

Distributed And Cloud Computing 1st Edition Elsevier

Recognizing the way ways to acquire this books **distributed and cloud computing 1st edition elsevier** is additionally useful. You have remained in right site to start getting this info. acquire the distributed and cloud computing 1st edition elsevier belong to that we have the funds for here and check out the link.

You could purchase lead distributed and cloud computing 1st edition elsevier or acquire it as soon as feasible. You could quickly download this distributed and cloud computing 1st edition elsevier after getting deal. So, bearing in mind you require the ebook swiftly, you can straight acquire it. Its therefore totally easy and fittingly fats, isnt it? You have to favor to in this look

Handbook on Securing Cyber-Physical Critical Infrastructure - Sajal K Das
2012-01-25

The worldwide reach of the Internet allows malicious cyber criminals to coordinate and launch attacks on both cyber and cyber-physical infrastructure from anywhere in the world. This purpose of this handbook is to introduce

the theoretical foundations and practical solution techniques for securing critical cyber and physical infrastructures as well as their underlying computing and communication architectures and systems. Examples of such infrastructures include utility networks (e.g., electrical power grids), ground transportation systems (automotives, roads,

bridges and tunnels), airports and air traffic control systems, wired and wireless communication and sensor networks, systems for storing and distributing water and food supplies, medical and healthcare delivery systems, as well as financial, banking and commercial transaction assets. The handbook focus mostly on the scientific foundations and engineering techniques - while also addressing the proper integration of policies and access control mechanisms, for example, how human-developed policies can be properly enforced by an automated system. Addresses the technical challenges facing design of secure infrastructures by providing examples of problems and solutions from a wide variety of internal and external attack scenarios Includes contributions from leading researchers and practitioners in relevant application areas such as smart power grid, intelligent transportation systems, healthcare industry and so on Loaded with

examples of real world problems and pathways to solutions utilizing specific tools and techniques described in detail throughout
Handbook of Cloud Computing
- Borko Furht 2010-09-11
Cloud computing has become a significant technology trend. Experts believe cloud computing is currently reshaping information technology and the IT marketplace. The advantages of using cloud computing include cost savings, speed to market, access to greater computing resources, high availability, and scalability. Handbook of Cloud Computing includes contributions from world experts in the field of cloud computing from academia, research laboratories and private industry. This book presents the systems, tools, and services of the leading providers of cloud computing; including Google, Yahoo, Amazon, IBM, and Microsoft. The basic concepts of cloud computing and cloud computing applications are also

introduced. Current and future technologies applied in cloud computing are also discussed. Case studies, examples, and exercises are provided throughout. Handbook of Cloud Computing is intended for advanced-level students and researchers in computer science and electrical engineering as a reference book. This handbook is also beneficial to computer and system infrastructure designers, developers, business managers, entrepreneurs and investors within the cloud computing related industry.

Cloud Network Management - Sanjay Kumar Biswash
2020-10-26

Data storage, processing, and management at remote location over dynamic networks is the most challenging task in cloud networks. Users' expectations are very high for data accuracy, reliability, accessibility, and availability in pervasive cloud environment. It was the core motivation for the Cloud Networks Internet of Things (CNIoT). The

exponential growth of the networks and data management in CNIoT must be implemented in fast growing service sectors such as logistic and enterprise management. The network based IoT works as a bridge to fill the gap between IT and cloud networks, where data is easily accessible and available. This book provides a framework for the next generation of cloud networks, which is the emerging part of 5G partnership projects. This contributed book has following salient features, A cloud-based next generation networking technologies. Cloud-based IoT and mobility management technology. The proposed book is a reference for research scholars and course supplement for cloud-IoT related subjects such as distributed networks in computer/ electrical engineering. Sanjay Kumar Biswash is working as an Assistant professor in NIIT University, India. He held Research Scientist position, Institute of Cybernetics,

National Research Tomsk Polytechnic University, Russia. He was PDF at LNCC, Brazil and SDSU, USA. He was a visiting researcher to the UC, Portugal. Sourav Kanti Addya is working as an Assistant professor in NITK, Surathkal, India. He was a PDF at IIT Kharagpur, India. He was a visiting scholar at SDSU, USA. He obtained national level GATE scholarship. He is a member of IEEE, ACM.

Cloud Networking - Gary Lee
2014-06-09

Cloud Networking: Understanding Cloud-Based Data Center Networks explains the evolution of established networking technologies into distributed, cloud-based networks. Starting with an overview of cloud technologies, the book explains how cloud data center networks leverage distributed systems for network virtualization, storage networking, and software-defined networking. The author offers insider perspective to key components that make a cloud network possible such as switch fabric technology and

data center networking standards. The final chapters look ahead to developments in architectures, fabric technology, interconnections, and more. By the end of the book, readers will understand core networking technologies and how they're used in a cloud data center. Understand existing and emerging networking technologies that combine to form cloud data center networks Explains the evolution of data centers from enterprise to private and public cloud networks Reviews network virtualization standards for multi-tenant data center environments Includes cutting-edge detail on the latest switch fabric technologies from the networking team in Intel

An Introduction to Parallel Programming - Peter Pacheco
2021-08-27

An Introduction to Parallel Programming, Second Edition presents a tried-and-true tutorial approach that shows students how to develop effective parallel programs with MPI, Pthreads and

OpenMP. As the first undergraduate text to directly address compiling and running parallel programs on multi-core and cluster architecture, this second edition carries forward its clear explanations for designing, debugging and evaluating the performance of distributed and shared-memory programs while adding coverage of accelerators via new content on GPU programming and heterogeneous programming. New and improved user-friendly exercises teach students how to compile, run and modify example programs. Takes a tutorial approach, starting with small programming examples and building progressively to more challenging examples Explains how to develop parallel programs using MPI, Pthreads and OpenMP programming models A robust package of online ancillaries for instructors and students includes lecture slides, solutions manual, downloadable source code, and an image bank New to this

edition: New chapters on GPU programming and heterogeneous programming New examples and exercises related to parallel algorithms **Cloud Computing in Ocean and Atmospheric Sciences** - Tiffany C Vance 2016-07-16 Cloud Computing in Ocean and Atmospheric Sciences provides the latest information on this relatively new platform for scientific computing, which has great possibilities and challenges, including pricing and deployments costs and applications that are often presented as primarily business oriented. In addition, scientific users may be very familiar with these types of models and applications, but relatively unfamiliar with the intricacies of the hardware platforms they use. The book provides a range of practical examples of cloud applications that are written to be accessible to practitioners, researchers, and students in affiliated fields. By providing general information on the use of the cloud for oceanographic and atmospheric computing, as

well as examples of specific applications, this book encourages and educates potential users of the cloud. The chapters provide an introduction to the practical aspects of deploying in the cloud, also providing examples of workflows and techniques that can be reused in new projects. Provides real examples that help new users quickly understand the cloud and provide guidance for new projects Presents proof of the usability of the techniques and a clear path to adoption of the techniques by other researchers Includes real research and development examples that are ideal for cloud computing adopters in ocean and atmospheric domains

Edge Computing - K. Anitha Kumari 2021-11-22

This reference text presents the state-of-the-art in edge computing, its primitives, devices and simulators, applications, and healthcare-based case studies. The text provides integration of blockchain with edge

computing systems and integration of edge with Internet of Things (IoT) and cloud computing. It will facilitate readers to setup edge-based environment and work with edge analytics. It covers important topics, including cluster computing, fog computing, networking architecture, edge computing simulators, edge analytics, privacy-preserving schemes, edge computing with blockchain, autonomous vehicles, and cross-domain authentication. Aimed at senior undergraduate, graduate students and professionals in the fields of electrical engineering, electronics engineering, computer science, and information technology, this text: Discusses edge data storage security with case studies and blockchain integration with the edge computing system Covers theoretical methods with the help of applications, use cases, case studies, and examples Provides healthcare real-time case studies elaborated by utilizing the virtues of

homomorphic encryption

Discusses real-time interfaces, devices, and simulators in detail

Cloud Computing - Rajkumar Buyya 2010-12-17

The primary purpose of this book is to capture the state-of-the-art in Cloud Computing technologies and applications. The book will also aim to identify potential research directions and technologies that will facilitate creation a global market-place of cloud computing services supporting scientific, industrial, business, and consumer applications. We expect the book to serve as a reference for larger audience such as systems architects, practitioners, developers, new researchers and graduate level students. This area of research is relatively recent, and as such has no existing reference book that addresses it. This book will be a timely contribution to a field that is gaining considerable research interest, momentum, and is expected to be of increasing interest to commercial developers. The book is targeted for

professional computer science developers and graduate students especially at Masters level. As Cloud Computing is recognized as one of the top five emerging technologies that will have a major impact on the quality of science and society over the next 20 years, its knowledge will help position our readers at the forefront of the field.

Handbook of Mobile Systems Applications and Services
Anup Kumar 2016-04-19

From fundamental concepts and theories to implementation protocols and cutting-edge applications, the Handbook of Mobile Systems Applications and Services supplies a complete examination of the evolution of mobile services technologies. It examines service-oriented architecture (SOA) and explains why SOA and service oriented computing (SOC) will pl

Pervasive Computing -

Ciprian Dobre 2016-05-06

Pervasive Computing: Next Generation Platforms for Intelligent Data Collection presents current advances and

state-of-the-art work on methods, techniques, and algorithms designed to support pervasive collection of data under ubiquitous networks of devices able to intelligently collaborate towards common goals. Using numerous illustrative examples and following both theoretical and practical results the authors discuss: a coherent and realistic image of today's architectures, techniques, protocols, components, orchestration, choreography, and developments related to pervasive computing components for intelligently collecting data, resource, and data management issues; the importance of data security and privacy in the era of big data; the benefits of pervasive computing and the development process for scientific and commercial applications and platforms to support them in this field. Pervasive computing has developed technology that allows sensing, computing, and wireless communication to be embedded in everyday objects,

from cell phones to running shoes, enabling a range of context-aware applications. Pervasive computing is supported by technology able to acquire and make use of the ubiquitous data sensed or produced by many sensors blended into our environment, designed to make available a wide range of new context-aware applications and systems. While such applications and systems are useful, the time has come to develop the next generation of pervasive computing systems. Future systems will be data oriented and need to support quality data, in terms of accuracy, latency and availability. Pervasive Computing is intended as a platform for the dissemination of research efforts and presentation of advances in the pervasive computing area, and constitutes a flagship driver towards presenting and supporting advanced research in this area. Indexing: The books of this series are submitted to EI-Compendex and SCOPUS Offers a coherent

and realistic image of today's architectures, techniques, protocols, components, orchestration, choreography, and development related to pervasive computing Explains the state-of-the-art technological solutions necessary for the development of next-generation pervasive data systems, including: components for intelligently collecting data, resource and data management issues, fault tolerance, data security, monitoring and controlling big data, and applications for pervasive context-aware processing Presents the benefits of pervasive computing, and the development process of scientific and commercial applications and platforms to support them in this field Provides numerous illustrative examples and follows both theoretical and practical results to serve as a platform for the dissemination of research advances in the pervasive computing area

Applications of Cloud Computing - Prerna Sharma

2020-11-13

In the era of the Internet of Things and with the explosive worldwide growth of electronic data volume, and associated need of processing, analysis, and storage of such a humongous amount of data, it has now become mandatory to exploit the power of massively parallel architecture for fast computation. Cloud computing provides a cheap source of such a computing framework for a large volume of data for real-time applications. It is, therefore, not surprising to see that cloud computing has become a buzzword in the computing fraternity over the last decade. Applications of Cloud Computing: Approaches and Practices lays a good foundation for the core concepts and principles of cloud computing applications, walking the reader through the fundamental ideas with expert ease. The book progresses on the topics in a step-by-step manner. It reinforces theory with a full-fledged pedagogy designed to enhance students' understanding and offer them a

practical insight into the applications of it. It is a valuable source of knowledge for researchers, engineers, practitioners, and graduate and doctoral students working in the field of cloud computing. It will also be useful for faculty members of graduate schools and universities.

Energy Efficiency in Data

Centers and Clouds -

2016-01-28

Advances in Computers carries on a tradition of excellence, presenting detailed coverage of innovations in computer hardware, software, theory, design, and applications. The book provides contributors with a medium in which they can explore their subjects in greater depth and breadth than journal articles typically allow. The articles included in this book will become standard references, with lasting value in this rapidly expanding field. Presents detailed coverage of recent innovations in computer hardware, software, theory, design, and applications Includes in-depth surveys and tutorials on new computer

technology pertaining to computing: combinatorial testing, constraint-based testing, and black-box testing Written by well-known authors and researchers in the field Includes extensive bibliographies with most chapters Presents volumes devoted to single themes or subfields of computer science **Computer Organization and Design** - John L. Hennessy 1998

The performance of software systems is dramatically affected by how well software designers understand the basic hardware technologies at work in a system. Similarly, hardware designers must understand the far-reaching effects their design decisions have on software applications. For readers in either category, this classic introduction to the field provides a look deep into the computer. It demonstrates the relationships between the software and hardware and focuses on the foundational concepts that are the basis for current computer design.

Handbook of Green

Information and Communication Systems -

Mohammad S. Obaidat
2012-11-20

This book gives a comprehensive guide on the fundamental concepts, applications, algorithms, protocols, new trends and challenges, and research results in the area of Green Information and Communications Systems. It is an invaluable resource giving knowledge on the core and specialized issues in the field, making it highly suitable for both the new and experienced researcher in this area. Key Features: Core research topics of green information and communication systems are covered from a network design perspective, giving both theoretical and practical perspectives Provides a unified covering of otherwise dispersed selected topics on green computing, information, communication and networking Includes a set of downloadable PowerPoint slides and glossary of terms for each chapter A 'whose-who' of international

contributors Extensive bibliography for enhancing further knowledge Coverage includes: Smart grid technologies and communications Spectrum management Cognitive and autonomous radio systems Computing and communication architectures Data centres Distributed networking Cloud computing Next generation wireless communication systems 4G access networking Optical core networks Cooperation transmission Security and privacy Core research topics of green information and communication systems are covered from a network design perspective, giving both a theoretical and practical perspective A 'whose-who' of international contributors Extensive bibliography for enhancing further knowledge **Network and Traffic Engineering in Emerging Distributed Computing Applications** - Abawajy, Jemal H. 2012-07-31 "This book focuses on network management and traffic

engineering for Internet and distributed computing technologies, as well as present emerging technology trends and advanced platforms"--Provided by publisher.

Internet and Distributed Computing Advancements: Theoretical Frameworks and Practical Applications -

Abawajy, Jemal H. 2012-02-29 "This book is a vital compendium of chapters on the latest research within the field of distributed computing, capturing trends in the design and development of Internet and distributed computing systems that leverage autonomic principles and techniques"--Provided by publisher.

Mastering Cloud Computing
Rajkumar Buyya 2013-04-05
Mastering Cloud Computing is designed for undergraduate students learning to develop cloud computing applications. Tomorrow's applications won't live on a single computer but will be deployed from and reside on a virtual server, accessible anywhere, any time.

Tomorrow's application developers need to understand the requirements of building apps for these virtual systems, including concurrent programming, high-performance computing, and data-intensive systems. The book introduces the principles of distributed and parallel computing underlying cloud architectures and specifically focuses on virtualization, thread programming, task programming, and map-reduce programming. There are examples demonstrating all of these and more, with exercises and labs throughout. Explains how to make design choices and tradeoffs to consider when building applications to run in a virtual cloud environment
Real-world case studies include scientific, business, and energy-efficiency considerations
[Programming Multicore and Many-core Computing Systems](#)
- Sabri Pllana 2017-02-06
Programming multi-core and many-core computing systems
Sabri Pllana, Linnaeus University, Sweden Fatos

Xhafa, Technical University of Catalonia, Spain Provides state-of-the-art methods for programming multi-core and many-core systems The book comprises a selection of twenty two chapters covering: fundamental techniques and algorithms; programming approaches; methodologies and frameworks; scheduling and management; testing and evaluation methodologies; and case studies for programming multi-core and many-core systems. Program development for multi-core processors, especially for heterogeneous multi-core processors, is significantly more complex than for single-core processors. However, programmers have been traditionally trained for the development of sequential programs, and only a small percentage of them have experience with parallel programming. In the past, only a relatively small group of programmers interested in High Performance Computing (HPC) was concerned with the parallel programming issues, but the situation has changed

dramatically with the appearance of multi-core processors on commonly used computing systems. It is expected that with the pervasiveness of multi-core processors, parallel programming will become mainstream. The pervasiveness of multi-core processors affects a large spectrum of systems, from embedded and general-purpose, to high-end computing systems. This book assists programmers in mastering the efficient programming of multi-core systems, which is of paramount importance for the software-intensive industry towards a more effective product-development cycle. Key features: Lessons, challenges, and roadmaps ahead. Contains real world examples and case studies. Helps programmers in mastering the efficient programming of multi-core and many-core systems. The book serves as a reference for a larger audience of practitioners, young researchers and graduate level students. A basic level of

programming knowledge is required to use this book.

Security and Resilience in Intelligent Data-Centric Systems and Communication Networks -

Massimo Ficco 2017-09-29
Security and Resilience in Intelligent Data-Centric Systems and Communication Networks presents current, state-of-the-art work on novel research in theoretical and practical resilience and security aspects of intelligent data-centric critical systems and networks. The book analyzes concepts and technologies that are successfully used in the implementation of intelligent data-centric critical systems and communication networks, also touching on future developments. In addition, readers will find in-demand information for domain experts and developers who want to understand and realize the aspects (opportunities and challenges) of using emerging technologies for designing and developing more secure and resilient intelligent data-centric

critical systems and communication networks. Topics covered include airports, seaports, rail transport systems, plants for the provision of water and energy, and business transactional systems. The book is well suited for researchers and PhD interested in the use of security and resilient computing technologies. Includes tools and techniques to prevent and avoid both accidental and malicious behaviors Explains the state-of-the-art technological solutions for main issues hindering the development of monitoring and reaction solutions Describes new methods and technologies, advanced prototypes, systems, tools and techniques of future direction

Distributed and Cloud Computing - Kai Hwang
2013-12-18

Distributed and Cloud Computing: From Parallel Processing to the Internet of Things offers complete coverage of modern distributed computing technology

including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing. It is the first modern, up-to-date distributed systems textbook; it explains how to create high-performance, scalable, reliable systems, exposing the design principles, architecture, and innovative applications of parallel, distributed, and cloud computing systems. Topics covered by this book include: facilitating management, debugging, migration, and disaster recovery through virtualization; clustered systems for research or ecommerce applications; designing systems as web services; and social networking systems using peer-to-peer computing. The principles of cloud computing are discussed using examples from open-source and commercial applications, along with case studies from the leading distributed computing vendors such as Amazon, Microsoft, and Google. Each chapter includes exercises and further reading,

with lecture slides and more available online. This book will be ideal for students taking a distributed systems or distributed computing class, as well as for professional system designers and engineers looking for a reference to the latest distributed technologies including cloud, P2P and grid computing. Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more Explains how to use virtualization to facilitate management, debugging, migration, and disaster recovery Designed for undergraduate or graduate students taking a distributed systems course—each chapter includes exercises and further reading, with lecture slides and more available online

Moving To The Cloud Dinkar Sitaram 2011-12

Chapter 1: Introduction --
Chapter 2: Infrastructure as a Service -- Chapter 3: Platform as a Service -- Chapter 4: Application as a Service --
Chapter 5: Paradigms for Developing Cloud Applications -- Chapter 6: Addressing the Cloud Challenges -- Chapter 7: Security -- Chapter 8: Managing the Cloud Infrastructure -- Chapter 9: Related Technologies --
Chapter 10: Future trends and Research Directions.

Topics in Parallel and Distributed Computing -

Sushil K Prasad 2015-09-16

Topics in Parallel and Distributed Computing provides resources and guidance for those learning PDC as well as those teaching students new to the discipline. The pervasiveness of computing devices containing multicore CPUs and GPUs, including home and office PCs, laptops, and mobile devices, is making even common users dependent on parallel processing. Certainly, it is no longer sufficient for even basic programmers to acquire only

the traditional sequential programming skills. The preceding trends point to the need for imparting a broad-based skill set in PDC technology. However, the rapid changes in computing hardware platforms and devices, languages, supporting programming environments, and research advances, poses a challenge both for newcomers and seasoned computer scientists. This edited collection has been developed over the past several years in conjunction with the IEEE technical committee on parallel processing (TCPP), which held several workshops and discussions on learning parallel computing and integrating parallel concepts into courses throughout computer science curricula. Contributed and developed by the leading minds in parallel computing research and instruction Provides resources and guidance for those learning PDC as well as those teaching students new to the discipline Succinctly addresses a range of parallel and distributed computing

topics Pedagogically designed to ensure understanding by experienced engineers and newcomers Developed over the past several years in conjunction with the IEEE technical committee on parallel processing (TCPP), which held several workshops and discussions on learning parallel computing and integrating parallel concepts

Handbook of Research on High Performance and Cloud

Computing in Scientific

Research and Education -

Despotovi?-Zraki?, Marijana

2014-03-31

As information systems used for research and educational purposes have become more complex, there has been an increase in the need for new computing architecture. High performance and cloud computing provide reliable and cost-effective information technology infrastructure that enhances research and educational processes.

Handbook of Research on High Performance and Cloud Computing in Scientific Research and Education

presents the applications of cloud computing in various settings, such as scientific research, education, e-learning, ubiquitous learning, and social computing. Providing various examples, practical solutions, and applications of high performance and cloud computing; this book is a useful reference for professionals and researchers discovering the applications of information and communication technologies in science and education, as well as scholars seeking insight on how modern technologies support scientific research.

Mobile Edge Computing -

Anwasha Mukherjee 2021

The book content is organized into three parts: Part A covers the architecture and working model of MEC, Part B focuses on the systems, platforms, services and issues of MEC, and Part C emphasizes on various applications of MEC. --

Software-Defined

Networking for Future

Internet Technology - Kshira

Sagar Sahoo 2021-09-30

Network infrastructures are

growing rapidly to meet the needs of business, but the required repolicing and reconfiguration provide challenges that need to be addressed. The software-defined network (SDN) is the future generation of Internet technology that can help meet these challenges of network management. This book includes quantitative research, case studies, conceptual papers, model papers, review papers, and theoretical backing on SDN. This book investigates areas where SDN can help other emerging technologies deliver more efficient services, such as IoT, industrial IoT, NFV, big data, blockchain, cloud computing, and edge computing. The book demonstrates the many benefits of SDNs, such as reduced costs, ease of deployment and management, better scalability, availability, flexibility and fine-grained control of traffic, and security. The book demonstrates the many benefits of SDN, such as reduced costs, ease of deployment and management,

better scalability, availability, flexibility and fine-grained control of traffic, and security. Chapters in the volume address: Design considerations for security issues and detection methods State-of-the-art approaches for mitigating DDoS attacks using SDN Big data using Apache Hadoop for processing and analyzing large amounts of data Different tools used for attack simulation Network policies and policy management approaches that are widely used in the context of SDN Dynamic flow tables, or static flow table management A new four-tiered architecture that includes cloud, SDN-controller, and fog computing Architecture for keeping computing resources available near the industrial IoT network through edge computing The impact of SDN as an innovative approach for smart city development More. The book will be a valuable resource for SDN researchers as well as academicians, research scholars, and students in the related areas.

Big Data - Rajkumar Buyya

2016-06-07

Big Data: Principles and Paradigms captures the state-of-the-art research on the architectural aspects, technologies, and applications of Big Data. The book identifies potential future directions and technologies that facilitate insight into numerous scientific, business, and consumer applications. To help realize Big Data's full potential, the book addresses numerous challenges, offering the conceptual and technological solutions for tackling them. These challenges include life-cycle data management, large-scale storage, flexible processing infrastructure, data modeling, scalable machine learning, data analysis algorithms, sampling techniques, and privacy and ethical issues. Covers computational platforms supporting Big Data applications Addresses key principles underlying Big Data computing Examines key developments supporting next generation Big Data platforms Explores the challenges in Big

Data computing and ways to overcome them Contains expert contributors from both academia and industry
[Auction Based Resource Provisioning in Cloud Computing](#) - Gaurav Baranwal
2018-06-28

The book, while introducing readers to the auction mechanism for resource provisioning in cloud computing, also endeavors to provide structured literature on the subject. Since various models have been proposed, it will help readers to formulate the cloud resource provisioning problem using the auction approach. The book also discusses challenges for resource provisioning in detail, helping to shape future research. The target audience for this book includes computer scientists, economists, industry professionals, research scholars, and postgraduate students. Computer science readers of this book will come to see that economics-based method are quite helpful in computer science, especially for resource provisioning.

Readers with a cloud computing background will come to recognize the importance of dynamic pricing, the specific benefits of auctions, and how to formulate auctions for cloud computing. Lastly, readers from the economics community will come to understand their role in cloud computing, as well as where and how they can contribute.

Private Cloud Computing - Stephen R Smoot 2011-10-15
Chapter 1 -- Next-Generation IT Trends -- Layers of Function: The Service-Oriented Infrastructure Framework -- Blocks of Function: The Cloud Modules -- Cloud Computing Characteristics -- Computing Taxonomy -- Chapter 2 -- Next-Generation Data Center Architectures and Technologies -- The Data Center Consolidation and Virtualization Modus Operandi -- Server Consolidation Drivers -- Server Virtualization -- Storage Virtualization -- Layer 2 Evolutions -- Unified Data Center Fabric -- Chapter 3 -- Next-Generation WAN and

Service Integration -- Service Integration in the Data Center - - Infrastructure Segmentation - - The Next-Generation Enterprise WAN -- Chapter 4 -- Branch Consolidation and WAN Optimization -- What is the WAN performance challenge? - - WAN Optimization Benefits -- Requirements for WAN Optimization Deployment -- Remote Office Virtualization Designs -- Chapter 5 -- Session Interception Design and Deployment -- Selecting an Interception Mechanism -- The WCCP Dive -- In-path Dep ... Securing the Cloud - Vic (J.R.) Winkler 2011-04-21
Securing the Cloud is the first book that helps you secure your information while taking part in the time and cost savings of cloud computing. As companies turn to burgeoning cloud computing technology to streamline and save money, security is a fundamental concern. The cloud offers flexibility, adaptability, scalability, and in the case of security - resilience. Securing the Cloud explains how to make the move to the cloud,

detailing the strengths and weaknesses of securing a company's information with different cloud approaches. It offers a clear and concise framework to secure a business' assets while making the most of this new technology. This book considers alternate approaches for securing a piece of the cloud, such as private vs. public clouds, SaaS vs. IaaS, and loss of control and lack of trust. It discusses the cloud's impact on security roles, highlighting security as a service, data backup, and disaster recovery. It also describes the benefits of moving to the cloud - solving for limited availability of space, power, and storage. This book will appeal to network and security IT staff and management responsible for design, implementation and management of IT structures from admins to CSOs, CTOs, CIOs and CISOs. Named The 2011 Best Identity Management Book by InfoSec Reviews Provides a sturdy and stable framework to secure

your piece of the cloud, considering alternate approaches such as private vs. public clouds, SaaS vs. IaaS, and loss of control and lack of trust Discusses the cloud's impact on security roles, highlighting security as a service, data backup, and disaster recovery Details the benefits of moving to the cloud- solving for limited availability of space, power, and storage
Cloud Computing - Dan C. Marinescu 2013-05-30
Cloud Computing: Theory and Practice provides students and IT professionals with an in-depth analysis of the cloud from the ground up. Beginning with a discussion of parallel computing and architectures and distributed systems, the book turns to contemporary cloud infrastructures, how they are being deployed at leading companies such as Amazon, Google and Apple, and how they can be applied in fields such as healthcare, banking and science. The volume also examines how to successfully deploy a cloud application across the enterprise using

virtualization, resource management and the right amount of networking support, including content delivery networks and storage area networks. Developers will find a complete introduction to application development provided on a variety of platforms. Learn about recent trends in cloud computing in critical areas such as: resource management, security, energy consumption, ethics, and complex systems Get a detailed hands-on set of practical recipes that help simplify the deployment of a cloud based system for practical use of computing clouds along with an in-depth discussion of several projects Understand the evolution of cloud computing and why the cloud computing paradigm has a better chance to succeed than previous efforts in large-scale distributed computing

[A Primer for Financial Engineering](#) - Ali N. Akansu
2015-03-25

This book bridges the fields of finance, mathematical finance and engineering, and is

suitable for engineers and computer scientists who are looking to apply engineering principles to financial markets. The book builds from the fundamentals, with the help of simple examples, clearly explaining the concepts to the level needed by an engineer, while showing their practical significance. Topics covered include an in depth examination of market microstructure and trading, a detailed explanation of High Frequency Trading and the 2010 Flash Crash, risk analysis and management, popular trading strategies and their characteristics, and High Performance DSP and Financial Computing. The book has many examples to explain financial concepts, and the presentation is enhanced with the visual representation of relevant market data. It provides relevant MATLAB codes for readers to further their study. Please visit the companion website on <http://booksite.elsevier.com/9780128015612/> Provides engineering perspective to

financial problems In depth coverage of market microstructure Detailed explanation of High Frequency Trading and 2010 Flash Crash Explores risk analysis and management Covers high performance DSP & financial computing

Big Data Analytics for Sensor-Network Collected Intelligence

- Hui-Huang Hsu 2017-02-02
Big Data Analytics for Sensor-Network Collected Intelligence explores state-of-the-art methods for using advanced ICT technologies to perform intelligent analysis on sensor collected data. The book shows how to develop systems that automatically detect natural and human-made events, how to examine people's behaviors, and how to unobtrusively provide better services. It begins by exploring big data architecture and platforms, covering the cloud computing infrastructure and how data is stored and visualized. The book then explores how big data is processed and managed, the key security and privacy issues involved, and the approaches

used to ensure data quality. In addition, readers will find a thorough examination of big data analytics, analyzing statistical methods for data analytics and data mining, along with a detailed look at big data intelligence, ubiquitous and mobile computing, and designing intelligence system based on context and situation. Indexing: The books of this series are submitted to EI-Compendex and SCOPUS Contains contributions from noted scholars in computer science and electrical engineering from around the globe Provides a broad overview of recent developments in sensor collected intelligence Edited by a team comprised of leading thinkers in big data analytics

Complex Systems and Clouds - Dan C. Marinescu
2016-10-15

Complex Systems and Clouds: A Self-Organization and Self-Management Perspective provides insights into the intricate world of self-organizing systems. Large scale distributed computer

systems have evolved into very complex systems and are at the point where they need to borrow self-adapting organizing concepts from nature. The book explores complexity in big distributed systems and in the natural processes in physics and chemistry, building a platform for understanding how self-organization in big distributed systems can be achieved. It goes beyond the theoretical description of self-organization to present principles for designing self-organizing systems, and concludes by showing the need for a paradigm shift in the development of large-scale systems from strictly deterministic to non-deterministic and adaptive. Analyzes the effect of self-organization applied to computer clouds Furthers research on principles of self-organization of computing and communication systems inspired by a wealth of self-organizing processes and phenomena in nature and society Presents a unique

analysis of the field, with solutions and case studies
Distributed Denial of Service (DDoS) Attacks - Brij B. Gupta 2021-03-01
The complexity and severity of the Distributed Denial of Service (DDoS) attacks are increasing day-by-day. The Internet has a highly inconsistent structure in terms of resource distribution. Numerous technical solutions are available, but those involving economic aspects have not been given much consideration. The book, DDoS Attacks – Classification, Attacks, Challenges, and Countermeasures, provides an overview of both types of defensive solutions proposed so far, exploring different dimensions that would mitigate the DDoS effectively and show the implications associated with them. Features: Covers topics that describe taxonomies of the DDoS attacks in detail, recent trends and classification of defensive mechanisms on the basis of deployment location, the types of defensive action, and the solutions

offering economic incentives. Introduces chapters discussing the various types of DDoS attack associated with different layers of security, an attacker's motivations, and the importance of incentives and liabilities in any defensive solution. Illustrates the role of fair resource-allocation schemes, separate payment mechanisms for attackers and legitimate users, negotiation models on cost and types of resources, and risk assessments and transfer mechanisms. DDoS Attacks - Classification, Attacks, Challenges, and Countermeasures is designed for the readers who have an interest in the cybersecurity domain, including students and researchers who are exploring different dimensions associated with the DDoS attack, developers and security professionals who are focusing on developing defensive schemes and applications for detecting or mitigating the DDoS attacks, and faculty members across different universities.

Software Architecture for Big Data and the Cloud -

Ivan Mistrik 2017-06-12

Software Architecture for Big Data and the Cloud is designed to be a single resource that brings together research on how software architectures can solve the challenges imposed by building big data software systems. The challenges of big data on the software architecture can relate to scale, security, integrity, performance, concurrency, parallelism, and dependability, amongst others. Big data handling requires rethinking architectural solutions to meet functional and non-functional requirements related to volume, variety and velocity. The book's editors have varied and complementary backgrounds in requirements and architecture, specifically in software architectures for cloud and big data, as well as expertise in software engineering for cloud and big data. This book brings together work across different disciplines in software engineering, including work

expanded from conference tracks and workshops led by the editors. Discusses systematic and disciplined approaches to building software architectures for cloud and big data with state-of-the-art methods and techniques Presents case studies involving enterprise, business, and government service deployment of big data applications Shares guidance on theory, frameworks, methodologies, and architecture for cloud and big data

Internet of Things Rajkumar Buyya 2016-05-11

Internet of Things: Principles and Paradigms captures the state-of-the-art research in Internet of Things, its applications, architectures, and technologies. The book identifies potential future directions and technologies that facilitate insight into numerous scientific, business, and consumer applications. The Internet of Things (IoT) paradigm promises to make any electronic devices part of the Internet environment. This

new paradigm opens the doors to new innovations and interactions between people and things that will enhance the quality of life and utilization of scarce resources. To help realize the full potential of IoT, the book addresses its numerous challenges and develops the conceptual and technological solutions for tackling them. These challenges include the development of scalable architecture, moving from closed systems to open systems, designing interaction protocols, autonomic management, and the privacy and ethical issues around data sensing, storage, and processing. Addresses the main concepts and features of the IoT paradigm Describes different architectures for managing IoT platforms Provides insight on trust, security, and privacy in IoT environments Describes data management techniques applied to the IoT environment Examines the key enablers and solutions to enable practical IoT systems Looks at the key

developments that support next generation IoT platforms
Includes input from expert contributors from both academia and industry on building and deploying IoT platforms and applications
Mobile Cloud Computing
Dijiang Huang 2017-09-08
Mobile Cloud Computing: Foundations and Service Models combines cloud computing, mobile computing and wireless networking to bring new computational resources for mobile users, network operators and cloud computing providers. The book provides the latest research and development insights on mobile cloud computing, beginning with an exploration of the foundations of cloud computing, existing cloud infrastructures classifications, virtualization techniques and service models. It then examines the approaches to building cloud services using a bottom-up approach, describing data center design, cloud networking and software orchestration solutions, showing how these solutions

support mobile devices and services. The book describes mobile cloud computing concepts with a particular focus on a user-centric approach, presenting a distributed mobile cloud service model called POEM to manage mobile cloud resource and compose mobile cloud applications. It concludes with a close examination of the security and privacy issues of mobile clouds. Shows how to construct new mobile cloud based applications Contains detailed approaches to address security challenges in mobile cloud computing Includes a case study using vehicular cloud

The Cognitive Approach in Cloud Computing and Internet of Things Technologies for Surveillance Tracking Systems
- Dinesh Peter 2020-03-14
The Cognitive Approach in Cloud Computing and Internet of Things Technologies for Surveillance Tracking Systems discusses the recent, rapid development of Internet of things (IoT) and its focus on research in smart cities, especially on surveillance

tracking systems in which computing devices are widely distributed and huge amounts of dynamic real-time data are collected and processed. Efficient surveillance tracking systems in the Big Data era require the capability of quickly abstracting useful information from the increasing amounts of data. Real-time information fusion is imperative and part of the challenge to mission critical surveillance tasks for various applications. This book presents all of these concepts, with a goal of creating automated IT systems that are capable of resolving problems without demanding human aid. Examines the current state of surveillance tracking systems, cognitive cloud architecture for resolving critical issues in surveillance tracking systems, and research opportunities in cognitive computing for surveillance tracking systems. Discusses topics including cognitive computing architectures and approaches, cognitive computing and neural networks, complex analytics

and machine learning, design of a symbiotic agent for recognizing real space in ubiquitous environments, and more. Covers supervised regression and classification methods, clustering and dimensionality reduction methods, model development for machine learning applications, intelligent machines and deep learning networks. Includes coverage of cognitive computing models for scalable environments, privacy and security aspects of surveillance tracking systems, strategies and experiences in cloud architecture and service platform design.

Data Analysis in the Cloud -

Domenico Talia 2015-09-15
Data Analysis in the Cloud introduces and discusses models, methods, techniques, and systems to analyze the large number of digital data sources available on the Internet using the computing and storage facilities of the cloud. Coverage includes scalable data mining and knowledge discovery techniques together with cloud

computing concepts, models, and systems. Specific sections focus on map-reduce and NoSQL models. The book also includes techniques for conducting high-performance distributed analysis of large data on clouds. Finally, the book examines research trends such as Big Data pervasive computing, data-intensive exascale computing, and massive social network analysis. Introduces data analysis techniques and cloud computing concepts Describes cloud-based models and systems for Big Data analytics Provides examples of the state-of-the-art in cloud data analysis Explains how to develop large-scale data mining applications on clouds Outlines the main research trends in the area of scalable Big Data analysis

Networked Control Systems

- Magdi S. Mahmoud

2019-02-09

Networked Control Systems: Cloud Control and Secure Control explores new technological developments in networked control systems (NCS), including new

techniques, such as event-triggered, secure and cloud control. It provides the fundamentals and underlying issues of networked control systems under normal operating environments and under cyberphysical attack. The book includes a critical examination of the principles of cloud computing, cloud control systems design, the available techniques of secure control design to NCS's under cyberphysical attack, along with strategies for resilient and secure control of cyberphysical systems. Smart grid infrastructures are also discussed, providing diagnosis methods to analyze and counteract impacts. Finally, a series of practical case studies are provided to cover a range of NCS's. This book is an essential resource for professionals and graduate students working in the fields of networked control systems, signal processing and distributed estimation. Provides coverage of cloud-based approaches to control systems and secure control

methodologies to protect cyberphysical systems against various types of malicious attacks Provides an overview of control research literature and explores future developments

and solutions Includes case studies that offer solutions for issues with modeling, quantization, packet dropout, time delay and communication constraints