense. The implications for this are significant in that there have to be transitions in thinking as well as how People, Process and Technology are implemented to better defend against a never ending siege by a limitless number and variety of attackers that cannot be eliminated. The suggestions proposed are not a drastic change in operations as much as how defenses area aligned, achieve vendor collaboration by applying market pressures and openly sharing information with each other as well as with federal and state agencies. By more accurately describing the problems, corporations and IT Security Professionals will be better equipped to address the challenges faced together.

Build a resilient network and prevent advanced cyber attacks and breaches Key Features Explore modern cybersecurity techniques to protect your networks from ever-evolving cyber threats Prevent cyber attacks by using robust cybersecurity strategies Unlock the secrets of network security Book Description With advanced cyber attacks severely impacting industry

giants and the constantly evolving threat landscape, organizations are adopting complex systems to maintain robust and secure environments. Network Security Strategies will help you get well-versed with the tools and techniques required to protect any network environment against modern cyber threats. You'll understand how to identify security vulnerabilities across the network and how to effectively use a variety of network security techniques and platforms. Next, the book will show you how to design a robust network that provides top-notch security to protect against traditional and new evolving attacks. With the help of detailed solutions and explanations, you'll be able to monitor networks skillfully and identify potential risks. Finally, the book will cover topics relating to thought leadership and the management aspects of network security. By the end of this network security book, you'll be well-versed in defending your network from threats and be able to consistently maintain operational efficiency, security, and privacy in your environment. What you will learn Understand network security essentials, including concepts, mechanisms, and solutions to implement secure networks Get to grips with setting up and threat monitoring cloud and wireless networks Defend your network against emerging cyber threats in 2020 Discover tools, frameworks, and best practices for network penetration testing Understand digital forensics to enhance your network security skills Adopt a proactive approach to stay ahead in network security Who this book is for This book is for anyone looking to explore information security, privacy, malware, and cyber threats. Security experts who want to enhance their skill set will also find this book useful. A prior understanding of cyber threats and information security will help you understand the key concepts covered in the book more effectively.

Technical challenges are not a great hindrance to global cyber security cooperation; rather, a

nation's lack of cybersecurity action plans that combine technology, management procedures, organizational structures, law, and human competencies into national security strategies are. Strengthening international partnerships to secure the cyber domain will require understanding the technical, legal, and defense challenges faced by our international partners. Identifying the gaps in international cooperation and their socioeconomic and political bases will provide the knowledge required to support our partners' cybersecurity and contribute to building a cyber environment less hospitable to misuse. It will also help US policy makers to determine the appropriate escalation of diplomatic and defensive responses to irresponsible countries in cyberspace. Further research and discussion will likely enable the timely development of the response framework for US sponsorship of sound global norms to guide global cybersecurity. This will also assist the US defense, diplomatic, and development communities in building consensus, leveraging resources to enhance global cybersecurity, and coordinating US global outreach to those countries most beset by cyber crime and conflict.

Develop your red team skills by learning essential foundational tactics, techniques, and procedures, and boost the overall security posture of your organization by leveraging the homefield advantage Key Features Build, manage, and measure an offensive red team program Leverage the homefield advantage to stay ahead of your adversaries Understand core adversarial tactics and techniques, and protect pentesters and pentesting assets Book Description It's now more important than ever for organizations to be ready to detect and respond to security events and breaches. Preventive measures alone are not enough for dealing with adversaries. A well-rounded prevention, detection, and response program is required. This book will guide you through the stages of building a red team program, including

strategies and homefield advantage opportunities to boost security. The book starts by guiding you through establishing, managing, and measuring a red team program, including effective ways for sharing results and findings to raise awareness. Gradually, you'll learn about progressive operations such as cryptocurrency mining, focused privacy testing, targeting telemetry, and even blue team tooling. Later, you'll discover knowledge graphs and how to build them, then become well-versed with basic to advanced techniques related to hunting for credentials, and learn to automate Microsoft Office and browsers to your advantage. Finally, you'll get to grips with protecting assets using decoys, auditing, and alerting with examples for major operating systems. By the end of this book, you'll have learned how to build, manage, and measure a red team program effectively and be well-versed with the fundamental operational techniques required to enhance your existing skills. What you will learn Understand the risks associated with security breaches Implement strategies for building an effective penetration testing team Map out the homefield using knowledge graphs Hunt credentials using indexing and other practical techniques Gain blue team tooling insights to enhance your red team skills Communicate results and influence decision makers with appropriate data Who this book is for This is one of the few detailed cybersecurity books for penetration testers, cybersecurity analysts, security leaders and strategists, as well as red team members and chief information security officers (CISOs) looking to secure their organizations from adversaries. The program management part of this book will also be useful for beginners in the cybersecurity domain. To get the most out of this book, some penetration testing experience, and software engineering and debugging skills are necessary.

Ten Strategies of a World-Class Cyber Security Operations Center conveys MITRE's

accumulated expertise on enterprise-grade computer network defense. It covers ten key qualities of leading Cyber Security Operations Centers (CSOCs), ranging from their structure and organization, to processes that best enable smooth operations, to approaches that extract maximum value from key CSOC technology investments. This book offers perspective and context for key decision points in structuring a CSOC, such as what capabilities to offer, how to architect large-scale data collection and analysis, and how to prepare the CSOC team for agile, threat-based response. If you manage, work in, or are standing up a CSOC, this book is for you. It is also available on MITRE's website, www.mitre.org.

In recent years, interest and progress in the area of artificial intelligence (AI) and machine learning (ML) have boomed, with new applications vigorously pursued across many sectors. At the same time, the computing and communications technologies on which we have come to rely present serious security concerns: cyberattacks have escalated in number, frequency, and impact, drawing increased attention to the vulnerabilities of cyber systems and the need to increase their security. In the face of this changing landscape, there is significant concern and interest among policymakers, security practitioners, technologists, researchers, and the public about the potential implications of AI and ML for cybersecurity. The National Academies of Sciences, Engineering, and Medicine convened a workshop on March 12-13, 2019 to discuss and explore these concerns. This publication summarizes the presentations and discussions from the workshop.

Cybersecurity jobs confines from basic configuration to advanced systems analysis and defense assessment. Cybersecurity: The Beginner's Guide provides thefundamental information you need to understand the basics of the field, identify your place within it, and

start your Cybersecurity career.

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 persistent and advanced 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.

Learn how to hack systems like black hat hackers and secure them like security experts Key Features Understand how computer systems work and their vulnerabilities Exploit weaknesses and hack into machines to test their security Learn how to secure systems from hackers Book Description This book starts with the basics of ethical hacking, how to practice hacking safely and legally, and how to install and interact with Kali Linux and the Linux terminal. You will explore network hacking, where you will see how to test the security of wired and wireless networks. You'll also learn how to crack the password for any Wi-Fi network (whether it uses WEP, WPA, or WPA2) and spy on the connected devices. Moving on, you will discover how to gain access to remote computer systems using client-side and server-side attacks. You will also get the hang of post-exploitation techniques, including remotely controlling and interacting with the systems that you compromised. Towards the end of the book, you will be able to pick up web application hacking techniques. You'll see how to discover, exploit, and prevent a number of website vulnerabilities, such as XSS and SQL injections. The attacks covered are practical techniques that work against real systems and are purely for educational purposes. At the end of each section, you will learn how to detect, prevent, and secure

systems from these attacks. What you will learn Understand ethical hacking and the different fields and types of hackers Set up a penetration testing lab to practice safe and legal hacking Explore Linux basics, commands, and how to interact with the terminal Access password-protected networks and spy on connected clients Use server and client-side attacks to hack and control remote computers Control a hacked system remotely and use it to hack other systems Discover, exploit, and prevent a number of web application vulnerabilities such as XSS and SQL injections Who this book is for Learning Ethical Hacking from Scratch is for anyone interested in learning how to hack and test the security of systems like professional hackers and security experts.
Cyber security research is one of the important areas in the computer science domain which also plays a major role in the life of almost every individual, enterprise, society and country, which this book illustrates. A large number of advanced security books focus on either cryptography or system security which covers both information and network security. However, there is hardly any books available for advanced-level students and research scholars in security research to systematically study how the major attacks are studied, modeled, planned and combated by the community. This book aims to fill this gap. This book provides focused content related to specific attacks or attack families. These dedicated discussions in the form of individual chapters covers the application or area specific aspects, while discussing the placement of defense solutions to combat the attacks. It includes eight high quality chapters from established

security research groups worldwide, which address important attacks from theoretical (modeling) as well as practical aspects. Each chapter brings together comprehensive and structured information on an attack or an attack family. The authors present crisp detailing on the state of the art with quality illustration of defense mechanisms and open research problems. This book also covers various important attacks families such as insider threats, semantics social engineering attacks, distributed denial of service attacks, botnet based attacks, cyber physical malware based attacks, cross-vm attacks, and IoT covert channel attacks. This book will serve the interests of cyber security enthusiasts, undergraduates, post-graduates, researchers and professionals working in this field.

Your one stop solution to implement a Cyber Defense Intelligence program in to your organisation. Key Features Intelligence processes and procedures for response mechanisms Master F3EAD to drive processes based on intelligence Threat modeling and intelligent frameworks Case studies and how to go about building intelligent teams Book Description Cyber intelligence is the missing link between your cyber defense operation teams, threat intelligence, and IT operations to provide your organization with a full spectrum of defensive capabilities. This book kicks off with the need for cyber intelligence and why it is required in terms of a defensive framework. Moving forward, the book provides a practical explanation of the F3EAD protocol with the help of examples. Furthermore, we learn how to go about threat models and intelligence

products/frameworks and apply them to real-life scenarios. Based on the discussion with the prospective author I would also love to explore the induction of a tool to enhance the marketing feature and functionality of the book. By the end of this book, you will be able to boot up an intelligence program in your organization based on the operation and tactical/strategic spheres of Cyber defense intelligence. What you will learn Learn about the Observe-Orient-Decide-Act (OODA) loop and it's applicability to security Understand tactical view of Active defense concepts and their application in today's threat landscape Get acquainted with an operational view of the F3EAD process to drive decision making within an organization Create a Framework and Capability Maturity Model that integrates inputs and outputs from key functions in an information security organization Understand the idea of communicating with the Potential for Exploitability based on cyber intelligence Who this book is for This book targets incident managers, malware analysts, reverse engineers, digital forensics specialists, and intelligence analysts; experience in, or knowledge of, security operations, incident responses or investigations is desirable so you can make the most of the subjects presented.

This book is a guide for you on everything you should know about cyber security. The book helps you understand what cyber security is, and the various ways organizations and governments can stay safe from cyber-attacks. Implementing application security is a major approach to countering cyber-attacks. This is the security organizations' and

governments' implement on the hardware and software components they are using. The various ways to implement this kind of security are discussed in this book. Information should also be protected against cyber-attacks. The protection of information should be geared towards achieving confidentiality, integrity, and availability. The various ways to achieve these are explored. Computer networks should also be secured so that attacks from network intruders can be thwarted. This requires the use of multiple approaches. These approaches have been explored in this book. Organizations and governments may be attacked by cybercriminals. Such attacks can cripple the operations of the organization or the government. There is a way for these parties to ensure that they have implemented recovery mechanisms, or ensure that their operations will keep on running despite such attacks. This book explores this in details and how to achieve it. States should also stay protected against cyberwar. The following topics have been discussed in this book: - What is Cyber security? - Application Security - Information Security - Network Security - Business Continuity Planning/ Disaster Recovery - Operational Security (OPSEC) - End-User Education - Cyberwar - Hacktivism - Cyber-terrorism

Incorporate offense and defense for a more effective networksecurity strategy Network Attacks and Exploitation provides a clear,comprehensive roadmap for developing a complete offensive anddefensive strategy to engage in or thwart hacking and computerespionage. Written by an expert in both government and

corporatevulnerability and security operations, this guide helps youunderstand the principles of the space and look beyond theindividual technologies of the moment to develop durablecomprehensive solutions. Numerous real-world examples illustratethe offensive and defensive concepts at work, including Conficker,Stuxnet, the Target compromise, and more. You will find clearguidance toward strategy, tools, and implementation, with practicaladvice on blocking systematic computer espionage and the theft ofinformation from governments, companies, and individuals. Assaults and manipulation of computer networks are rampantaround the world. One of the biggest challenges is fitting theever-increasing amount of information into a whole plan orframework to develop the right strategies to thwart these attacks.This book clears the confusion by outlining the approaches thatwork, the tools that work, and resources needed to apply them. Understand the fundamental concepts of computer networkexploitation Learn the nature and tools of systematic attacks Examine offensive strategy and how attackers will seek tomaintain their advantage Understand defensive strategy, and how current approaches failto change the strategic balance Governments, criminals, companies, and individuals are alloperating in a world without boundaries, where the laws, customs,and norms previously established over centuries are only beginningto take shape. Meanwhile computer espionage continues to grow inboth frequency and impact. This book will help you mount a robustoffense or a strategically sound defense against attacks andexploitation. For a clear roadmap to better network

security,Network Attacks and Exploitation is your complete andpractical guide. 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. 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.

This open access book constitutes the refereed proceedings of the 15th International Annual Conference on Cyber Security, CNCERT 2018, held in Beijing, China, in August 2018. The 14 full papers presented were carefully reviewed and selected from 53 submissions. The papers cover the following topics: emergency response, mobile internet security, IoT security, cloud security, threat intelligence analysis, vulnerability, artificial intelligence security, IPv6 risk research, cybersecurity policy and regulation research, big data analysis and industrial security.

After scrutinizing numerous cybersecurity strategies, Microsoft's former Global Chief Security Advisor provides unique insights on the evolution of the threat landscape and how enterprises can address modern cybersecurity challenges. Key Features Protect your organization from cybersecurity threats with field-tested strategies by the former most senior security advisor at Microsoft Discover the most common ways enterprises initially get compromised Measure the effectiveness of your organization's current cybersecurity program against cyber attacks Book Description Cybersecurity Threats, Malware Trends, and Strategies shares numerous insights about the threats that both public and private sector organizations face and the cybersecurity strategies that can mitigate them. The book provides an unprecedented long-term view of the global threat

landscape by examining the twenty-year trend in vulnerability disclosures and exploitation, nearly a decade of regional differences in malware infections, the socio-economic factors that underpin them, and how global malware has evolved. This will give you further perspectives into malware protection for your organization. It also examines internet-based threats that CISOs should be aware of. The book will provide you with an evaluation of the various cybersecurity strategies that have ultimately failed over the past twenty years, along with one or two that have actually worked. It will help executives and security and compliance professionals understand how cloud computing is a game changer for them. By the end of this book, you will know how to measure the effectiveness of your organization's cybersecurity strategy and the efficacy of the vendors you employ to help you protect your organization and yourself. What you will learn Discover cybersecurity strategies and the ingredients critical to their success Improve vulnerability management by reducing risks and costs for your organization Learn how malware and other threats have evolved over the past decade Mitigate internet-based threats, phishing attacks, and malware distribution sites Weigh the pros and cons of popular cybersecurity strategies of the past two decades Implement and then measure the outcome of a cybersecurity strategy Learn how the cloud provides better security capabilities than on-premises IT environments Who this book is for This book is for senior management at commercial sector and public sector organizations, including Chief Information Security Officers (CISOs) and other senior managers of

cybersecurity groups, Chief Information Officers (CIOs), Chief Technology Officers (CTOs) and senior IT managers who want to explore the entire spectrum of cybersecurity, from threat hunting and security risk management to malware analysis. Governance, risk, and compliance professionals will also benefit. Cybersecurity experts that pride themselves on their knowledge of the threat landscape will come to use this book as a reference.

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.

Cyber-crime increasingly impacts both the online and offline world, and targeted attacks play a significant role in disrupting services in both. Targeted attacks are those that are aimed at a particular individual, group, or type of site or service. Unlike worms and viruses that usually attack indiscriminately, targeted attacks involve intelligence-gathering and planning to a degree that drastically changes its profile. Individuals, corporations, and even governments are facing new threats from targeted attacks. Targeted Cyber Attacks examines real-world examples of directed attacks and provides insight into what techniques and resources are used to stage these attacks so that you

can counter them more effectively. A well-structured introduction into the world of targeted cyber-attacks Includes analysis of real-world attacks Written by cyber-security researchers and experts

Data management and analytics simplified with Teradata Key Features Take your understanding of Teradata to the next level and build efficient data warehousing applications for your organization Covers recipes on data handling, warehousing, advanced querying and the administrative tasks in Teradata. Contains practical solutions to tackle common (and not-so-common) problems you might encounter in your day to day activities Book Description Teradata is an enterprise software company that develops and sells its eponymous relational database management system (RDBMS), which is considered to be a leading data warehousing solutions and provides data management solutions for analytics. This book will help you get all the practical information you need for the creation and implementation of your data warehousing solution using Teradata. The book begins with recipes on quickly setting up a development environment so you can work with different types of data structuring and manipulation function. You will tackle all problems related to efficient querying, stored procedure searching, and navigation techniques. Additionally, you'll master various administrative tasks such as user and security management, workload management, high availability, performance tuning, and monitoring. This book is designed to take you through the best practices of performing the real daily tasks of a Teradata DBA, and will

help you tackle any problem you might encounter in the process. What you will learn Understand Teradata's competitive advantage over other RDBMSs. Use SQL to process data stored in Teradata tables. Leverage Teradata’s available application utilities and parallelism to play with large datasets Apply various performance tuning techniques to optimize the queries. Acquire deeper knowledge and understanding of the Teradata Architecture. Easy steps to load, archive, restore data and implement Teradata protection features Gain confidence in running a wide variety of Data analytics and develop applications for the Teradata environment Who this book is for This book is for Database administrator's and Teradata users who are looking for a practical, one-stop resource to solve all their problems while handling their Teradata solution. If you are looking to learn the basic as well as the advanced tasks involved in Teradata querying or administration, this book will be handy. Some knowledge of relational database concepts will be helpful to get the best out of this book.

This book provides stepwise discussion, exhaustive literature review, detailed analysis and discussion, rigorous experimentation results (using several analytics tools), and an application-oriented approach that can be demonstrated with respect to data analytics using artificial intelligence to make systems stronger (i.e., impossible to breach). We can see many serious cyber breaches on Government databases or public profiles at online social networking in the recent decade. Today artificial intelligence or machine learning is redefining every aspect of cyber security. From improving organizations

ability to anticipate and thwart breaches, protecting the proliferating number of threat surfaces with Zero Trust Security frameworks to making passwords obsolete, AI and machine learning are essential to securing the perimeters of any business. The book is useful for researchers, academics, industry players, data engineers, data scientists, governmental organizations, and non-governmental organizations.

? 55% OFF for Bookstores! Now at $ 27.99 instead of $ 33.99 ? Do you want to protect yourself from Cyber Security attacks? Your Customers Will Never Stop to Use This Awesone Cyber Security Guide! Imagine if someone placed a key-logging tool in your personal computer and became privy to your passwords to social media, finances, school, or your organization. It would not take a lot of effort for this individual to ruin your life. There have been various solutions given to decrease your attack surface and mitigate the risks of cyberattacks. These can also be used on a small scale to protect yourself as an individual from such infiltrations. The next step is placing advanced authentication when it comes to internal collaborators. After all, the goal is to minimize the risk of passwords being hacked - so it would be a good idea to use two-factor authentications. Google presents the perfect example in their security protocols by the way they use two-step verification, where the password has to be backed by a code sent to the user's mobile device. The future of cybersecurity lies in setting up frameworks, as individuals and as corporations, to filter the access to information and sharing networks. This guide will focus on the following: - Introduction - What is Ethical

Hacking? - Preventing Cyber Attacks - Surveillance System - Social Engineering and Hacking - Cybersecurity Types of Roles - Key Concepts & Methodologies - Key Technologies to Be Aware - Which Security Certification fits you best - The Value of Security Certifications - Cyber Security Career Potentials... AND MORE!!! Buy it NOW and let your customers get addicted to this amazing book!

Understand malware analysis and its practical implementation Key Features Explore the key concepts of malware analysis and memory forensics using real-world examples Learn the art of detecting, analyzing, and investigating malware threats Understand adversary tactics and techniques Book Description Malware analysis and memory forensics are powerful analysis and investigation techniques used in reverse engineering, digital forensics, and incident response. With adversaries becoming sophisticated and carrying out advanced malware attacks on critical infrastructures, data centers, and private and public organizations, detecting, responding to, and investigating such intrusions is critical to information security professionals. Malware analysis and memory forensics have become must-have skills to fight advanced malware, targeted attacks, and security breaches. This book teaches you the concepts, techniques, and tools to understand the behavior and characteristics of malware through malware analysis. It also teaches you techniques to investigate and hunt malware using memory forensics. This book introduces you to the basics of malware analysis, and then gradually progresses into the more advanced concepts of code

analysis and memory forensics. It uses real-world malware samples, infected memory images, and visual diagrams to help you gain a better understanding of the subject and to equip you with the skills required to analyze, investigate, and respond to malware-related incidents. What you will learn Create a safe and isolated lab environment for malware analysis Extract the metadata associated with malware Determine malware's interaction with the system Perform code analysis using IDA Pro and x64dbg Reverse-engineer various malware functionalities Reverse engineer and decode common encoding/encryption algorithms Reverse-engineer malware code injection and hooking techniques Investigate and hunt malware using memory forensics Who this book is for This book is for incident responders, cyber-security investigators, system administrators, malware analyst, forensic practitioners, student, or curious security professionals interested in learning malware analysis and memory forensics. Knowledge of programming languages such as C and Python is helpful but is not mandatory. If you have written few lines of code and have a basic understanding of programming concepts, you'll be able to get most out of this book.

THE INSTANT NEW YORK TIMES BESTSELLER SHORTLISTED FOR THE FT & McKINSEY BUSINESS BOOK OF THE YEAR AWARD 2021 'An intricately detailed, deeply sourced and reported history of the origins and growth of the cyberweapons market . . . Hot, propulsive . . . Sets out from the start to scare us out of our complacency' New York Times 'A terrifying exposé' The Times 'Part John le Carré and

more parts Michael Crichton . . . Spellbinding' New Yorker Zero day: a software bug that allows a hacker to break in and scamper through the world's computer networks invisibly until discovered. One of the most coveted tools in a spy's arsenal, a zero day has the power to tap into any iPhone, dismantle safety controls at a chemical plant and shut down the power in an entire nation – just ask the Ukraine. Zero days are the blood diamonds of the security trade, pursued by nation states, defense contractors, cybercriminals, and security defenders alike. In this market, governments aren't regulators; they are clients – paying huge sums to hackers willing to turn over gaps in the Internet, and stay silent about them. This Is How They Tell Me the World Ends is cybersecurity reporter Nicole Perlroth's discovery, unpacked. A intrepid journalist unravels an opaque, code-driven market from the outside in – encountering spies, hackers, arms dealers, mercenaries and a few unsung heroes along the way. As the stakes get higher and higher in the rush to push the world's critical infrastructure online, This Is How They Tell Me the World Ends is the urgent and alarming discovery of one of the world's most extreme threats.

This book discusses the evolution of security and privacy issues and brings related technological tools, techniques, and solutions into one single source. The book will take readers on a journey to understanding the security issues and possible solutions involving various threats, attacks, and defense mechanisms, which include IoT, cloud computing, Big Data, lightweight cryptography for blockchain, and data-intensive

techniques, and how it can be applied to various applications for general and specific use. Graduate and postgraduate students, researchers, and those working in this industry will find this book easy to understand and use for security applications and privacy issues.

Cyber Attacks, Student Edition, offers a technical, architectural, and management approach to solving the problems of protecting national infrastructure. This approach includes controversial themes such as the deliberate use of deception to trap intruders. This volume thus serves as an attractive framework for a new national strategy for cyber security. A specific set of criteria requirements allows any organization, such as a government agency, to integrate the principles into their local environment. In this edition, each principle is presented as a separate security strategy and illustrated with compelling examples. The book adds 50-75 pages of new material aimed specifically at enhancing the student experience and making it more attractive for instructors teaching courses such as cyber security, information security, digital security, national security, intelligence studies, technology and infrastructure protection. It now also features case studies illustrating actual implementation scenarios of the principles and requirements discussed in the text, along with a host of new pedagogical elements, including chapter outlines, chapter summaries, learning checklists, and a 2-color interior. Furthermore, a new and complete ancillary package includes test bank, lesson plans, PowerPoint slides, case study questions, and more. This text is intended for security practitioners

and military personnel as well as for students wishing to become security engineers, network operators, software designers, technology managers, application developers, etc. Provides case studies focusing on cyber security challenges and solutions to display how theory, research, and methods, apply to real-life challenges Utilizes, end-of-chapter case problems that take chapter content and relate it to real security situations and issues Includes instructor slides for each chapter as well as an instructor's manual with sample syllabi and test bank

Updated and revised edition of the bestselling guide to developing defense strategies against the latest threats to cybersecurity Key Features Covers the latest security threats and defense strategies for 2020 Introduces techniques and skillsets required to conduct threat hunting and deal with a system breach Provides new information on Cloud Security Posture Management, Microsoft Azure Threat Protection, Zero Trust Network strategies, Nation State attacks, the use of Azure Sentinel as a cloud-based SIEM for logging and investigation, and much more Book Description Cybersecurity – Attack and Defense Strategies, Second Edition is a completely revised new edition of the bestselling book, covering the very latest security threats and defense mechanisms including a detailed overview of Cloud Security Posture Management (CSPM) and an assessment of the current threat landscape, with additional focus on new IoT threats and cryptomining. Cybersecurity starts with the basics that organizations need to know to maintain a secure posture against outside threat and design a robust cybersecurity

program. It takes you into the mindset of a Threat Actor to help you better understand the motivation and the steps of performing an actual attack – the Cybersecurity kill chain. You will gain hands-on experience in implementing cybersecurity using new techniques in reconnaissance and chasing a user's identity that will enable you to discover how a system is compromised, and identify and then exploit the vulnerabilities in your own system. This book also focuses on defense strategies to enhance the security of a system. You will also discover in-depth tools, including Azure Sentinel, to ensure there are security controls in each network layer, and how to carry out the recovery process of a compromised system. What you will learn The importance of having a solid foundation for your security posture Use cyber security kill chain to understand the attack strategy Boost your organization's cyber resilience by improving your security policies, hardening your network, implementing active sensors, and leveraging threat intelligence Utilize the latest defense tools, including Azure Sentinel and Zero Trust Network strategy Identify different types of cyberattacks, such as SQL injection, malware and social engineering threats such as phishing emails Perform an incident investigation using Azure Security Center and Azure Sentinel Get an in-depth understanding of the disaster recovery process Understand how to consistently monitor security and implement a vulnerability management strategy for on-premises and hybrid cloud Learn how to perform log analysis using the cloud to identify suspicious activities, including logs from Amazon Web Services and Azure Who this book is for For the IT

professional venturing into the IT security domain, IT pentesters, security consultants, or those looking to perform ethical hacking. Prior knowledge of penetration testing is beneficial.

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.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.

Master cutting-edge techniques and countermeasures to protect your organization from live hackers. Learn how to harness cyber deception in your operations to gain an edge over the competition. Key Features Gain an advantage against live hackers in a competition or real computing environment Understand advanced red team and blue team techniques with code examples Learn to battle in short-term memory, whether remaining unseen (red teams) or monitoring an attacker's traffic (blue teams) Book Description Little has been written about what to do when live hackers are on your system and running amok. Even experienced hackers tend to choke up when they realize the network defender has caught them and is zoning in on their implants in real time. This book will provide tips and tricks all along the kill chain of an attack, showing where hackers can have the upper hand in a live conflict and how defenders can outsmart them in this adversarial game of computer cat and mouse. This book contains two subsections in each chapter, specifically focusing on the offensive and defensive teams. It begins by introducing you to adversarial operations and principles of computer conflict where you will explore the core principles of deception, humanity, economy, and more about human-on-human conflicts. Additionally, you will understand everything from planning to setting up infrastructure and tooling that both sides should have in place. Throughout this book, you will learn how to gain an advantage over opponents by disappearing from what they can detect. You will further understand how to blend in,

uncover other actors' motivations and means, and learn to tamper with them to hinder their ability to detect your presence. Finally, you will learn how to gain an advantage through advanced research and thoughtfully concluding an operation. By the end of this book, you will have achieved a solid understanding of cyberattacks from both an attacker's and a defender's perspective. What you will learn Understand how to implement process injection and how to detect it Turn the tables on the offense with active defense Disappear on the defender's system, by tampering with defensive sensors Upskill in using deception with your backdoors and countermeasures including honeypots Kick someone else from a computer you are on and gain the upper hand Adopt a language agnostic approach to become familiar with techniques that can be applied to both the red and blue teams Prepare yourself for real-time cybersecurity conflict by using some of the best techniques currently in the industry Who this book is for Pentesters to red teamers, security operations center analysts to incident responders, attackers, defenders, general hackers, advanced computer users, and security engineers should gain a lot from this book. This book will also be beneficial to those getting into purple teaming or adversarial simulations, as it includes processes for gaining an advantage over the other team. Basic knowledge of Python programming, Go programming, Bash, PowerShell, and systems administration is desirable. Furthermore, knowledge of incident response and Linux is beneficial. Prior exposure to cybersecurity, penetration testing, and ethical hacking basics is desirable.

What people are saying about Inside Cyber Warfare "The necessary handbook for the 21st century." --Lewis Shepherd, Chief Tech Officer and Senior Fellow, Microsoft Institute for Advanced Technology in Governments "A must-read for policy makers and leaders who need to understand the big-picture landscape of cyber war." --Jim Stogdill, CTO, Mission Services Accenture You may have heard about "cyber warfare" in the news, but do you really know what it is? This book provides fascinating and disturbing details on how nations, groups, and individuals throughout the world are using the Internet as an attack platform to gain military, political, and economic advantages over their adversaries. You'll learn how sophisticated hackers working on behalf of states or organized crime patiently play a high-stakes game that could target anyone, regardless of affiliation or nationality. Inside Cyber Warfare goes beyond the headlines of attention-grabbing DDoS attacks and takes a deep look inside multiple cyber-conflicts that occurred from 2002 through summer 2009. Learn how cyber attacks are waged in open conflicts, including recent hostilities between Russia and Georgia, and Israel and Palestine Discover why Twitter, Facebook, LiveJournal, Vkontakte, and other sites on the social web are mined by the intelligence services of many nations Read about China's commitment to penetrate the networks of its technologically superior adversaries as a matter of national survival Find out why many attacks originate from servers in the United States, and who's responsible Learn how hackers are "weaponizing" malware to attack vulnerabilities at the application level

Discover the most prevalent cyber threats against individual users of all kinds of computing devices. This book teaches you the defensive best practices and state-of-the-art tools available to you to repel each kind of threat. Personal Cybersecurity addresses the needs of individual users at work and at home. This book covers personal cybersecurity for all modes of personal computing whether on consumer-acquired or company-issued devices: desktop PCs, laptops, mobile devices, smart TVs, WiFi and Bluetooth peripherals, and IoT objects embedded with network-connected sensors. In all these modes, the frequency, intensity, and sophistication of cyberattacks that put individual users at risk are increasing in step with accelerating mutation rates of malware and cybercriminal delivery systems. Traditional anti-virus software and personal firewalls no longer suffice to guarantee personal security. Users who neglect to learn and adopt the new ways of protecting themselves in their work and private environments put themselves, their associates, and their companies at risk of inconvenience, violation, reputational damage, data corruption, data theft, system degradation, system destruction, financial harm, and criminal disaster. This book shows what actions to take to limit the harm and recover from the damage. Instead of laying down a code of "thou shalt not" rules that admit of too many exceptions and contingencies to be of much practical use, cloud expert Marvin Waschke equips you with the battlefield intelligence, strategic understanding, survival training, and proven tools you need to intelligently assess the security threats in your environment and most

effectively secure yourself from attacks. Through instructive examples and scenarios, the author shows you how to adapt and apply best practices to your own particular circumstances, how to automate and routinize your personal cybersecurity, how to recognize security breaches and act swiftly to seal them, and how to recover losses and restore functionality when attacks succeed. What You'll Learn Discover how computer security works and what it can protect us from See how a typical hacker attack works Evaluate computer security threats to the individual user and corporate systems Identify the critical vulnerabilities of a computer connected to the Internet Manage your computer to reduce vulnerabilities to yourself and your employer Discover how the adoption of newer forms of biometric authentication affects you Stop your router and other online devices from being co-opted into disruptive denial of service attacks Who This Book Is For Proficient and technically knowledgeable computer users who are anxious about cybercrime and want to understand the technology behind both attack and defense but do not want to go so far as to become security experts. Some of this audience will be purely home users, but many will be executives, technical managers, developers, and members of IT departments who need to adopt personal practices for their own safety and the protection of corporate systems. Many will want to impart good cybersecurity practices to their colleagues. IT departments tasked with indoctrinating their users with good safety practices may use the book as training material.