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Handbook of Research on Modern Cryptographic Solutions for Computer and Cyber Security Gupta, Brij 2016-05-16 Internet usage has become a facet of everyday life, especially as more technological advances have made it easier to connect to the web from virtually anywhere in the developed world. However, with this increased usage comes heightened threats to security within digital environments. The Handbook of Research on Modern Cryptographic Solutions for Computer and Cyber Security identifies emergent research and techniques being utilized in the field of cryptology and cyber threat prevention. Featuring theoretical perspectives, best practices, and future research directions, this handbook of research is a vital resource for professionals, researchers, faculty members, scientists, graduate students, scholars, and software developers interested in threat identification and prevention.
Cryptography Applications: What Is the Basic Principle of Cryptography? Ivan Kuty 2021-03-26 Cryptography is about constructing and analyzing protocols that prevent third parties or the public from reading private messages; various aspects in information security such as data confidentiality, data integrity, authentication, and non-repudiation are central to modern cryptography. Modern cryptography exists at the intersection of the disciplines of mathematics, computer science, electrical engineering, communication science, and physics. Applications of cryptography include electronic commerce, chip-based payment cards, digital currencies, computer passwords, and military communications. This book will give you: Cryptography Theory And Practice: What are the three types of cryptography? Modern Cryptography Theory: What are cryptography and its types? Cryptography Applications: What is the basic principle of cryptography?
CRYPTOGRAPHY AND NETWORK SECURITY PRAKASH C. GUPTA 2014-11-01 The book is intended for the undergraduate and postgraduate students of computer science and engineering and information technology, and the students of master of computer applications. The purpose of this book is to introduce this subject as a comprehensive text which is self contained and covers all the aspects of network security. Each chapter is divided into sections and subsections to facilitate design of the curriculum as per the academic needs. The text contains numerous examples and illustrations that enhance conceptual clarity. Each chapter has set of problems at the end of chapter that inspire the reader to test his understanding of the subject. Answers to most of the problems are given at the end of the book. Key Features • The subject matter is illustrated with about 200 figures and numerous examples at every stage of learning. • The list of recommended books, technical articles, and standards is included chapter-wise at the end of the book. • An exhaustive glossary and a list of frequently used acronyms are also given. • The book is based on the latest versions of the protocols (TLS, IKE, IPsec, S/MIME, Kerberos, X.509 etc.).
Cryptography Alan G. Konheim 1981-05-06 Foundations of cryptography. Secrety systems. Monalphabetic sasubstitution. Polyalphabetic systems. Rotor systems. Block ciphers and the data encryption standard. Key management. Public key systems. Digital signatures and authentications. File security. References. Appendixes: Probability theory. The variance ...
Theory and Practice of Cryptography Solutions for Secure Information Systems Elçi, Atilla 2013-05-31 Information Systems (IS) are a nearly omnipresent aspect of the modern world, playing crucial roles in the fields of science and engineering, business and law, art and culture, politics and government, and many others. As such, identity theft and unauthorized access to these systems are serious concerns. Theory and Practice of Cryptography Solutions for Secure Information Systems explores current trends in IS security technologies, techniques, and concerns, primarily through the use of cryptographic tools to safeguard valuable information resources. This reference book serves the needs of professionals, academics, and students requiring dedicated information systems free from outside interference, as well as developers of secure IS applications. This book is part of the Advances in Information Security, Privacy, and Ethics series collection.
Bibliographic Guide to Computer Science 1987
Knowledge-Based and Intelligent Information and Engineering Systems Juan D. Velásquez 2009-09-18 The two-volume set LNAI 5711 and LNAI 5712 constitutes the refereed proceedings of the 13th International Conference on Knowledge-Based Intelligent Information and Engineering Sysetms, KES 2009, held in Santiago de Chile in September 2009. The 153 revised papers presented were carefully reviewed and selected from numerous submissions. The topics covered are: fuzzy and neuro-fuzzy systems, agent systems, knowledge based and expert systems, miscelleanous generic intelligent systems topics, intelligent vision and image processing, knowledge management, ontologies and data mining, web intelligence, text and multimedia mining and retrieval, other advanced knowledge-based systems, innovations in chance discovery, advanced knowledge-based systems, multi-agent negotiation and coordination, innovations in intelligent systems, intelligent technology approach to management engineering, data mining and service science for innovation, knowledge-based systems for e-business, video surveillance, social networks, advanced engineering design techniques for adaptive systems, knowledge technology in learning support, advanced information system for supporting personal activity, design of intelligent society, knowledge-based interface systems, knowledge-based multi-criteria decision support, soft computing techniques and their applications, immunity-based systems. The book also includes three keynote speaker plenary presentations.
The Codebreakers David Kahn 1996-12-05 The magnificent, unrivaled history of codes and ciphers -- how they're made, how they're broken, and the many and fascinating roles they've played since the dawn of civilization in war, business, diplomacy, and espionage -- updated with a new chapter on computer cryptography and the Ultra secret. Man has created codes to keep secrets and has broken codes to learn those secrets since the time of the Pharaohs. For 4,000 years, fierce battles have been waged between codemakers and codebreakers, and the story of these battles is civilization's secret history, the hidden account of how wars were won and lost, diplomatic intrigues foiled, business secrets stolen, governments ruined, computers hacked. From the XYZ Affair to the Dreyfus Affair, from the Gallic War to the Persian Gulf, from Druidic runes and the kaballah to outer space, from the Zimmermann telegram to Enigma to the Manhattan Project, codebreaking has shaped the course of human events to an extent beyond any easy reckoning. Once a government monopoly, cryptology today touches everybody. It secures the Internet, keeps e-mail private, maintains the integrity of cash machine transactions, and scrambles TV signals on unpaid-for channels. David Kahn's The Codebreakers takes the measure of what codes and codebreaking have meant in human history in a single comprehensive account, astonishing in its scope and enthralling in its execution. Hailed upon first publication as a book likely to become the definitive work of its kind, The

Codebreakers has more than lived up to that prediction: it remains unsurpassed. With a brilliant new chapter that makes use of previously classified documents to bring the book thoroughly up to date, and to explore the myriad ways computer codes and their hackers are changing all of our lives, The Codebreakers is the skeleton key to a thousand thrilling true stories of intrigue, mystery, and adventure. It is a masterpiece of the historian's art.

Software Engineering and Algorithms Radek Silhavy 2021-07-19 This book constitutes the refereed proceedings of the Software Engineering and Algorithms section of the 10th Computer Science On-line Conference 2021 (CSOC 2021), held on-line in April 2021. Software engineering research and its applications to intelligent algorithms take an essential role in computer science research. In this book, modern research methods, application of machine and statistical learning in the software engineering research are presented.

Developing IoT Projects with ESP32 Vedat Ozan Oner 2021-09-13 Master the technique of using ESP32 as an edge device in any IoT application where wireless communication can make life easier Key FeaturesGain practical experience in working with ESP32Learn to interface various electronic devices such as sensors, integrated circuits (ICs), and displaysApply your knowledge to build real-world automation projectsBook Description Developing IoT Projects with ESP32 provides end-to-end coverage of secure data communication techniques from sensors to cloud platforms that will help you to develop production-grade IoT solutions by using the ESP32 SoC. You'll learn how to employ ESP32 in your IoT projects by interfacing with different sensors and actuators using different types of serial protocols. This book will show you how some projects require immediate output for end-users, and cover different display technologies as well as examples of driving different types of displays. The book features a dedicated chapter on cybersecurity packed with hands-on examples. As you progress, you'll get to grips with BLE technologies and BLE mesh networking and work on a complete smart home project where all nodes communicate over a BLE mesh. Later chapters will show you how IoT requires cloud connectivity most of the time and remote access to smart devices. You'll also see how cloud platforms and third-party integrations enable endless possibilities for your end-users, such as insights with big data analytics and predictive maintenance to minimize costs. By the end of this book, you'll have developed the skills you need to start using ESP32 in your next wireless IoT project and meet the project's requirements by building effective, efficient, and secure solutions. What you will learnExplore advanced use cases like UART communication, sound and camera features, low-energy scenarios, and scheduling with an RTOSAdd different types of displays in your projects where immediate output to users is requiredConnect to Wi-Fi and Bluetooth for local network communicationConnect cloud platforms through different IoT messaging protocolsIntegrate ESP32 with third-party services such as voice assistants and IFTTTDiscover best practices for implementing IoT security features in a production-grade solutionWho this book is for If you are an embedded software developer, an IoT software architect or developer, a technologist, or anyone who wants to learn how to use ESP32 and its applications, this book is for you. A basic understanding of embedded systems, programming, networking, and cloud computing concepts is necessary to get started with the book.

Big Seven Study (2016): 7 open source Crypto-Messengers to be compared (English/Deutsch) David Adams 2019-11-15 Provided with two columns in German & English Language / Zweispaltig in deutscher & englischer Sprache. BIG SEVEN STUDY about 7 open source Crypto-Messengers for Encryption at the Desktop: A contribution in the cryptographic-discussion - The two security researchers David Adams (Tokyo) and Ann-Kathrin Maier (Munich), who examined in their BIG SEVEN study seven well-known encryption applications for e-mail and instant messaging out of the open source area, performed then a deeper IT-audit for the acquainted software solution GoldBug.sf.net. The audit took into account the essential criteria, study fields and methods on the basis of eight international IT-audit manuals and was carried out in 20 dimensions. It identifies Ten Trends in the Crypto-Messaging. Security researcher David Adams from Tokyo about the published BIG SEVEN CRYPTO-study: "We looked at the seven major open source programs for encrypted online-communication and identified ten trends in the Crypto-Messaging area. One of the important trends is the feature, that the users should be able to define a so-called end-to-end encrypting password by themselves manually". The software "GoldBug - email client and instant messenger" here was ahead with excellent results and is not only very trustworthy and compliant to international IT-audit manuals and safety standards, GoldBug also scores in comparison and in the evaluation of the single functions in much greater detail than the other comparable open source crypto messenger. Co-author of the study Ann-Kathrin Maier from Munich confirms: "We have then our Messenger study deepened with a detailed audit of the crypto-program GoldBug, which received excellent results for encrypted email and secure online chat. By our code-reviews we can confirm the trustworthiness of this open source encryption in GoldBug." Numerous details have been analyzed by various methods, compared and also strategically evaluated by the two authors regarding the current encryption discussions. The comparatively studied applications include CryptoCat, GoldBug, OTR-XMPP clients such as Pidgin with the OTR-plugin, RetroShare and Signal, Surespot and Tox.

Requirements Engineering for Internet of Things Massila Kamalrudin 2018-01-04 This book constitutes the proceedings of the 4th Asia Pacific Requirements Engineering Symposium, APRES 2017, held in Melaka, Malaysia, in November 2017. The 11 full papers presented together with four short papers were carefully reviewed and selected from 45 submissions. The papers are organized in topical sections on big data, cyber security, crowd-sourcing, requirements challenges, automation.

Knowledge Engineering for Modern Information Systems Anand Sharma 2022-01-19 This book presents an extensive collection of the recent findings and innovative research in the information system and knowledge engineering domain. Knowledge engineering is a field within artificial intelligence that develops in particular systems that use knowledge, rather than data, to solve many computing problems, that would usually require high levels of human expertise.

Complexity of Lattice Problems Daniele Micciancio 2002-03-31 Lattices are geometric objects that can be pictorially described as the set of intersection points of an infinite, regular n-dimensional grid. De spite their apparent simplicity, lattices hide a rich combinatorial struc ture, which has attracted the attention of great mathematicians over the last two centuries. Not surprisingly, lattices have found numerous ap plications in mathematics and computer science, ranging from number theory and Diophantine approximation, to combinatorial optimization and cryptography. The study of lattices, specifically from a computational point of view, was marked by two major breakthroughs: the development of the LLL lattice reduction algorithm by Lenstra, Lenstra and Lovasz in the early 80's, and Ajtai's discovery of a connection between the worst-case and average-case hardness of certain lattice problems in the late 90's. The LLL algorithm, despite the relatively poor quality of the solution it gives in the worst case, allowed to devise polynomial time solutions to many classical problems in computer science. These include, solving integer programs in a fixed number of variables, factoring polynomials over the rationals, breaking knapsack based cryptosystems, and finding solutions to many other Diophantine and cryptanalysis problems.

Security, Privacy, and Applied Cryptography Engineering Claude Carlet 2016-12-09 This book constitutes the refereed proceedings of the 6th International Conference on Security, Privacy, and Applied Cryptography Engineering, SPACE 2016, held in Hyderabad, India, in December 2016. This annual event is devoted to various aspects of security, privacy, applied cryptography, and cryptographic engineering. This is indeed a very challenging field, requiring the expertise from diverse domains, ranging from mathematics to solid-state circuit design.

Quantum Computing and Communications Sandor Imre 2005-07-08 Quantum computers will revolutionize the way telecommunications networks function. Quantum computing holds the promise of solving problems that would be intractable with conventional computers by implementing principles from quantum physics in the development of computer hardware, software and communications equipment. Quantum-assisted computing will be the first step towards full quantum systems, and will cause immense disruption of our traditional networks. The world’s biggest manufacturers are investing large amounts of resources to develop crucial quantum-assisted circuits and devices. Quantum Computing and Communications: Gives an overview of basic quantum computing algorithms and their enhanced versions such as efficient database searching, counting and phase estimation. Introduces quantum-assisted solutions for telecom problems including multi-user detection in mobile systems, routing in IP based networks, and secure ciphering key distribution. Includes an accompanying website featuring exercises (with solution manual) and sample algorithms from the classical telecom world, corresponding quantum-based solutions, bridging the gap between pure theory and engineering practice. This book provides telecommunications

engineers, as well as graduate students and researchers in the fields of computer science and telecommunications, with a wide overview of quantum computing & communications and a wealth of essential, practical information.

Understanding and Applying Cryptography and Data Security Adam J. Elbirt 2009-04-09 A How-to Guide for Implementing Algorithms and Protocols Addressing real-world implementation issues, Understanding and Applying Cryptography and Data Security emphasizes cryptographic algorithm and protocol implementation in hardware, software, and embedded systems. Derived from the author's teaching notes and research publications, the text is designed for electrical engineering and computer science courses. Provides the Foundation for Constructing Cryptographic Protocols The first several chapters present various types of symmetric-key cryptographic algorithms. These chapters examine basic substitution ciphers, cryptanalysis, the Data Encryption Standard (DES), and the Advanced Encryption Standard (AES). Subsequent chapters on public-key cryptographic algorithms cover the underlying mathematics behind the computation of inverses, the use of fast exponentiation techniques, tradeoffs between public- and symmetric-key algorithms, and the minimum key lengths necessary to maintain acceptable levels of security. The final chapters present the components needed for the creation of cryptographic protocols and investigate different security services and their impact on the construction of cryptographic protocols. Offers Implementation Comparisons By examining tradeoffs between code size, hardware logic resource requirements, memory usage, speed and throughput, power consumption, and more, this textbook provides students with a feel for what they may encounter in actual job situations. A solutions manual is available to qualified instructors with course adoptions.

Internet Cryptography Richard E. Smith 1997 Introduces the basics of cryptography and encryption, discusses legal and political issues, and tells how to secure electronic mail, databases, and World Wide Web transactions

Financial Cryptography and Data Security Jeremy Clark 2016-08-30 This book constitutes the refereed proceedings of three workshops heldat the 20th International Conference on Financial Cryptography and DataSecurity, FC 2016, in Christ Church, Barbados, in February 2016. The 22 full papers presented were carefully reviewed and selected from 49 submissions. They feature the outcome of the Second Workshop on Bitcoin and Blockchain Research, BITCOIN 2016, the First Workshop on Secure Voting Systems, VOTING 2016, and the 4th Workshop on Encrypted Computing and Applied Homomorphic Cryptography, WAHC 2016.

Finite Precision Number Systems and Arithmetic Peter Kornerup 2010-09-30 This comprehensive reference volume, suitable for graduate teaching, includes problems, exercises, solutions and an extensive bibliography.

Cryptography in C and C++ Michael Welschenbach 2001-03-19 Cryptography in C and C++ mainly focuses on the practical aspects involved in implementing public key cryptography methods, such as the RSA algorithm that was released from patent protection. It also gives both a technical overview and an implementation of the Rijndael algorithm that was selected as the Advanced Encryption Standard by the U.S. government. Author Michael Welschenbach avoids complexities by explaining cryptography and its mathematical basis in terms a programmer can easily understand. This book offers a comprehensive yet relentlessly practical overview of the fundamentals of modern cryptography. It contains a wide-ranging library of code in C and C++, including the RSA algorithm, completed by an extensive Test Suite that proves that the code works correctly. Readers will learn, step by step, how to implement a platform-independent library for the all-important multiprecision arithmetic used in modern cryptography. This is followed by an implementation of the cryptographic algorithms themselves. The CD-ROM includes all the programs presented in the book, x86 assembler programs for basic arithmetical operations, implementations of the new Rijndael Advanced Encryption Standard algorithm in both C and C++, and more.

Cybersecurity Henrique M. D. Santos 2022-04-28 Cybersecurity: A Practical Engineering Approach introduces the implementation of a secure cyber architecture, beginning with the identification of security risks. It then builds solutions to mitigate risks by considering the technological justification of the solutions as well as their efficiency. The process follows an engineering process model. Each module builds on a subset of the risks, discussing the knowledge necessary to approach a solution, followed by the security control architecture design and the implementation. The modular approach allows students to focus on more manageable problems, making the learning process simpler and more attractive.

Information Security Mark Stamp 2006 Your expert guide to information security As businesses and consumers become more dependent on complex multinational information systems, the need to understand and devise sound information security systems has never been greater. This title takes a practical approach to information security by focusing on real-world examples. While not sidestepping the theory, the emphasis is on developing the skills and knowledge that security and information technology students and professionals need to face their challenges. The book is organized around four major themes: * Cryptography: classic cryptosystems, symmetric key cryptography, public key cryptography, hash functions, random numbers, information hiding, and cryptanalysis * Access control: authentication and authorization, password-based security, ACLs and capabilities, multilevel and multilateral security, covert channels and inference control, BLP and Biba's models, firewalls, and intrusion detection systems * Protocols: simple authentication protocols, session keys, perfect forward secrecy, timestamps, SSL, IPSec, Kerberos, and GSM * Software: flaws and malware, buffer overflows, viruses and worms, software reverse engineering, digital rights management, secure software development, and operating systems security Additional features include numerous figures and tables to illustrate and clarify complex topics, as well as problems-ranging from basic to challenging-to help readers apply their newly developed skills. A solutions manual and a set of classroom-tested PowerPoint(r) slides will assist instructors in their course development. Students and professors in information technology, computer science, and engineering, and professionals working in the field will find this reference most useful to solve their information security issues. An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department. An Instructor Support FTP site is also available.

Stabilization, Safety, and Security of Distributed Systems Colette Johnen 2021-11-08 This book constitutes the refereed proceedings of the 23rd International Symposium on Stabilization, Safety, and Security of Distributed Systems, SSS 2021, held virtually, in November 2021. The 16 full papers, 10 short and 14 invited papers presented were carefully reviewed and selected from 56 submissions. The papers deal with the design and development of distributed systems with a focus on systems that are able to provide guarantees on their structure, performance, and/or security in the face of an adverse operational environment.

Security Solutions and Applied Cryptography in Smart Grid Communications Ferrag, Mohamed Amine 2016-11-29 Electrical energy usage is increasing every year due to population growth and new forms of consumption. As such, it is increasingly imperative to research methods of energy control and safe use. Security Solutions and Applied Cryptography in Smart Grid Communications is a pivotal reference source for the latest research on the development of smart grid technology and best practices of utilization. Featuring extensive coverage across a range of relevant perspectives and topics, such as threat detection, authentication, and intrusion detection, this book is ideally designed for academicians, researchers, engineers and students seeking current research on ways in which to implement smart grid platforms all over the globe.

Financial Cryptography and Data Security Aggelos Kiayias 2017-12-22 This book constitutes the thoroughly refereed post-conference proceedings of the 21st International Conference on Financial Cryptography and Data Security, FC 2017, held in Sliema, Malta, in April 2017. The 30 revised full papers and 5 short papers were carefully selected and reviewed from 132 submissions. The papers are grouped in the following topical sections: Privacy and Identity Management; Privacy and Data Processing; Cryptographic Primitives and API's; Vulnerabilities and Exploits; Blockchain Technology; Security of Internet Protocols; Blind signatures; Searching and Processing Private Data; Secure Channel Protocols; and Privacy in Data Storage and Retrieval.

Innovations in Embedded and Real-Time Systems Engineering for Communication Virtanen, Seppo 2012-04-30 "This book has collected the latest research within the field of real-time systems engineering, and will serve as a vital reference compendium for practitioners and academics"--Provided by publisher.

Cybersecurity Ahmed A. Abd El-Latif 2022-03-25 This book presents techniques and security challenges of

chaotic systems and their use in cybersecurity. It presents the state-of-the-art and the latest discoveries in the field of chaotic systems and methods and proposes new models, practical solutions, and technological advances related to new chaotic dynamical systems. The book can be used as part of the bibliography of the following courses: - Cybersecurity - Cryptography - Networks and Communications Security - Nonlinear Circuits - Nonlinear Systems and Applications

Privacy Solutions and Security Frameworks in Information Protection Nemati, Hamid 2012-09-30 While information technology continues to play a vital role in every aspect of our lives, there is a greater need for the security and protection of this information. Ensuring the trustworthiness and integrity is important in order for data to be used appropriately. Privacy Solutions and Security Frameworks in Information Protection explores the areas of concern in guaranteeing the security and privacy of data and related technologies. This reference source includes a range of topics in information security and privacy provided for a diverse readership ranging from academic and professional researchers to industry practitioners.

Codes: An Introduction to Information Communication and Cryptography Norman L. Biggs 2008-12-16 Many people do not realise that mathematics provides the foundation for the devices we use to handle information in the modern world. Most of those who do know probably think that the parts of mathematics involvedare quite ‘cl- sical’, such as Fourier analysis and di?erential equations. In fact, a great deal of the mathematical background is part of what used to be called ‘pure’ ma- ematics, indicating that it was created in order to deal with problems that originated within mathematics itself. It has taken many years for mathema- cians to come to terms with this situation, and some of them are still not entirely happy about it. Thisbookisanintegratedintroductionto Coding.Bythis Imeanreplacing symbolic information, such as a sequence of bits or a message written in a naturallanguage,byanother messageusing (possibly) di?erentsymbols.There are three main reasons for doing this: Economy (data compression), Reliability (correction of errors), and Security (cryptography). I have tried to cover each of these three areas in su?cient depth so that the reader can grasp the basic problems and go on to more advanced study. The mathematical theory is introduced in a way that enables the basic problems to bestatedcarefully,butwithoutunnecessaryabstraction.Theprerequisites(sets andfunctions,matrices,?niteprobability)shouldbefamiliartoanyonewhohas taken a standard course in mathematical methods or discrete mathematics. A course in elementary abstract algebra and/or number theory would be helpful, but the book contains the essential facts, and readers without this background should be able to understand what is going on. vi Thereareafewplaceswherereferenceismadetocomputeralgebrasystems.

Algorithm Engineering Stefan Näher 2007-06-03 This volume contains the papers accepted for the 4th Workshop on Algorithm Engineering (WAE 2000) held in Saarbruc¨ ken, Germany, during 5–8 September 2000, together with the abstract of the invited lecture given by Karsten Weihe. The Workshop on Algorithm Engineering covers research on all aspects of the subject. The goal is to present recent research results and to identify and explore directions for future research. Previous meetings were held in Venice (1997), Saarbruc¨ ken (1998), and London (1999). Papers were solicited describing original research in all aspects of algorithm engineering, including: – Development of software repositories and platforms which allow the use of and experimentation with e?cient discrete algorithms. – Novel uses of discrete algorithms in other disciplines and the evaluation of algorithms for realistic environments. – Methodological issues including standards in the context of empirical - search on algorithms and data structures. – Methodological issues regarding the process of converting user requirements into e?cient algorithmic solutions and implementations. The program committee accepted 16 from a total of 30 submissions. The program committee meeting was conducted electronically. The criteria for sel- tion were originality, quality, and relevance to the subject area of the workshop. Considerable e?ort was devoted to the evaluation of the submissions and to p- viding the authors with feedback. Each submission was reviewed by at least four program committee members (assisted by subreferees). A special issue of the ACM Journal of Experimental Algorithmics will be devoted to selected papers from WAE 2000.

Quantum Cryptography and Secret-Key Distillation Gilles van Assche 2006-06-29 Quantum cryptography (or quantum key distribution) is a state-of-the-art technique that exploits properties of quantum mechanics to guarantee the secure exchange of secret keys. This 2006 text introduces the principles and techniques of quantum cryptography, setting it in the wider context of cryptography and security, with specific focus on secret-key distillation. The book starts with an overview chapter, progressing to classical cryptography, information theory (classical and quantum), and applications of quantum cryptography. The discussion moves to secret-key distillation, privacy amplification and reconciliation techniques, concluding with the security principles of quantum cryptography. The author explains the physical implementation and security of these systems, enabling engineers to gauge the suitability of quantum cryptography for securing transmission in their particular application. With its blend of fundamental theory, implementation techniques, and details of recent protocols, this book will be of interest to graduate students, researchers, and practitioners in electrical engineering, physics, and computer science.

Towards a Quarter-Century of Public Key Cryptography Neal Koblitz 2013-03-09 Towards a Quarter-Century of Public Key Cryptography brings together in one place important contributions and up-to-date research results in this fast moving area. Towards a Quarter-Century of Public Key Cryptography serves as an excellent reference, providing insight into some of the most challenging research issues in the field.

Proceedings of the 2012 International Conference on Information Technology and Software Engineering Wei Lu 2012-11-05 Proceedings of the 2012 International Conference on Information Technology and Software Engineering presents selected articles from this major event, which was held in Beijing, December 8-10, 2012. This book presents the latest research trends, methods and experimental results in the fields of information technology and software engineering, covering various state-of-the-art research theories and approaches. The subjects range from intelligent computing to information processing, software engineering, Web, unified modeling language (UML), multimedia, communication technologies, system identification, graphics and visualizing, etc. The proceedings provide a major interdisciplinary forum for researchers and engineers to present the most innovative studies and advances, which can serve as an excellent reference work for researchers and graduate students working on information technology and software engineering. Prof. Wei Lu, Dr. Guoqiang Cai, Prof. Weibin Liu and Dr. Weiwei Xing all work at Beijing Jiaotong University.

Technical Manual United States. War Department 1943

Computer and Information Security Handbook John R. Vacca 2017-05-10 Computer and Information Security Handbook, Third Edition, provides the most current and complete reference on computer security available in one volume. The book offers deep coverage of an extremely wide range of issues in computer and cybersecurity theory, applications, and best practices, offering the latest insights into established and emerging technologies and advancements. With new parts devoted to such current topics as Cloud Security, Cyber-Physical Security, and Critical Infrastructure Security, the book now has 100 chapters written by leading experts in their fields, as well as 12 updated appendices and an expanded glossary. It continues its successful format of offering problem-solving techniques that use real-life case studies, checklists, hands-on exercises, question and answers, and summaries. Chapters new to this edition include such timely topics as Cyber Warfare, Endpoint Security, Ethical Hacking, Internet of Things Security, Nanoscale Networking and Communications Security, Social Engineering, System Forensics, Wireless Sensor Network Security, Verifying User and Host Identity, Detecting System Intrusions, Insider Threats, Security Certification and Standards Implementation, Metadata Forensics, Hard Drive Imaging, Context-Aware Multi-Factor Authentication, Cloud Security, Protecting Virtual Infrastructure, Penetration Testing, and much more. Written by leaders in the field Comprehensive and up-to-date coverage of the latest security technologies, issues, and best practices Presents methods for analysis, along with problem-solving techniques for implementing practical solutions

Air Forces Manual United States. Army Air Forces. Training Aids Division 1945

Practical Cryptography for Data Internetworks William Stallings 1996 A growing proportion of applications and protocols used over the Internet either have significant security-related features or have as their primary purpose the provision of some security facility. Many of these applications and protocols use cryptographic algorithms to implement security services. This book provides you with a comprehensive introduction to the use of cryptographic algorithms in data network security, with a special emphasis on

practical internetworking applications. The book focuses on the underlying principles and main approaches to cryptography, and covers both conventional and public-key encryption and the most important algorithms, including DES, triple DES, RSA, and IDEA. Furthermore, the text discusses issues concerning authentication and digital signatures and explains the use of public-key encryption and secure hash functions in this context. It concludes with an examination into the practical uses of cryptographic algorithms in some key inter-networking applications.

Computer and Information Security Handbook John R. Vacca 2012-11-05 The second edition of this comprehensive handbook of computer and information security provides the most complete view of computer security and privacy available. It offers in-depth coverage of security theory, technology, and practice as they relate to established technologies as well as recent advances. It explores practical solutions to many security issues. Individual chapters are authored by leading experts in the field and address the immediate and long-term challenges in the authors' respective areas of expertise. The book is organized into 10 parts comprised of 70 contributed chapters by leading experts in the areas of networking and systems security, information management, cyber warfare and security, encryption technology, privacy, data storage, physical security, and a host of advanced security topics. New to this edition are chapters on intrusion detection, securing the cloud, securing web apps, ethical hacking, cyber forensics, physical security, disaster recovery, cyber attack deterrence, and more. Chapters by leaders in the field on theory and practice of computer and information security technology, allowing the reader to develop a new level of technical expertise Comprehensive and up-to-date coverage of security issues allows the reader to remain current and fully informed from multiple viewpoints Presents methods of analysis and problem-solving techniques, enhancing the reader's grasp of the material and ability to implement practical solutions

Detection of Intrusions and Malware, and Vulnerability Assessment Cristiano Giuffrida 2018-06-21 This book constitutes the refereed proceedings of the 15th International Conference on Detection of Intrusions and Malware, and Vulnerability Assessment, DIMVA 2018, held in Saclay, France, in June 2018. The 17 revised full papers and 1 short paper included in this book were carefully reviewed and selected from 59 submissions. They present topics such as malware analysis; mobile and embedded security; attacks; detection and containment; web and browser security; and reverse engineering.