

Tcl Code For Clustering In Ns2

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Linux Dictionary - Binh

Nguyen

This document is designed to be a resource for those Linux users wishing to seek clarification on Linux/UNIX/POSIX related terms and jargon. At approximately 24000 definitions and two thousand pages it is one of the largest Linux related dictionaries currently available. Due to the rapid rate at which new terms are being created it has been decided that this will

be an active project. We welcome input into the content of this document. At this moment in time half yearly updates are being envisaged. Please note that if you wish to find a 'Computer Dictionary' then see the 'Computer Dictionary Project' at <http://computerdictionary.tsf.org.za/> Searchable databases exist at locations such as: <http://www.swpearl.com/eng/scripts/dictionary/> (SWP) Sun Wah-PearL Linux Training and

Development Centre is a centre of the Hong Kong Polytechnic University, established in 2000. Presently SWP is delivering professional grade Linux and related Open Source Software (OSS) technology training and consultant service in Hong Kong. SWP has an ambitious aim to promote the use of Linux and related Open Source Software (OSS) and Standards. The vendor independent positioning of SWP has been very well perceived by the market. Throughout the last couple of years, SWP becomes the Top Leading OSS training and service provider in Hong Kong.

<http://www.geona.com/dictionary?b=> Geona, operated by Gold Vision Communications, is a new powerful search engine and internet directory, delivering quick and relevant results on almost any topic or subject you can imagine. The term "Geona" is an Italian and Hebrew name, meaning wisdom, exaltation, pride or majesty. We use our own database of spidered web sites and the Open Directory

database, the same database which powers the core directory services for the Web's largest and most popular search engines and portals. Geona is spidering all domains listed in the non-adult part of the Open Directory and millions of additional sites of general interest to maintain a fulltext index of highly relevant web sites.

<http://www.linuxdig.com/documents/dictionary.php> LINUXDIG.COM, "Yours News and Resource Site", LinuxDig.com was started in May 2001 as a hobby site with the original intention of getting the RFC's online and becoming an Open Source software link/download site. But since that time the site has evolved to become a RFC distribution site, linux news site and a locally written technology news site (with bad grammar :) with focus on Linux while also containing articles about anything and everything we find interesting in the computer world. LinuxDig.Com contains about 20,000 documents and this number is growing

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everyday!

<http://linux.about.com/library/glossary/blglossary.htm> Each month more than 20 million people visit About.com.

Whether it be home repair and decorating ideas, recipes, movie trailers, or car buying tips, our Guides offer practical advice and solutions for every day life. Wherever you land on the new About.com, you'll find other content that is relevant to your interests. If you're looking for "How To" advice on planning to re-finish your deck, we'll also show you the tools you need to get the job done. If you've been to About before, we'll show you the latest updates, so you don't see the same thing twice. No matter where you are on About.com, or how you got here, you'll always find content that is relevant to your needs. Should you wish to possess your own localised searchable version please make use of the available "dict",

<http://www.dict.org/> version at the Linux Documentation Project home page,

<http://www.tldp.org/> The author has decided to leave it up to

readers to determine how to install and run it on their specific systems. An alternative form of the dictionary is available at:

<http://elibrary.fultus.com/covers/technical/linux/guides/Linux-Dictionary/cover.html> Fultus Corporation helps writers and companies to publish, promote, market, and sell books and eBooks. Fultus combines traditional self-publishing practices with modern technology to produce paperback and hardcover print-on-demand (POD) books and electronic books (eBooks).

Fultus publishes works (fiction, non-fiction, science fiction, mystery, ...) by both published and unpublished authors. We enable you to self-publish easily and cost-effectively, creating your book as a print-ready paperback or hardcover POD book or as an electronic book (eBook) in multiple eBook's formats. You retain all rights to your work. We provide distribution to bookstores worldwide. And all at a fraction of the cost of traditional publishing. We also offer

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corporate publishing solutions that enable businesses to produce and deliver manuals and documentation more efficiently and economically. Our use of electronic delivery and print-on-demand technologies reduces printed inventory and saves time. Please inform the author as to whether you would like to create a database or an alternative form of the dictionary so that he can include you in this list. Also note that the author considers breaches of copyright to be extremely serious. He will pursue all claims to the fullest extent of the law.

Contemporary Computing - Sanjay Ranka 2010-08-12

This book constitutes the second part of the refereed proceedings of the Third International Conference, IC3 2010, held in Noida, India, in August 2010. The 23 revised full papers presented were carefully reviewed and selected from numerous submissions.

Mobile Computing - Kumkum Garg 2010-09

"The book covers all basic

concepts of mobile computing and communication and also deals with latest concepts like Bluetooth Security and Nokia Handhelds"--Resource description page.

Proceedings of First International Conference on Information and Communication Technology for Intelligent Systems:

Volume 2 - Suresh Chandra Satapathy 2016-05-03

This volume contains 60 papers presented at ICTIS 2015:

International Conference on Information and

Communication Technology for Intelligent Systems. The

conference was held during

28th and 29th November, 2015, Ahmedabad, India and

organized communally by

Venus International College of Technology, Association of

Computer Machinery,

Ahmedabad Chapter and

Supported by Computer Society of India Division IV –

Communication and Division V – Education and Research. This

volume contains papers mainly focused on ICT and its

application for Intelligent

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Computing, Cloud Storage, Data Mining, Image Processing and Software Analysis etc.

Networking Wireless

Sensors - Bhaskar

Krishnamachari 2005-12-22

Wireless sensor networks promise an unprecedented fine-grained interface between the virtual and physical worlds.

They are one of the most rapidly developing information technologies, with applications in a wide range of fields including industrial process control, security and surveillance, environmental sensing, and structural health monitoring. Originally published in 2005, this book provides a detailed and organized survey of the field. It shows how the core challenges of energy efficiency, robustness, and autonomy are addressed in these systems by networking techniques across multiple layers. The topics covered include network deployment, localization, time synchronization, wireless radio characteristics, medium-access, topology control, routing, data-centric techniques, and

transport protocols. Ideal for researchers and designers seeking to create algorithms and protocols and engineers implementing integrated solutions, it also contains many exercises and can be used by graduate students taking courses in networks.

Soft Computing for Problem Solving - Aruna Tiwari
2021-10-13

This two-volume book provides an insight into the 10th International Conference on Soft Computing for Problem Solving (SocProS 2020). This international conference is a joint technical collaboration of Soft Computing Research Society and Indian Institute of Technology Indore. The book presents the latest achievements and innovations in the interdisciplinary areas of soft computing. It brings together the researchers, engineers and practitioners to discuss thought-provoking developments and challenges, in order to select potential future directions. It covers original research papers in the areas including but not limited

to algorithms (artificial immune system, artificial neural network, genetic algorithm, genetic programming and particle swarm optimization) and applications (control systems, data mining and clustering, finance, weather forecasting, game theory, business and forecasting applications). The book will be beneficial for young as well as experienced researchers dealing across complex and intricate real-world problems for which finding a solution by traditional methods is a difficult task.

Design Frameworks for Wireless Networks - Santosh Kumar Das 2019-08-10

This book provides an overview of the current state of the art in wireless networks around the globe, focusing on utilizing the latest artificial intelligence and soft computing techniques to provide design frameworks for wireless networks. These techniques play a vital role in developing a more robust algorithm suitable for the dynamic and heterogeneous environment, making the

network self-managed, self-operational, and self-configurational, and efficiently reducing uncertainties and imprecise information.

Industrial Wireless Sensor Networks - V. Çağrı Güngör 2017-12-19

The collaborative nature of industrial wireless sensor networks (IWSNs) brings several advantages over traditional wired industrial monitoring and control systems, including self-organization, rapid deployment, flexibility, and inherent intelligent processing. In this regard, IWSNs play a vital role in creating more reliable, efficient, and productive industrial systems, thus improving companies' competitiveness in the marketplace. Industrial Wireless Sensor Networks: Applications, Protocols, and Standards examines the current state of the art in industrial wireless sensor networks and outlines future directions for research. What Are the Main Challenges in Developing IWSN Systems? Featuring contributions by

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researchers around the world, this book explores the software and hardware platforms, protocols, and standards that are needed to address the unique challenges posed by IWSN systems. It offers an in-depth review of emerging and already deployed IWSN applications and technologies, and outlines technical issues and design objectives. In particular, the book covers radio technologies, energy harvesting techniques, and network and resource management. It also discusses issues critical to industrial applications, such as latency, fault tolerance, synchronization, real-time constraints, network security, and cross-layer design. A chapter on standards highlights the need for specific wireless communication standards for industrial applications. A Starting Point for Further Research Delving into wireless sensor networks from an industrial perspective, this comprehensive work provides readers with a better understanding of the potential advantages and research

challenges of IWSN applications. A contemporary reference for anyone working at the cutting edge of industrial automation, communication systems, and networks, it will inspire further exploration in this promising research area.

Distributed Denial of Service Attacks - İlker Özçelik
2020-08-03

Distributed Denial of Service (DDoS) attacks have become more destructive, wide-spread and harder to control over time. This book allows students to understand how these attacks are constructed, the security flaws they leverage, why they are effective, how they can be detected, and how they can be mitigated. Students use software defined networking (SDN) technology to create and execute controlled DDoS experiments. They learn how to deploy networks, analyze network performance, and create resilient systems. This book is used for graduate level computer engineering instruction at Clemson University. It augments the traditional graduate computing

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curricula by integrating: Internet deployment, network security, ethics, contemporary social issues, and engineering principles into a laboratory based course of instruction. Unique features of this book include: A history of DDoS attacks that includes attacker motivations Discussion of cyber-war, censorship, and Internet black-outs SDN based DDoS laboratory assignments Up-to-date review of current DDoS attack techniques and tools Review of the current laws that globally relate to DDoS Abuse of DNS, NTP, BGP and other parts of the global Internet infrastructure to attack networks Mathematics of Internet traffic measurement Game theory for DDoS resilience Construction of content distribution systems that absorb DDoS attacks This book assumes familiarity with computing, Internet design, appropriate background in mathematics, and some programming skills. It provides analysis and reference material for networking engineers and researchers. By increasing

student knowledge in security, and networking; it adds breadth and depth to advanced computing curricula.

Linux System

Administration - Tom Adelstein 2007-03-27

A guide geared toward seasoned Linux and Unix administrators offers practical knowledge for managing a range of Linux systems and servers, covering such topics as installing servers, setting up e-mail systems, and creating shell scripts.

Nanoelectronic Mixed-Signal System Design

- Saraju Mohanty 2015-02-20

Covering both the classical and emerging nanoelectronic technologies being used in mixed-signal design, this book addresses digital, analog, and memory components. Winner of the Association of American Publishers' 2016 PROSE Award in the Textbook/Physical Sciences & Mathematics category. Nanoelectronic Mixed-Signal System Design offers professionals and students a unified perspective on the science, engineering,

and technology behind nanoelectronics system design. Written by the director of the NanoSystem Design Laboratory at the University of North Texas, this comprehensive guide provides a large-scale picture of the design and manufacturing aspects of nanoelectronic-based systems. It features dual coverage of mixed-signal circuit and system design, rather than just digital or analog-only. Key topics such as process variations, power dissipation, and security aspects of electronic system design are discussed. Top-down analysis of all stages--from design to manufacturing Coverage of current and developing nanoelectronic technologies--not just nano-CMOS Describes the basics of nanoelectronic technology and the structure of popular electronic systems Reveals the techniques required for design excellence and manufacturability

Content-Centric Networks -

Syed Hassan Ahmed

2016-03-02

This book introduces Content-

Centric Networking (CCN), a networking paradigm that provides a simple and effective solution to the challenging demands of future wired and wireless communications. It provides an overview of the recent developments in the area of future internet technologies, bringing together the advancements that have been made in Information-Centric Networking (ICN) in general, with a focus on CCN. It begins with an introduction to the basics of CCN is followed by an overview of the current internet paradigm and its challenges. Next, an application perspective has been included, where the authors encompass the selected applications for CCN with recent refereed research and developments. These applications include Internet of Things (IoT), Smart Grid, Vehicular Ad hoc Networks (VANETs), and Wireless Sensor Networks (WSNs). The book is a useful reference source for practising researchers, and can be used as supporting material for undergraduate and graduate

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level courses in computer science and electrical engineering.

Artificial Intelligence and Evolutionary Computations in Engineering Systems -

Subhransu Sekhar Dash
2020-02-08

This book gathers selected papers presented at the 4th International Conference on Artificial Intelligence and Evolutionary Computations in Engineering Systems, held at the SRM Institute of Science and Technology, Kattankulathur, Chennai, India, from 11 to 13 April 2019. It covers advances and recent developments in various computational intelligence techniques, with an emphasis on the design of communication systems. In addition, it shares valuable insights into advanced computational methodologies such as neural networks, fuzzy systems, evolutionary algorithms, hybrid intelligent systems, uncertain reasoning techniques, and other machine learning methods and their application to decision-making and problem-solving in mobile

and wireless communication networks.

Administering Data Centers -
Kailash Jayaswal 2005-10-28

"This book covers a wide spectrum of topics relevant to implementing and managing a modern data center. The chapters are comprehensive and the flow of concepts is easy to understand." -Cisco reviewer
Gain a practical knowledge of data center concepts To create a well-designed data center (including storage and network architecture, VoIP implementation, and server consolidation) you must understand a variety of key concepts and technologies. This book explains those factors in a way that smoothes the path to implementation and management. Whether you need an introduction to the technologies, a refresher course for IT managers and data center personnel, or an additional resource for advanced study, you'll find these guidelines and solutions provide a solid foundation for building reliable designs and secure data center policies. *

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Understand the common causes and high costs of service outages * Learn how to measure high availability and achieve maximum levels * Design a data center using optimum physical, environmental, and technological elements * Explore a modular design for cabling, Points of Distribution, and WAN connections from ISPs * See what must be considered when consolidating data center resources * Expand your knowledge of best practices and security * Create a data center environment that is user- and manager-friendly * Learn how high availability, clustering, and disaster recovery solutions can be deployed to protect critical information * Find out how to use a single network infrastructure for IP data, voice, and storage

Information Science and Applications - Kuinam J. Kim
2019-12-18

This book presents selected papers from the 10th International Conference on Information Science and

Applications (ICISA 2019), held on December 16–18, 2019, in Seoul, Korea, and provides a snapshot of the latest issues regarding technical convergence and convergences of security technologies. It explores how information science is at the core of most current research as well as industrial and commercial activities. The respective chapters cover a broad range of topics, including ubiquitous computing, networks and information systems, multimedia and visualization, middleware and operating systems, security and privacy, data mining and artificial intelligence, software engineering and web technology, as well as applications and problems related to technology convergence, which are reviewed and illustrated with the aid of case studies. Researchers in academia, industry, and at institutes focusing on information science and technology will gain a deeper understanding of the current state of the art in

information strategies and technologies for convergence security.

Energy-Efficient Wireless Sensor Networks - Vidushi Sharma 2017-07-28

The advances in low-power electronic devices integrated with wireless communication capabilities are one of recent areas of research in the field of Wireless Sensor Networks (WSNs). One of the major challenges in WSNs is uniform and least energy dissipation while increasing the lifetime of the network. This is the first book that introduces the energy efficient wireless sensor network techniques and protocols. The text covers the theoretical as well as the practical requirements to conduct and trigger new experiments and project ideas. The advanced techniques will help in industrial problem solving for energy-hungry wireless sensor network applications.

Developing Multi-Agent Systems with JADE - Fabio Luigi Bellifemine 2007-03-13

Learn how to employ JADE to

build multi-agent systems! JADE (Java Agent DEvelopment framework) is a middleware for the development of applications, both in the mobile and fixed environment, based on the Peer-to-Peer intelligent autonomous agent approach. JADE enables developers to implement and deploy multi-agent systems, including agents running on wireless networks and limited-resource devices. Developing Multi-Agent Systems with JADE is a practical guide to using JADE. The text will give an introduction to agent technologies and the JADE Platform, before proceeding to give a comprehensive guide to programming with JADE. Basic features such as creating agents, agent tasks, agent communication, agent discovery and GUIs are covered, as well as more advanced features including ontologies and content languages, complex behaviours, interaction protocols, agent mobility, and the in-process interface. Issues such as JADE internals, running

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JADE agents on mobile devices, deploying a fault tolerant JADE platform, and main add-ons are also covered in depth.

Developing Multi-Agent Systems with JADE:

Comprehensive guide to using JADE to build multi-agent systems and agent orientated programming. Describes and explains ontologies and content language, interaction protocols and complex behaviour.

Includes material on persistence, security and a semantics framework. Contains numerous examples, problems, and illustrations to enhance learning. Presents a case study demonstrating the use of JADE in practice. Offers an accompanying website with additional learning resources such as sample code, exercises and PPT-slides. This invaluable resource will provide multi-agent systems practitioners, programmers working in the software industry with an interest on multi-agent systems as well as final year undergraduate and postgraduate students in CS and advanced networking and

telecoms courses with a comprehensive guide to using JADE to employ multi agent systems. With contributions from experts in JADE and multi agent technology.

Wireless Sensor Network Designs - Anna Hac

2003-12-17

Tremendous technological advances have been made in the development of low-cost sensor devices equipped with wireless network interfaces. The area of wireless sensor networks is rapidly growing as new technologies emerge and new applications are developed. This book introduces networked embedded systems, smart sensors, and wireless sensor networks, with a strong focus on architecture, applications, networks and distributed systems support for wireless sensor networks. The issues and challenges for the development of wireless sensor networks not only encompass a broad spectrum of research topics but also give rise to the evolution of a new breed of multi-disciplinary wireless

network applications. Such sensor networks may be used for applications spanning several domains including military, medical, industrial, and home networks. Wireless Sensor Network Designs: Covers the newest sensor technology, design issues, problems and solutions Explains a broad range of topics such as networked embedded systems, smart sensor networks, power-aware sensor networks, routing, clustering, security, operating systems, and networks support Includes a comprehensive bibliography Provides a descriptive tutorial suitable for graduate students and newcomers to this exciting field of telecoms

Introduction to Network Simulator NS2 - Teerawat Issariyakul 2011-12-02
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.

Principles of Network and System Administration -

Mark Burgess 2000-07-31
A practical guide for meeting the challenges of planning and designing a network Network design has to be logical and efficient, decisions have to be made about what services are needed, and security concerns must be addressed. Focusing

on general principles, this book will help make the process of setting up, configuring, and maintaining a network much easier. It outlines proven procedures for working in a global community of networked machines, and provides practical illustrations of technical specifics. Readers will also find broad coverage of Linux and other Unix versions, Windows(r), Macs, and mainframes. The author includes discussions on the social and ethical aspects of system administration.

Web, Artificial Intelligence and Network Applications -

Leonard Barolli 2020-03-30

This proceedings book presents the latest research findings, and theoretical and practical perspectives on innovative methods and development techniques related to the emerging areas of Web computing, intelligent systems and Internet computing. The Web has become an important source of information, and techniques and methodologies that extract quality information are of paramount importance

for many Web and Internet applications. Data mining and knowledge discovery play a key role in many of today's major Web applications, such as e-commerce and computer security. Moreover, Web services provide a new platform for enabling service-oriented systems. The emergence of large-scale distributed computing paradigms, such as cloud computing and mobile computing systems, has opened many opportunities for collaboration services, which are at the core of any information system. Artificial intelligence (AI) is an area of computer science that builds intelligent systems and algorithms that work and react like humans. AI techniques and computational intelligence are powerful tools for learning, adaptation, reasoning and planning, and they have the potential to become enabling technologies for future intelligent networks. Research in the field of intelligent systems, robotics, neuroscience, artificial intelligence and cognitive

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sciences is vital for the future development and innovation of Web and Internet applications. Chapter "An Event-Driven Multi Agent System for Scalable Traffic Optimization" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Underwater Acoustic Sensor Networks - Yang Xiao
2010-05-19

A detailed review of underwater channel characteristics, Underwater Acoustic Sensor Networks investigates the fundamental aspects of underwater communication. Prominent researchers from around the world consider contemporary challenges in the development of underwater acoustic sensor networks (UW-ASNs) and introduce a cross-layer approach for effective integration of all communication functionalities. Discussing architectures for two- and three-dimensional sensor networks, this authoritative resource clearly delineates the main differences between terrestrial and

underwater sensor networks—covering the wide range of topics related to UW-ASNs. It examines efficient distributed routing algorithms for delay-insensitive and delay-sensitive applications and introduces a realistic acoustic model characterized by channel utilization efficiency that enables proper setting of the optimal packet size for underwater communication. It also: Provides efficient sensor communication protocols for the underwater environment Addresses the topology control problem for sparse and dense 3D networks Presents a novel distributed MAC protocol that incorporates a unique closed-loop distributed algorithm for setting the optimal transmit power and code length The book includes coverage of routing, fault tolerance, time synchronization, optimal clustering, medium access control, software, hardware, and channel modeling. Exploring the need to design an energy-efficient cross-layer protocol suite, this resource provides the understanding

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required to achieve high-performance channel access, routing, event transport reliability, and data flow control with underwater acoustic sensors.

Building Wireless Sensor Networks - Robert Faludi
2010-12-14

Get ready to create distributed sensor systems and intelligent interactive devices using the ZigBee wireless networking protocol and Series 2 XBee radios. By the time you're halfway through this fast-paced, hands-on guide, you'll have built a series of useful projects, including a complete ZigBee wireless network that delivers remotely sensed data. Radio networking is creating revolutions in volcano monitoring, performance art, clean energy, and consumer electronics. As you follow the examples in each chapter, you'll learn how to tackle inspiring projects of your own. This practical guide is ideal for inventors, hackers, crafters, students, hobbyists, and scientists. Investigate an assortment of practical and

intriguing project ideas Prep your ZigBee toolbox with an extensive shopping list of parts and programs Create a simple, working ZigBee network with XBee radios in less than two hours -- for under \$100 Use the Arduino open source electronics prototyping platform to build a series of increasingly complex projects Get familiar with XBee's API mode for creating sensor networks Build fully scalable sensing and actuation systems with inexpensive components Learn about power management, source routing, and other XBee technical nuances Make gateways that connect with neighboring networks, including the Internet

Hierarchical Topology Control for Wireless Networks - Jiguo Yu
2018-02-05

First Published in 2018. Routledge is an imprint of Taylor & Francis, an Informa company.

Fundamentals of Wireless Sensor Networks -

Waltenegus Dargie 2010-11-05
In this book, the authors describe the fundamental

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concepts and practical aspects of wireless sensor networks. The book provides a comprehensive view to this rapidly evolving field, including its many novel applications, ranging from protecting civil infrastructure to pervasive health monitoring. Using detailed examples and illustrations, this book provides an inside track on the current state of the technology. The book is divided into three parts. In Part I, several node architectures, applications and operating systems are discussed. In Part II, the basic architectural frameworks, including the key building blocks required for constructing large-scale, energy-efficient sensor networks are presented. In Part III, the challenges and approaches pertaining to local and global management strategies are presented – this includes topics on power management, sensor node localization, time synchronization, and security. At the end of each chapter, the authors provide practical exercises to help students

strengthen their grip on the subject. There are more than 200 exercises altogether. Key Features: Offers a comprehensive introduction to the theoretical and practical concepts pertaining to wireless sensor networks Explains the constraints and challenges of wireless sensor network design; and discusses the most promising solutions Provides an in-depth treatment of the most critical technologies for sensor network communications, power management, security, and programming Reviews the latest research results in sensor network design, and demonstrates how the individual components fit together to build complex sensing systems for a variety of application scenarios Includes an accompanying website containing solutions to exercises (http://www.wiley.com/go/dargie_fundamentals) This book serves as an introductory text to the field of wireless sensor networks at both graduate and advanced undergraduate level, but it will also appeal to

researchers and practitioners wishing to learn about sensor network technologies and their application areas, including environmental monitoring, protection of civil infrastructure, health care, precision agriculture, traffic control, and homeland security.

Fundamentals of Ocean Acoustics - L. Brekhovskikh
2013-03-14

The continents of our planet have already been exploited to a great extent. Therefore man is turning his sight to the vast spaciousness of the ocean whose resources - mineral, biological, energetic, and others - are just beginning to be used. The ocean is being intensively studied. Our notions about the dynamics of ocean waters and their role in forming the Earth's climate as well as about the structure of the ocean bottom have substantially changed during the last two decades. An outstanding part in this accelerated exploration of the ocean is played by ocean acoustics. Only sound waves can propagate in water over large distances. Practically all

kinds of telemetry, communication, location, and remote sensing of water masses and the ocean bottom use sound waves. Propagating over thousands of kilometers in the ocean, they bring information on earthquakes, eruptions of volcanoes, and distant storms. Projects using acoustical tomography systems for exploration of the ocean are presently being developed. Each of these systems will allow us to determine the three-dimensional structure of water masses in regions as large as millions of square kilometers. *Ambient Communications and Computer Systems* - Gregorio Martinez Perez 2018-03-20
This book includes high-quality, peer-reviewed papers from the International Conference on Recent Advancement in Computer, Communication and Computational Sciences (RACCCS-2017), held at Aryabhata College of Engineering & Research Center, Ajmer, India on September 2-3, 2017, presenting the latest developments and technical solutions in computational

sciences. Data science, data- and knowledge engineering require networking and communication as a backbone and have a wide scope of implementation in engineering sciences. Keeping this ideology in mind, the book offers insights that reflect the advances in these fields from upcoming researchers and leading academicians across the globe. Covering a variety of topics, such as intelligent hardware and software design, advanced communications, intelligent computing technologies, advanced software engineering, the web and informatics, and intelligent image processing, it helps those in the computer industry and academia use the advances of next-generation communication and computational technology to shape real-world applications. Proceedings of International Conference on Smart Computing and Cyber Security - Prasant Kumar Pattnaik 2021-11-29

This book presents high-quality research papers presented at the International Conference on

Smart Computing and Cyber Security: Strategic Foresight, Security Challenges and Innovation (SMARTCYBER 2020) held during July 7–8, 2020, in the Department of Smart Computing, Kyungdong University, Global Campus, South Korea. The book includes selected works from academics and industrial experts in the field of computer science, information technology, and electronics and telecommunication. The content addresses challenges of cyber security.

Advances in Intelligent Computing and Communication - Mihir Narayan Mohanty 2020-01-13

This book features high-quality research papers presented at the 2nd International Conference on Intelligent Computing and Advances in Communication (ICAC 2019), held at Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, Odisha, India, in November 2019. Covering a wide variety of topics, including management of clean and smart energy systems and

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environmental challenges, it is a valuable resource for researchers and practicing engineers working in various fields of renewable energy generation, and clean and smart energy management.

Penetration Testing and Network Defense - Andrew Whitaker 2005-10-31

The practical guide to simulating, detecting, and responding to network attacks
Create step-by-step testing plans
Learn to perform social engineering and host reconnaissance
Evaluate session hijacking methods
Exploit web server vulnerabilities
Detect attempts to breach database security
Use password crackers to obtain access information
Circumvent Intrusion Prevention Systems (IPS) and firewall protections and disrupt the service of routers and switches
Scan and penetrate wireless networks
Understand the inner workings of Trojan Horses, viruses, and other backdoor applications
Test UNIX, Microsoft, and Novell servers for vulnerabilities
Learn

the root cause of buffer overflows and how to prevent them
Perform and prevent Denial of Service attacks
Penetration testing is a growing field but there has yet to be a definitive resource that instructs ethical hackers on how to perform a penetration test with the ethics and responsibilities of testing in mind.
Penetration Testing and Network Defense offers detailed steps on how to emulate an outside attacker in order to assess the security of a network. Unlike other books on hacking, this book is specifically geared towards penetration testing. It includes important information about liability issues and ethics as well as procedures and documentation. Using popular open-source and commercial applications, the book shows you how to perform a penetration test on an organization's network, from creating a test plan to performing social engineering and host reconnaissance to performing simulated attacks on both wired and wireless networks. Penetration Testing

and Network Defense also goes a step further than other books on hacking, as it demonstrates how to detect an attack on a live network. By detailing the method of an attack and how to spot an attack on your network, this book better prepares you to guard against hackers. You will learn how to configure, record, and thwart these attacks and how to harden a system to protect it against future internal and external attacks. Full of real-world examples and step-by-step procedures, this book is both an enjoyable read and full of practical advice that will help you assess network security and develop a plan for locking down sensitive data and company resources. "This book goes to great lengths to explain the various testing approaches that are used today and gives excellent insight into how a responsible penetration testing specialist executes his trade."

–Bruce Murphy, Vice President,
World Wide Security Services,
Cisco Systems®

TCP/IP Sockets in Java -

Kenneth L. Calvert 2011-08-29

The networking capabilities of the Java platform have been extended considerably since the first edition of the book. This new edition covers version 1.5-1.7, the most current iterations, as well as making the following improvements: The API (application programming interface) reference sections in each chapter, which describe the relevant parts of each class, have been replaced with (i) a summary section that lists the classes and methods used in the code, and (ii) a "gotchas" section that mentions nonobvious or poorly-documented aspects of the objects. In addition, the book covers several new classes and capabilities introduced in the last few revisions of the Java platform. New abstractions to be covered include NetworkInterface, InetAddress, Inet4/6Address, SocketAddress/InetSocketAddress, Executor, and others; extended access to low-level network information; support for IPv6; more complete access

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to socket options; and scalable I/O. The example code is also modified to take advantage of new language features such as annotations, enumerations, as well as generics and implicit iterators where appropriate. Most Internet applications use sockets to implement network communication protocols. This book's focused, tutorial-based approach helps the reader master the tasks and techniques essential to virtually all client-server projects using sockets in Java. Chapter 1 provides a general overview of networking concepts to allow readers to synchronize the concepts with terminology. Chapter 2 introduces the mechanics of simple clients and servers. Chapter 3 covers basic message construction and parsing. Chapter 4 then deals with techniques used to build more robust clients and servers. Chapter 5 (NEW) introduces the scalable interface facilities which were introduced in Java 1.5, including the buffer and channel abstractions. Chapter 6 discusses the relationship

between the programming constructs and the underlying protocol implementations in more detail. Programming concepts are introduced through simple program examples accompanied by line-by-line code commentary that describes the purpose of every part of the program. No other resource presents so concisely or so effectively the material necessary to get up and running with Java sockets programming. Focused, tutorial-based instruction in key sockets programming techniques allows reader to quickly come up to speed on Java applications. Concise and up-to-date coverage of the most recent platform (1.7) for Java applications in networking technology.

Computer Networks and Inventive Communication Technologies - S. Smys
2021-09-13

This book is a collection of peer-reviewed best-selected research papers presented at 4th International Conference on Computer Networks and Inventive Communication

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Technologies (ICCNCT 2021). The book covers new results in theory, methodology, and applications of computer networks and data communications. It includes original papers on computer networks, network protocols and wireless networks, data communication technologies, and network security. The proceedings of this conference are a valuable resource, dealing with both the important core and the specialized issues in the areas of next-generation wireless network design, control, and management, as well as in the areas of protection, assurance, and trust in information security practice. It is a reference for researchers, instructors, students, scientists, engineers, managers, and industry practitioners for advanced work in the area.

Inter-vehicle Communications - Marc Torrent-Moreno 2007

TCP/IP Sockets in C - Michael J. Donahoo 2009-03-02
TCP/IP Sockets in C: Practical Guide for Programmers, Second

Edition is a quick and affordable way to gain the knowledge and skills needed to develop sophisticated and powerful web-based applications. The book's focused, tutorial-based approach enables the reader to master the tasks and techniques essential to virtually all client-server projects using sockets in C. This edition has been expanded to include new advancements such as support for IPv6 as well as detailed defensive programming strategies. If you program using Java, be sure to check out this book's companion, TCP/IP Sockets in Java: Practical Guide for Programmers, 2nd Edition. Includes completely new and expanded sections that address the IPv6 network environment, defensive programming, and the select() system call, thereby allowing the reader to program in accordance with the most current standards for internetworking. Streamlined and concise tutelage in conjunction with line-by-line code commentary allows readers to quickly program web-based applications without

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having to wade through unrelated and discursive networking tenets.

Personal Wireless

Communications - Robert Bestak 2007-11-14

The International conference on Personal Wireless

Communications (PWC 2007) was the twelfth conference of its series aimed at stimulating technical exchange between researchers, practitioners and students interested in mobile computing and wireless networks. The program covered a variety of research topics that are of current interest, including Ad-Hoc Networks, WiMAX, Heterogeneous Networks, Wireless Networking, QoS and Security, Sensor Networks, Multicast and Signal processing.

Recent Advances in Cryptography and Network Security

- Pinaki Mitra

2018-10-31
In the field of computers and with the advent of the internet, the topic of secure communication has gained significant importance. The theory of cryptography and

coding theory has evolved to handle many such problems. The emphases of these topics are both on secure communication that uses encryption and decryption schemes as well as on user authentication for the purpose of non-repudiation.

Subsequently, the topics of distributed and cloud computing have emerged. Existing results related to cryptography and network security had to be tuned to adapt to these new technologies. With the more recent advancement of mobile technologies and IOT (internet of things), these algorithms had to take into consideration the limited resources such as battery power, storage and processor capabilities. This has led to the development of lightweight cryptography for resource constrained devices. The topic of network security also had to face many challenges owing to variable interconnection topology instead of a fixed interconnection topology. For this reason, the system is

susceptible to various attacks from eavesdroppers. This book addresses these issues that arise in present day computing environments and helps the reader to overcome these security threats.

NS Simulator for Beginners - Eitan Altman 2022-06-01

NS-2 is an open-source discrete event network simulator which is widely used by both the research community as well as by the people involved in the standardization protocols of IETF. The goal of this book is twofold: on one hand to learn how to use the NS-2 simulator, and on the other hand, to become acquainted with and to understand the operation of some of the simulated objects using NS-2 simulations. The book is intended to help students, engineers or researchers who need not have much background in programming or who want to learn through simple examples how to analyse some simulated objects using NS-2. Simulations may differ from each other in many aspects: the applications, topologies, parameters of

network objects (links, nodes) and protocols used, etc. The first chapter is a general introduction to the book, where the importance of NS-2 as a tool for a good comprehension of networks and protocols is stated. In the next chapters we present special topics as TCP, RED, etc., using NS-2 as a tool for better understanding the protocols. We provide in the appendices a review of Random Variables and Confidence Intervals, as well as a first sketch for using the new NS-3 simulator. Table of Contents: Introduction / NS-2 Simulator Preliminaries / How to work with trace files / Description and simulation of TCP/IP / Routing and network dynamics / RED: Random Early Discard / Differentiated Services / Mobile Networks and Wireless Local Area Networks / Classical queueing models / Tcl and C++ linkage

Wireless Communications, Networking and Applications - Qing-An Zeng 2015-10-28

This book is based on a series of conferences on Wireless Communications, Networking

and Applications that have been held on December 27-28, 2014 in Shenzhen, China. The meetings themselves were a response to technological developments in the areas of wireless communications, networking and applications and facilitate researchers, engineers and students to share the latest research results and the advanced research methods of the field. The broad variety of disciplines involved in this research and the differences in approaching the basic problems are probably typical of a developing field of interdisciplinary research. However, some main areas of research and development in the emerging areas of wireless communication technology can now be identified. The contributions to this book are mainly selected from the papers of the conference on wireless communications, networking and applications and reflect the main areas of interest: Section 1 - Emerging Topics in Wireless and Mobile Computing and

Communications; Section 2 - Internet of Things and Long Term Evolution Engineering; Section 3 - Resource Allocation and Interference Management; Section 4 - Communication Architecture, Algorithms, Modeling and Evaluation; Section 5 - Security, Privacy, and Trust; and Section 6 - Routing, Position Management and Network Topologies.

Sustainable Communication Networks and Application -

P. Karrupusamy 2019-11-07
This book presents state-of-the-art theories and technologies and discusses developments in the two major fields: engineering and sustainable computing. In this modern era of information and communication technologies [ICT], there is a growing need for new sustainable and energy-efficient communication and networking technologies. The book highlights significant current and potential international research relating to theoretical and practical methods toward developing sustainable communication and networking technologies. In

particular, it focuses on emerging technologies such as wireless communications, mobile networks, Internet of things [IoT], sustainability, and edge network models. The contributions cover a number of key research issues in software-defined networks, blockchain technologies, big data, edge/fog computing, computer vision, sentiment analysis, cryptography, energy-efficient systems, and cognitive platforms.

Wireless Sensor Networks - Kazem Sohraby 2007-04-06
Infrastructure for Homeland Security Environments
Wireless Sensor Networks helps readers discover the emerging field of low-cost standards-based sensors that promise a high order of spatial and temporal resolution and accuracy in an ever-increasing universe of applications. It shares the latest advances in science and engineering paving the way towards a large plethora of new applications in such areas as infrastructure protection and security, healthcare, energy, food safety, RFID, ZigBee, and

processing. Unlike other books on wireless sensor networks that focus on limited topics in the field, this book is a broad introduction that covers all the major technology, standards, and application topics. It contains everything readers need to know to enter this burgeoning field, including current applications and promising research and development; communication and networking protocols; middleware architecture for wireless sensor networks; and security and management. The straightforward and engaging writing style of this book makes even complex concepts and processes easy to follow and understand. In addition, it offers several features that help readers grasp the material and then apply their knowledge in designing their own wireless sensor network systems: * Examples illustrate how concepts are applied to the development and application of * wireless sensor networks * Detailed case studies set forth all the steps of design and implementation needed to

solve real-world problems *
Chapter conclusions that serve
as an excellent review by
stressing the chapter's key
concepts * References in each
chapter guide readers to in-
depth discussions of individual
topics This book is ideal for
networking designers and

engineers who want to fully
exploit this new technology and
for government employees who
are concerned about homeland
security. With its examples, it is
appropriate for use as a
coursebook for upper-level
undergraduates and graduate
students.