Computer Security Principles And Practice 3rd Edition

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Principles of Computer Security, Fourth Edition CRC Press
This book provides a concise yet comprehensive overview of computer and Internet security, suitable for a one-term introductory course for junior/senior undergrad or first-year graduate students. It is also suitable for self-study by anyone seeking a solid footing in security – including software developers and computing professionals, technical managers and government staff. An overriding focus is on brevity, without sacrificing breadth of core topics or technical detail within them. The aim is to enable a broad understanding in roughly 350 pages. Further prioritization is supported by designating as optional selected content within this. Fundamental academic concepts are reinforced by specifics and examples, and related to applied problems and real-world incidents. The first chapter provides a gentle overview and 20 design principles for security. The ten chapters that follow provide a framework for understanding computer and Internet security. They regularly refer back to the principles, with supporting examples. These principles are the conceptual counterparts of security-related error patterns that have been recurring in software and system designs for over 50 years. The book is “elementary” in that it assumes no background in security, but unlike “soft” high-level texts it does not avoid low-level details, instead it selectively dives into fine points for exemplary topics to concretely illustrate concepts and principles. The book is rigorous in the sense of being technically sound, but avoids both mathematical proofs and lengthy source-code examples that typically make books inaccessible to general audiences. Knowledge of elementary operating system and networking concepts is helpful, but review sections summarize the essential background. For graduate students, inline exercises and supplemental references provided in per-chapter endnotes provide a bridge to further topics and a springboard to the research literature; for those in industry and government, pointers are provided to helpful surveys and relevant standards, e.g., documents from the Internet Engineering Task Force (IETF), and the U.S. National Institute of Standards and Technology.
Principles and Practice, Global Edition BPB Publications
Introduction to Computer Security is appropriateforuse in computer-security courses that are taught at the undergraduate level and that have as their sole prerequisites an introductory computer science sequence. It is also suitable for anyone interested in a very accessible introduction to computer security. A Computer Security textbook for a new generation of IT professionals Unlike most other computer security textbooks available today, Introduction to Computer Security, does NOT focus on the mathematical and computational foundations of security, and it does not assume an extensive background in computer science. Instead it looks at the systems, technology, management, and policy side of security, and offers students fundamental security concepts and a working knowledge of threats and countermeasures with "just-enough" background in computer science. The result is a presentation of the material that is accessible to students of all levels. Teaching and Learning Experience This program will provide a better teaching and learning experience-for you and your students. It will help: Provide an Accessible Introduction to the General-knowledge Reader: Only basic prerequisite knowledge in computing is required to use this book. Teach General Principles of Computer Security from an Applied Viewpoint: As specific computer security topics are covered, the material on computing fundamentals needed to understand these topics is supplied. Prepare

Students for Careers in a Variety of Fields: A practical introduction encourages students to think about security of software applications early. Engage Students with Creative, Hands-on Projects: An excellent collection of programming projects stimulate the student's creativity by challenging them to either break security or protect a system against attacks. Enhance Learning with Instructor and Student Supplements: Resources are available to expand on the topics presented in the text.

Effective Cybersecurity Pearson Education

This is a monumental reference for the theory and practice of computer security. Comprehensive in scope, this text covers applied and practical elements, theory, and the reasons for the design of applications and security techniques. It covers both the management and the engineering issues of computer security. It provides excellent examples of ideas and mechanisms that demonstrate how disparate techniques and principles are combined in widely-used systems. This book is acclaimed for its scope, clear and lucid writing, and its combination of formal and theoretical aspects with real systems, technologies, techniques, and policies.

Cyber Security Education Routledge

This book provides professionals with the necessary managerial, technical, and legal background to support investment decisions in security technology. It discusses security from the perspective of hackers (i.e., technology issues and defenses) and lawyers (i.e., legal issues and defenses). This cross-disciplinary book is designed to help users quickly become current on what has become a fundamental business issue. This book covers the entire range of best security practices—obtaining senior management commitment, defining information security goals and policies, transforming those goals into a strategy for monitoring intrusions and compliance, and understanding legal implications. Topics also include computer crime, electronic evidence, cyber terrorism, and computer forensics. For professionals in information systems, financial accounting, human resources, health care, legal policy, and law. Because neither technical nor legal expertise is necessary to understand the concepts and issues presented, this book can be required reading for everyone as part of an enterprise-wide computer security awareness program.

Principles and Practice of Information Security Addison-Wesley Professional

Homeland Security: An Introduction to Principles and Practice, Fourth Edition continues its record of providing a fully updated, no-nonsense textbook to reflect the latest policy, operational, and program changes to the Department of Homeland Security (DHS) over the last several years. The blend of theory with practical application instructs students on how to understand the need to reconcile policy and operational philosophy with the real-world use of technologies and implementation of practices. The new edition is completely updated to reflect changes to both new challenges and continually changing considerations. This includes facial recognition, intelligence gathering techniques, information sharing databases, white supremacy, domestic terrorism and lone wolf actors, border security and immigration, the use of drones and surveillance technology, cybersecurity, the status of ISIS and Al Qaeda, the increased nuclear threat, COVID-19, ICE, DACA, and immigration policy challenges. Consideration of, and the coordinated response, to all these and more is housed among a myriad of federal agencies and departments. Features • Provides the latest organizational changes, restructures, and policy developments in DHS • Outlines the role of multi-jurisdictional agencies—this includes stakeholders at all levels of government relative to the various intelligence community, law enforcement, emergency managers, and private sector agencies • Presents a balanced approach to the challenges the federal and state government agencies are faced with in emergency planning and preparedness, countering terrorism, and critical infrastructure protection • Includes full regulatory and oversight legislation passed since the last edition, as well as updates on the global terrorism landscape and prominent terrorist incidents, both domestic and international • Highlights emerging, oftentimes controversial, topics such as the use of drones, border security and immigration, surveillance technologies, and pandemic planning and response • Contains extensive pedagogy including learning objectives, sidebar boxes, chapter summaries, end of chapter questions, Web links, and references for ease in comprehension Homeland Security, Fourth Edition continues to serve as the comprehensive and authoritative text on homeland secuirty. The book presents the various DHS state and federal agencies and entities within the government—their role, how they operate, their structure, and how they interact with other agencies—to protect U.S. domestic interests from various dynamic threats. Ancillaries including an Instructor's Manual with Test Bank and chapter PowerPointTM slides for classroom presentation are also available for this book and can be provided for qualified course instructors. Charles P. Nemeth is a recognized expert in homeland security and a leader in the private security industry, private sector justice, and homeland security education. He has more than 45 book publications and is currently Chair of the Department of Security, Fire, and Emergency Management at John Jay College in New York City.

Applications and Standards Prentice Hall

This book covers the fundamental principles in Computer Security. Via hands-on activities, the book aims to help readers understand the risks with software application and computer system, how various attacks work, what their fundamental causes are, how the countermeasures work, and how to defend against them in programs and systems.

Computer Security Addison-Wesley Professional

This reference work looks at modern concepts of computer security. It introduces the basic mathematical background necessary to follow computer security concepts before moving on to modern developments in cryptography. The concepts are presented clearly and illustrated by numerous examples. Subjects covered include: private-key and public-key encryption, hashing, digital signatures, authentication, secret sharing, group-oriented cryptography, and many others. The section on intrusion detection and access control provide examples of security systems implemented as a part of operating system. Database and network security is also discussed. The final chapters introduce modern e- business systems based on digital cash.

Principles of Information Security John Wiley & Sons

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. The Principles and Practice of Cryptography and Network Security Stallings' Cryptography and Network Security, Seventh Edition, introduces the reader to the compelling and evolving field of cryptography and network security. In an age of viruses and hackers, electronic eavesdropping, and electronic fraud on a global scale, security is paramount. The purpose of this book is to provide a practical survey of both the principles and practice of cryptography and network security. In the first part of the book, the basic issues to be addressed by a network security capability are explored by providing a tutorial and survey of cryptography and network security technology. The latter part of the book deals with the practice of network security: practical applications that have been implemented and are in use to provide network security. The Seventh Edition streamlines subject matter with new and updated material — including Sage, one of the most important features of the book. Sage is an open-source, multiplatform, freeware package that implements a very powerful, flexible, and easily learned mathematics and computer algebra system. It provides hands-on experience with cryptographic algorithms and supporting homework assignments. With Sage, the reader learns a powerful tool that can be used for virtually any mathematical application. The book also provides an unparalleled degree of support for the reader to ensure a successful learning experience.

Computer Security: Principles and Practice McGraw Hill Professional

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Computer Security: Principles and Practice, 2e, is ideal for courses in Computer/Network Security. In recent years, the need for education in computer security and related topics has grown dramatically – and is essential for anyone studying Computer Science or Computer Engineering. This is the only text available to provide integrated, comprehensive, up-to-date coverage of the broad range of topics in this subject. In addition to an extensive pedagogical program, the book provides unparalleled support for both research and modeling projects, giving students a broader perspective. The Text and Academic Authors Association named Computer Security: Principles and Practice, 1e, the winner of the Textbook Excellence Award for the best Computer Science textbook of 2008.

Fundamentals of Computer Security CRC Press

Computer security refers to the protection of computers from any theft or damage to their software, hardware and data. It is also concerned with safeguarding computer systems from any disruption or misdirection of the services that they provide. Some of the threats to computer security can be classified as backdoor, denial-of-service attacks, phishing, spoofing and direct-access attacks, among many others. Computer security is becoming increasingly important due to the increased reliance on computer technology, Internet, wireless networks and smart devices. The countermeasures that can be employed for the management of such attacks are security by design, secure coding, security architecture, hardware protection mechanisms, etc. This book aims to shed light on some of the unexplored aspects of computer security. Most of the topics introduced herein cover new techniques and applications of computer security. This textbook is an essential guide for students who wish to develop a comprehensive understanding of this field.

Pearson Higher Ed

Your expert guide to information security As businesses and consumers become more dependent on complexmultinational information systems, the need to understand anddevise sound information security systems has never been greater.This title takes a practical approach to information security byfocusing on real-world examples. While not sidestepping the theory,the emphasis is on developing the skills and knowledge thatsecurity and information technology students and professionals needto face their challenges. The book is organized around four majorthemes: * Cryptography: classic cryptosystems, symmetric key cryptography,public key cryptography, hash functions, random numbers,information hiding, and cryptanalysis * Access control: authentication and authorization, password-basedsecurity, ACLs and capabilities, multilevel and multilateralsecurity, covert channels and inference control, BLP and Biba'smodels, firewalls, and intrusion detection systems * Protocols: simple authentication protocols, session keys, perfectforward secrecy, timestamps, SSL, IPSec, Kerberos, and GSM * Software: flaws and malware, buffer overflows, viruses and worms,software reverse engineering, digital rights management, securesoftware development, and operating systems security Additional features include numerous figures and tables toillustrate and clarify complex topics, as well as problems-rangingfrom basic to challenging-to help readers apply their newlydeveloped skills. A solutions manual and a set of classroom-testedPowerPoint(r) slides will assist instructors in their coursedevelopment. Students and professors in information technology,computer science, and engineering, and professionals working in thefield will find this reference most useful to solve theirinformation security issues. An Instructor's Manual presenting detailed solutions to all theproblems in the book is available from the Wiley editorialdepartment. An Instructor Support FTP site is also available.

Protecting Computers from Hackers and Lawyers Pearson Education India

Right Your Software and Transform Your Career Righting Software presents the proven, structured, and highly engineered approach to software design that renowned architect Juval Löwy has practiced and taught around the world. Although companies of every kind have successfully implemented his original design ideas across hundreds of systems, these insights have never before appeared in print. Based on first principles in software engineering and a comprehensive set of matching tools and techniques, Löwy's methodology integrates system design and project design. First, he describes the primary area where many software architects fail and shows how to decompose a system into smaller building blocks or services, based on volatility. Next, he shows how to flow an effective project design from the system design; how to accurately calculate the project duration, cost, and risk; and how to devise multiple execution options. The method and principles in Righting Software apply regardless of your project and company size, technology, platform, or industry. Löwy starts the reader on a journey that addresses the critical challenges of software development today by righting software systems and projects as well as careers—and possibly the software industry as a whole. Software professionals, architects, project leads, or managers at any stage of their career will benefit greatly from this book, which provides guidance and knowledge that would otherwise take decades and many projects to acquire. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Internet of Things Security: Principles and Practice Pearson

For courses in computer/network security Computer Security: Principles and Practice, 4th Edition, is ideal for courses in Computer/Network Security. The need for education in computer security and related topics continues to grow at a dramatic rate--and is essential for anyone studying Computer Science or Computer Engineering. Written for both an academic and professional audience, the 4th Edition continues to set the standard for computer security with a balanced presentation of principles and practice. The new edition captures the most up-to-date innovations and improvements while maintaining broad and comprehensive coverage of the entire field. The extensive offering of projects provides students with hands-on experience to

reinforce concepts from the text. The range of supplemental online resources for instructors provides additional teaching support for this fast-moving subject. The new edition covers all security topics considered Core in the ACM/IEEE Computer Science Curricula 2013, as well as subject areas for CISSP (Certified Information Systems Security Professional) certification. This textbook can be used to prep for CISSP Certification and is often referred to as the 'gold standard' when it comes to information security certification. The text provides in-depth coverage of Computer Security, Technology and Principles, Software Security, Management Issues, Cryptographic Algorithms, Internet Security and more.

Information Security Prentice Hall

This book investigates the goals and policy aspects of cyber security education in the light of escalating technical, social and geopolitical challenges. The past ten years have seen a tectonic shift in the significance of cyber security education. Once the preserve of small groups of dedicated educators and industry professionals, the subject is now on the frontlines of geopolitical confrontation and business strategy. Global shortages of talent have created pressures on corporate and national policy for workforce development. Cyber Security Education offers an updated approach to the subject as we enter the next decade of technological disruption and political threats. The contributors include scholars and education practitioners from leading research and education centres in Europe, North America and Australia. This book provides essential reference points for education policy on the new social terrain of security in cyberspace and aims to reposition global debates on what education for security in cyberspace can and should mean. This book will be of interest to students of cyber security, cyber education, international security and public policy generally, as well as practitioners and policy-makers.

Computer Security and the Internet Springer Nature

This book provides a practical, up-to-date, and comprehensive survey of network-based and Internet-based security applications and standards. This books covers e-mail security, IP security, Web security, and network management security. It also includes a concise section on the discipline of cryptography—covering algorithms and protocols underlying network security applications, encryption, hash functions, digital signatures, and key exchange. For system engineers, engineers, programmers, system managers, network managers, product marketing personnel, and system support specialists.

Fundamentals of Cyber Security John Wiley & Sons

The Comprehensive Guide to Computer Security, Extensively Revised with Newer Technologies, Methods, Ideas, and Examples In this updated guide, University of California at Davis Computer Security Laboratory co-director Matt Bishop offers clear, rigorous, and thorough coverage of modern computer security. Reflecting dramatic growth in the quantity, complexity, and consequences of security incidents, Computer Security, Second Edition, links core principles with technologies, methodologies, and ideas that have emerged since the first edition’s publication. Writing for advanced undergraduates, graduate students, and IT professionals, Bishop covers foundational issues, policies, cryptography, systems design, assurance, and much more. He thoroughly addresses malware, vulnerability analysis, auditing, intrusion detection, and best-practice responses to attacks. In addition to new examples throughout, Bishop presents entirely new chapters on availability policy models and attack analysis. Understand computer security goals, problems, and challenges, and the deep links between theory and practice Learn how computer scientists seek to prove whether systems are secure Define security policies for confidentiality, integrity, availability, and more Analyze policies to reflect core questions of trust, and use them to constrain operations and change Implement cryptography as one component of a wider computer and network security strategy Use system-oriented techniques to establish effective security mechanisms, defining who can act and what they can do Set appropriate security goals for a system or product, and ascertain how well it meets them Recognize program flaws and malicious logic, and detect attackers seeking to exploit them This is both a comprehensive text, explaining the most fundamental and pervasive aspects of the field, and a detailed reference. It will help you align security concepts with realistic policies, successfully implement your policies, and thoughtfully manage the trade-offs that inevitably arise. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Principles, Perspectives and Practices Cengage Learning

This text provides a practical survey of both the principles and practice of cryptography and network security. First, the basic issues to be addressed by a network security capability are explored through a tutorial and survey of cryptography and network security technology. Then, the practice of network security is explored via practical applications that have been implemented and are in use today.

An Introduction to Principles and Practice Computer SecurityPrinciples and Practice

Network Security Essentials, Third Edition is a thorough, up-to-date introduction to the deterrence, prevention, detection, and correction of security violations involving information delivery across networks and the Internet.

An Introduction to Principles and Practice Springer Science & Business Media

For courses in computer/network security Balancing principle and practice-an updated survey of the fast-moving world of computer and network security Computer Security: Principles and Practice, 4th Edition, is ideal for courses in Computer/Network Security. The need for education in computer security and related topics continues to grow at a dramatic rate-and is essential for anyone studying Computer Science or Computer Engineering. Written for both an academic and professional audience, the 4th Edition continues to set the standard for computer security with a balanced presentation of principles and practice. The new edition captures the most up-to-date innovations and improvements while maintaining broad and comprehensive coverage of the entire field. The extensive offering of projects provides hands-on experience to reinforce concepts from the text. The range of supplemental online resources for instructors provides additional teaching support for this fast-moving subject. The new edition covers all security topics considered Core in the ACM/IEEE Computer Science Curricula 2013, as well as subject areas for CISSP (Certified Information Systems Security Professional) certification. This textbook can be used to prep for CISSP Certification and is often referred to as the 'gold standard' when it comes to information security certification. The text provides in-depth coverage of Computer Security, Technology and Principles, Software Security, Management Issues, Cryptographic Algorithms, Internet Security and more.

Tools and Jewels Prentice Hall

For one-semester undergraduate/graduate level courses and for self-study. William Stallings offers a practical survey of both the principles and practice of cryptography and network security, reflecting the latest developments in the field.