Computer Networking Kurose 4th Edition

Networked Graphics equips programmers and designers with a thorough grounding in the techniques used to create truly network-enabled computer graphics and games. Written for graphics/game/VE developers and students, it assumes no prior knowledge of networking. The text offers a broad view of what types of different architectural patterns can be found in current systems, and readers will learn the tradeoffs in achieving system requirements on the Internet. It explains the foundations of networked graphics, then explores real systems in depth, and finally considers standards and extensions. Numerous case studies and examples with working code are featured throughout the text, covering groundbreaking academic research and military simulation systems, as well as industry-leading game designs. Everything designers need to know when developing networked graphics and games is covered in one volume - no need to consult multiple sources. The many examples throughout the text feature real simulation code in C++ and Java that developers can use in their own design experiments. Case studies describing real-world systems show how requirements and constraints can be managed.

First published in 2009. Routledge is an imprint of Taylor & Francis, an informa company.

IT Manager's Handbook, Second Edition, provides essential information to help students understand the responsibilities of today's IT Management professionals: not only planning network security and implementing disaster recovery plans, but also such vital tasks as creating budgets, administering compliance, and managing staff. In particular, the book discusses business practices that are most critical to effective IT operations: recruiting, budgeting, resource planning, managing personnel, and working with vendor. This updated version includes expanded coverage on such critical IT management topics as security, disaster recovery, storage, government/regulatory compliance, and project management. Information is organized modularly so that instructors and students can delve directly into only the topics needed. Each chapter contains additional resources sections for books, articles, and websites relevant to that topic. It contains new material on key technology topics such as open source, outsourcing, offshoring, and handhelds, plus updated coverage of e-commerce, remote access, intranets, and LAN/WAN management. A completely updated and expanded second edition that provides practical, easily accessible management advice written specifically for new IT managers: · Brings you up to speed on those business practices most critical to effective IT operations: recruiting, budgeting, resource planning, managing personnel, and working with vendors. · Includes expanded coverage on such critical IT management topics as security, disaster recovery, storage, government/regulatory compliance, and project management. · Organizes information modularly so you can delve directly into only the topics that you need. · Provides a unique management perspective on those specific technical issues with the most significant business ramifications. · Includes new material on key technology topics such as open source, wireless, handhelds, outsourcing, offshoring, and operations, as well as updated coverage of e-commerce, remote access, intranets, and LAN/WAN management.

IP-based multimedia communications have become increasingly popular in recent years. With the increasing coverage of the IEEE 802:11TM based wireless networks, IP-based multimedia communications over wireless networks are also drawing extensive attention in both academia and industry. Due to the openness and distributed nature of the protocols involved, such as the session initiation protocol (SIP) and the IEEE 802:11TM standard, it becomes easy for malicious users in the network to achieve their own gain or disrupt the service by deviating from the normal protocol behaviors. This SpringerBrief presents real-time intrusion detection techniques that can quickly track the malicious behaviors

which manipulate the vulnerabilities from either the 802.11TM or the SIP protocols. More specifically, this book presents interdisciplinary techniques to achieve an effective real-time intrusion detection system, which interweaves medium access control (MAC) protocol analysis, cumulative sum (CUSUM) based detector design, a novel Markovian model for CUSUM detectors, sketch-based traffic modeling, and wavelet based signal processing techniques.

This accessible textbook/reference reviews the fundamental concepts and practical issues involved in designing digital surveillance systems that fully exploit the power of intelligent computing techniques. The book presents comprehensive coverage of all aspects of such systems, from camera calibration and data capture, to the secure transmission of surveillance data. In addition to the detection and recognition of objects and biometric features, the text also examines the automated observation of surveillance events, and how this can be enhanced through the use of deep learning methods and supercomputing technology. This updated new edition features extended coverage on face detection, pedestrian detection and privacy preservation for intelligent surveillance. Topics and features: contains review questions and exercises in every chapter, together with a glossary; describes the essentials of implementing an intelligent surveillance system and analyzing surveillance data, including a range of biometric characteristics; examines the importance of network security and digital forensics in the communication of surveillance data, as well as issues of issues of privacy and ethics; discusses the Viola-Jones object detection method, and the HOG algorithm for pedestrian and human behavior recognition; reviews the use of artificial intelligence for automated monitoring of surveillance events, and decision-making approaches to determine the need for human intervention; presents a case study on a system that triggers an alarm when a vehicle fails to stop at a red light, and identifies the vehicle's license plate number; investigates the use of cutting-edge supercomputing technologies for digital surveillance, such as FPGA, GPU and parallel computing. This concise, classroom-tested textbook is ideal for undergraduate and postgraduate-level courses on intelligent surveillance. Researchers interested in entering this area will also find the book suitable as a helpful self-study reference.

The Internet Encyclopedia in a 3-volume reference work on the internet as a business tool, IT platform, and communications and commerce medium.

This third edition of a classic textbook can be used to teach at the senior undergraduate and graduate levels. The material concentrates on fundamental theories as well as techniques and algorithms. The advent of the Internet and the World Wide Web, and, more recently, the emergence of cloud computing and streaming data applications, has forced a renewal of interest in distributed and parallel data management, while, at the same time, requiring a rethinking of some of the traditional techniques. This book covers the breadth and depth of this re-emerging field. The coverage consists of two parts. The first part discusses the fundamental principles of distributed data management and includes distribution design, data integration, distributed query processing and optimization, distributed transaction management, and replication. The second part focuses on more advanced topics and includes discussion of parallel database systems, distributed object management, peer-to-peer data management, web data management, data stream systems, and cloud computing. New in this Edition: • New chapters, covering database replication, database integration, multidatabase query processing, peer-to-peer data management, and web data management. • Coverage of emerging topics such as data streams and cloud computing • Extensive revisions and updates based on years of class testing and feedback Ancillary teaching materials are available.

Addresses innovations in technology relating to the energy efficiency of a wide variety of contemporary computer systems and networks With concerns about global energy consumption at an all-time high, improving computer networks energy efficiency is becoming an increasingly

important topic. Large-Scale Distributed Systems and Energy Efficiency: A Holistic View addresses innovations in technology relating to the energy efficiency of a wide variety of contemporary computer systems and networks. After an introductory overview of the energy demands of current Information and Communications Technology (ICT), individual chapters offer in-depth analyses of such topics as cloud computing, green networking (both wired and wireless), mobile computing, power modeling, the rise of green data centers and high-performance computing, resource allocation, and energy efficiency in peer-to-peer (P2P) computing networks. Discusses measurement and modeling of the energy consumption method Includes methods for energy consumption reduction in diverse computing environments Features a variety of case studies and examples of energy reduction and assessment Timely and important, Large-Scale Distributed Systems and Energy Efficiency is an invaluable resource for ways of increasing the energy efficiency of computing systems and networks while simultaneously reducing the carbon footprint.

While there are countless books on wireless networks, few actually quantify the key performance-limiting factors of wireless local area networks (WLANs) and describe various methods for improving WLAN performance. Fulfilling these needs, Improving the Performance of Wireless LANs: A Practical Guide provides both theoretical background and empirical

A clear, student-friendly and engaging introduction to how information technology is used in business. Featuring several case studies, video interviews, thorough pedagogy and completely up-to-date chapters, this textbook will be a core resource for undergraduate students of Business Information Systems, a compulsory module in business degrees.

This new book is an introduction to modern communications networks that now rely far less on telephone services and more on cellular and IP networks. The resource is designed to provide answers to the fundamental questions concerning telecommunications networks and services. This includes the structure and main components of a modern telecommunications network; the importance of standardization; and how cellular mobile networks operate; among many others. In addition, you are provided with problems and review questions to work though and help you master the material.

The Industrial Communication Technology Handbook focuses on current and newly emerging communication technologies and systems that are evolving in response to the needs of industry and the demands of industry-led consortia and organizations. Organized into two parts, the text first summarizes the basics of data communications and IP networks, then presents a comprehensive overview of the field of industrial communications. This book extensively covers the areas of fieldbus technology, industrial Ethernet and real-time extensions, wireless and mobile technologies in industrial applications, the linking of the factory floor with the Internet and wireless fieldbuses, network security and safety, automotive applications, automation and energy system applications, and more. The Handbook presents material in the form of tutorials, surveys, and technology overviews, combining fundamentals and advanced issues with articles grouped into sections for a cohesive and comprehensive presentation. The text contains 42 contributed articles by experts from industry and industrial research establishments at the forefront of development, and some of the most renowned academic institutions worldwide. It analyzes content from an industrial perspective, illustrating actual implementations and successful technology deployments.

Computer Networking: A Top Down Approach.

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Recent advances in technologies have created a need for solving security problems in a systematic way. With this in mind, network security technologies have been produced in order to ensure the security of software and communication functionalities at basic, enhanced, and

architectural levels. Network Security Technologies: Design and Applications presents theoretical frameworks and the latest research findings in network security technologies while analyzing malicious threats which can compromise network integrity. This book is an essential tool for researchers and professionals interested in improving their understanding of the strategic role of trust at different levels of information and knowledge society.

Recently, there has been a rapid increase in interest regarding social network analysis in the data mining community. Cognitive radios are expected to play a major role in meeting this exploding traffic demand on social networks due to their ability to sense the environment, analyze outdoor parameters, and then make decisions for dynamic time, frequency, space, resource allocation, and management to improve the utilization of mining the social data. Cognitive Social Mining Applications in Data Analytics and Forensics is an essential reference source that reviews cognitive radio concepts and examines their applications to social mining using a machine learning approach so that an adaptive and intelligent mining is achieved. Featuring research on topics such as data mining, real-time ubiquitous social mining services, and cognitive computing, this book is ideally designed for social network analysts, researchers, academicians, and industry professionals.

Your Complete Certification Solution Covers the critical information you need to know to score higher on your Network+ exam: Implement proven best practices for managing networks efficiently and reliably Thoroughly understand network hardware components, devices, cabling, and connectors Systematically review TCP/IP, related network protocols, and the OSI model Manage network operating systems and clients Identify network vulnerabilities and configure network security to address them Use security tools such as cryptography and antivirus software Provide reliable, secure Internet access, WAN access, and VLAN support Implement disaster recovery plans that protect business continuity Troubleshoot network and Internet connectivity problems Efficiently document the network and provide high-quality user support informit.com/examcram ISBN-13: 978-0-7897-3795-3 ISBN-10: 0-7897-3795-7

Suitable for a one- or two-semester undergraduate or beginning graduate course in computer science and computer engineering, Computer Organization, Design, and Architecture, Fourth Edition presents the operating principles, capabilities, and limitations of digital computers to enable development of complex yet efficient systems. With 40% updated material and four new chapters, this edition takes students through a solid, up-to-date exploration of single- and multiple-processor systems, embedded architectures, and performance evaluation. New to the Fourth Edition Additional material that covers the ACM/IEEE computer science and engineering curricula More coverage on computer organization, embedded systems, networks, and performance evaluation Expanded discussions of RISC, CISC, VLIW, and parallel/pipelined architectures The latest information on integrated circuit technologies and devices, memory hierarchy, and storage Updated examples, references, and problems Supplying appendices with relevant details of integrated circuits reprinted from vendors' manuals, this book provides all of the necessary information to program and design a computer system.

Designed as an advanced text on internetworking technologies for senior undergraduate/graduate students of computer science, this unique book provides an introduction to the key concepts related to front line areas of internetwork-specific research and development. The text would also be highly useful to professionals, who wish to keep abreast of various state-of-the-art technologies in their fields of research.

Position yourself at the forefront of audio and broadcast studio technology by learning audio over IP. You will gain knowledge of IP network engineering as it applies to audio applications, and then progress to a full understanding of how equipment built on Ethernet and Internet Protocol are used in today's audio production and broadcast facilities for the transporting, mixing and processing of pro-quality audio. A chapter on integrating Voice-over IP telephony (VoIP) to pro-audio and broadcast facilities is also included. Using the popular Livewire

technology, you will learn how to design, construct, configure and troubleshoot an AoIP system, including how to interface with PCs, VoIP telephone PBXs, IP codecs, and the Internet. See how AoIP systems work in practice, and discover their distinct advantages over older audio infrastructures. With its complete introduction to AoIP technology in a fun, highly readable style, this book is essential for audio professionals who want to broaden their knowledge of IP-based studio systems--or for IT experts who need to understand AoIP applications. ??????????????????????;????????????,?????????????????;???????????????????????????.

Algorithms and Theory of Computation Handbook, Second Edition: Special Topics and Techniques provides an up-to-date compendium of fundamental computer science topics and techniques. It also illustrates how the topics and techniques come together to deliver efficient solutions to important practical problems. Along with updating and revising many of the existing chapters, this second edition contains more than 15 new chapters. This edition now covers self-stabilizing and pricing algorithms as well as the theories of privacy and anonymity, databases, computational games, and communication networks. It also discusses computational topology, natural language processing, and grid computing and explores applications in intensity-modulated radiation therapy, voting, DNA research, systems biology, and financial derivatives. This best-selling handbook continues to help computer professionals and engineers find significant information on various algorithmic topics. The expert contributors clearly define the terminology, present basic results and techniques, and offer a number of current references to the in-depth literature. They also provide a glimpse of the major research issues concerning the relevant topics.

"This book offers a critical review of current research in technology-supported education, focusing on the development and design of successful education programs, student success factors, and the creation and use of online courses"--Provided by publisher.

The emergence of quality-of-service (QoS) mechanisms continues to propel the development of real-time multimedia services such as VoIP and videoconferencing. However, many challenges remain in achieving optimized standardization convergence. Network Design for IP Convergence is a comprehensive, global guide to recent advances in IP network implementation. Providing an introduction to basic LAN/WAN/MAN network design, the author covers the latest equipment and architecture, addressing, QoS policies, and integration of services, among other topics. The book explains how to integrate the different layers of reference models and various technological platforms to mirror the harmonization that occurs in the real world of carrier networks. It furnishes appropriate designs for traditional and critical services in the LAN and carrier networks (both MAN and WAN), and it clarifies how a specific layer or technology can cause those services to malfunction. This book lays a foundation for understanding with concepts and applicability of QoS parameters under the multilayer scheme, and a solid explanation of service infrastructure. It goes on to describe integration in both real time and "not real time," elaborating on how both processes can co-exist within the same IP network and concluding with the designs and configurations of service connections. Learn How to Overcome Obstacles to Improve Technology This sweeping analysis of the implementation of IP convergence and QoS mechanisms helps designers and operators get past key obstacles, such as integrating platform layers and technologies and implementing various associated QoS concepts, to improve technology and standards.

Computer NetworkingA Top-down ApproachAddison-Wesley

1.1 INTRODUCTION: Ø Computer Networks: A collection of autonomous computers interconnected by a single technology to facilitate data communication. · Two computers are said to be interconnected if they are able to exchange information. The connection need not be via a copper wire; fiber optics, microwaves, infrared, and communication satellites can also be of used. · The computers are autonomous, which are not forcibly started, stopped or controlled by other one. · A system with one control unit and more than one slave is not a computer

network. · Computer network consists of end systems or nodes which are capable of transmitting information and which communicate through a transit system interconnected them. The transit system also called as interconnection subsystem or sub network. · The nodes in the computer network comprise the computer, terminals, software and peripherals forming an autonomous system capable of performing information processing. · End system has an interface or interaction through which it is physically connected with subnet. · The interaction point has an address by which end system is identified. · Each end system hosts one or more application entities by which the communication takes place between end systems. · The subnet performs all transmission and switching activities. · Transmission media connect end system and subnet and carry information.

The classic and authoritative reference in the field of computer security, now completely updated and revised With the continued presence of large-scale computers; the proliferation of desktop, laptop, and handheld computers; and the vast international networks that interconnect them, the nature and extent of threats to computer security have grown enormously. Now in its fifth edition, Computer Security Handbook continues to provide authoritative guidance to identify and to eliminate these threats where possible, as well as to lessen any losses attributable to them. With seventy-seven chapters contributed by a panel of renowned industry professionals, the new edition has increased coverage in both breadth and depth of all ten domains of the Common Body of Knowledge defined by the International Information Systems Security Certification Consortium (ISC). Of the seventy-seven chapters in the fifth edition, twenty-five chapters are completely new, including: 1. Hardware Elements of Security 2. Fundamentals of Cryptography and Steganography 3. Mathematical models of information security 4. Insider threats 5. Social engineering and low-tech attacks 6. Spam, phishing, and Trojans: attacks meant to fool 7. Biometric authentication 8. VPNs and secure remote access 9. Securing Peer2Peer, IM, SMS, and collaboration tools 10. U.S. legal and regulatory security issues, such as GLBA and SOX Whether you are in charge of many computers or just one important one, there are immediate steps you can take to safeguard your computer system and its contents. Computer Security Handbook, Fifth Edition equips you to protect the information and networks that are vital to your organization.

??Holt,Rinchart and Winston 1983??????. -- ??: Modern digital and analog communication systems/B. P. Lathi

"This book reviews methodologies in computer network simulation and modeling, illustrates the benefits of simulation in computer networks design, modeling, and analysis, and identifies the main issues that face efficient and effective computer network simulation"--Provided by publisher.

In its 4th edition, this book remains focused on increasing public awareness of the nature and motives of cyber vandalism and cybercriminals, the weaknesses inherent in cyberspace infrastructure, and the means available to protect ourselves and our society. This new edition aims to integrate security education and awareness with discussions of morality and ethics. The reader will gain an understanding of how the security of information in general and of computer networks in particular, on which our national critical infrastructure and, indeed, our lives depend, is based squarely on the individuals who build the hardware and design and develop the software that run the networks that store our vital information. Addressing security issues with ever-growing social networks are two new chapters: "Security of Mobile Systems" and "Security in the Cloud Infrastructure." Instructors considering this book for use in a course may request an examination copy here.

The Industrial Information Technology Handbook focuses on existing and emerging industrial applications of IT, and on evolving trends that are driven by the needs of companies and by industry-led consortia and organizations. Emphasizing fast growing areas that have major impacts on industrial automation and enterprise integration, the Handbook covers topics such as industrial communication technology,

sensors, and embedded systems. The book is organized into two parts. Part 1 presents material covering new and quickly evolving aspects of IT. Part 2 introduces cutting-edge areas of industrial IT. The Handbook presents material in the form of tutorials, surveys, and technology overviews, combining fundamentals and advanced issues, with articles grouped into sections for a cohesive and comprehensive presentation. The text contains 112 contributed reports by industry experts from government, companies at the forefront of development, and some of the most renowned academic and research institutions worldwide. Several of the reports on recent developments, actual deployments, and trends cover subject matter presented to the public for the first time.

Though network security has almost always been about encryption and decryption, the field of network security is moving towards securing the network environment rather than just stored or transferred data. Privacy, Intrusion Detection and Response: Technologies for Protecting Networks explores the latest practices and research works in the area of privacy, intrusion detection, and response. Increased interest on intrusion detection together with prevention and response proves that protecting data either in the storage or during transfer is necessary, but not sufficient, for the security of a network. This book discusses the latest trends and developments in network security and privacy, and serves as a vital reference for researchers, academics, and practitioners working in the field of privacy, intrusion detection, and response.

A comprehensive survey of computer network security concepts, methods, and practices. This authoritative volume provides an optimal description of the principles and applications of computer network security in particular, and cyberspace security in general. The book is thematically divided into three segments: Part I describes the operation and security conditions surrounding computer networks; Part II builds from there and exposes readers to the prevailing security situation based on a constant security threat; and Part III - the core - presents readers with most of the best practices and solutions currently in use. It is intended as both a teaching tool and reference. This broad-ranging text/reference comprehensively surveys computer network security concepts, methods, and practices and covers network security tools, policies, and administrative goals in an integrated manner. It is an essential security resource for undergraduate or graduate study, practitioners in networks, and professionals who develop and maintain secure computer network systems.

Hundreds of well-illustrated articles explore the most important fields of science. Based on content from the McGraw-Hill Concise Encyclopedia of Science & Technoooogy, Fifth Edition, the most widely used and respected science reference of its kind in print, each of these subject-specific quick-reference guides features: * Detailed, well-illustrated explanations, not just definitions * Hundreds of concise yet authoritative articles in each volume * An easy-to-understand presentation, accessible and interesting to non-specialists * A portable, convenient format * Bibliographies, appendices, and other information supplement the articles

The Handbook of Information Security is a definitive 3-volume handbook that offers coverage of both established and cutting-edge theories and developments on information and computer security. The text contains 180 articles from over

200 leading experts, providing the benchmark resource for information security, network security, information privacy, and information warfare.

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Introduction to Network Simulator NS2 is a primer providing materials for NS2 beginners, whether students, professors, or researchers for understanding the architecture of Network Simulator 2 (NS2) and for incorporating simulation modules into NS2. The authors discuss the simulation architecture and the key components of NS2 including simulation-related objects, network objects, packet-related objects, and helper objects. The NS2 modules included within are nodes, links, SimpleLink objects, packets, agents, and applications. Further, the book covers three helper modules: timers, random number generators, and error models. Also included are chapters on summary of debugging, variable and packet tracing, result compilation, and examples for extending NS2. Two appendices provide the details of scripting language Tcl, OTcl and AWK, as well object oriented programming used extensively in NS2.

This book is an evolution from my book A First Course in Information Theory published in 2002 when network coding was still at its infancy. The last few years have witnessed the rapid development of network coding into a research ?eld of its own in information science. With its root in infor- tion theory, network coding has not only brought about a paradigm shift in network communications at large, but also had signi?cant in?uence on such speci?c research ?elds as coding theory, networking, switching, wireless c- munications,distributeddatastorage,cryptography,andoptimizationtheory. While new applications of network coding keep emerging, the fundamental - sults that lay the foundation of the subject are more or less mature. One of the main goals of this book therefore is to present these results in a unifying and coherent manner. While the previous book focused only on information theory for discrete random variables, the current book contains two new chapters on information theory for continuous random variables, namely the chapter on di?erential entropy and the chapter on continuous-valued channels. With these topics included, the book becomes more comprehensive and is more suitable to be used as a textbook for a course in an electrical engineering department.