

5 Steps To A 5g Ready Cloud Intel

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Artificial Intelligence and Machine Learning for COVID-19 - Fadi Al-Turjman 2021-02-19

This book is dedicated to addressing the major challenges in fighting COVID-19 using artificial intelligence (AI) and machine learning (ML) - from cost and complexity to availability and accuracy. The aim of this book is to focus on both the design and implementation of AI-based approaches in proposed COVID-19 solutions that are enabled and supported by sensor networks, cloud computing, and 5G and beyond. This book presents research that contributes to the application of ML techniques to the problem of computer communication-assisted diagnosis of COVID-19 and similar diseases. The authors present the latest theoretical developments, real-world applications, and future perspectives on this topic. This book brings together a broad multidisciplinary community, aiming to integrate ideas, theories, models, and techniques from across different disciplines on intelligent solutions/systems, and to inform how cognitive systems in Next Generation Networks (NGN) should be designed, developed, and evaluated while exchanging and processing critical health information. Targeted readers are from varying disciplines who are interested in implementing the smart planet/environments vision via wireless/wired enabling technologies.

Badania i wdrożenia. Interdyscyplinarność badań bezpieczeństwa - Jacek Zboina 2020-07-12

Publikacja składa się z trzech głównych rozdziałów. W pierwszym przedstawiono rozważania dotyczące celów, roli, rozumienia i znaczenia inżynierii bezpieczeństwa pożarowego. W rozdziale tym podjęto ponadto próbę wskazania przyszłych potrzeb i perspektywy rozwoju tej dziedziny w naszym kraju. Część tę - podobnie jak pozostałe - zakończono wnioskami. W rozdziale drugim opisano wybrane zagadnienia dotyczące możliwości oraz determinantów wdrożenia nowych technologii i rozwiązań w obszarze ochrony przeciwpożarowej. Kolejno omówiono uwarunkowania formalne, wybrane zagadnienia dotyczące zaufania do wyrobów i rozwiązań, w tym ogólnie certyfikację, standaryzację, badania kwalifikacyjne, a także - konieczny zdaniem autora - indywidualny ekosystem dla innowacji. Zwrócono przy tym szczególną uwagę na współpracę, rolę nauki i praktyki w tym procesie. Rozdział trzeci poświęcono przybliżeniu wybranych zagadnień dotyczących badań na rzecz wdrożeń, z uwzględnieniem roli badań naukowych, m.in.

dotyczących bezpieczeństwa pożarowego, a także współpracy i kooperacji nauki i biznesu na wszystkich etapach wprowadzania produktu na rynek - od badań do wdrożenia. Rozważania te, oparte na podejściu naukowym i praktycznym, podsumowano wnioskami, w tym odnoszącymi się do potrzeb i możliwości współpracy środowisk nauki i biznesu na rzecz skutecznego wdrażania nowych rozwiązań i technologii. *Practical Guide to LTE-A, VoLTE and* - ~~by~~ Elnashar 2018-06-19

Essential reference providing best practice of LTE-A, VoLTE, and IoT Design/deployment/Performance and evolution towards 5G This book is a practical guide to the design, deployment, and performance of LTE-A, VoLTE/IMS and IoT. A comprehensive practical performance analysis for VoLTE is conducted based on field measurement results from live LTE networks. Also, it provides a comprehensive introduction to IoT and 5G evolutions. Practical aspects and best practice of LTE-A/IMS/VoLTE/IoT are presented. Practical aspects of LTE-Advanced features are presented. In addition, LTE/LTE-A network capacity dimensioning and analysis are demonstrated based on live LTE/LTE-A networks KPIs. A comprehensive foundation for 5G technologies is provided including massive MIMO, eMBB, URLLC, mMTC, NGCN and network slicing, cloudification, virtualization and SDN. Practical Guide to LTE-A, VoLTE and IoT: Paving the Way Towards 5G can be used as a practical comprehensive guide for best practices in LTE/LTE-A/VoLTE/IoT design, deployment,

performance analysis and network architecture and dimensioning. It offers tutorial introduction on LTE-A/IoT/5G networks, enabling the reader to use this advanced book without the need to refer to more introductory texts. Offers a complete overview of LTE and LTE-A, IMS, VoLTE and IoT and 5G Introduces readers to IP Multimedia Subsystems (IMS) Performs a comprehensive evaluation of VoLTE/CSFB Provides LTE/LTE-A network capacity and dimensioning Examines IoT and 5G evolutions towards a super connected world Introduce 3GPP NB-IoT evolution for low power wide area (LPWA) network Provide a comprehensive introduction for 5G evolution including eMBB, URLLC, mMTC, network slicing, cloudification, virtualization, SDN and orchestration Practical Guide to LTE-A, VoLTE and IoT will appeal to all deployment and service engineers, network designers, and planning and optimization engineers working in mobile communications. Also, it is a practical guide for R&D and standardization experts to evolve the LTE/LTE-A, VoLTE and IoT towards 5G evolution.

A Comprehensive Guide to 5G Security - Madhusanka Liyanage 2018-01-08

The first comprehensive guide to the design and implementation of security in 5G wireless networks and devices Security models for 3G and 4G networks based on Universal SIM cards worked very well. But they are not fully applicable to the unique security requirements of 5G networks. 5G will face additional challenges due to increased user privacy concerns, new trust and service models and requirements to support IoT and mission-critical applications. While multiple books already exist on 5G, this is the first to focus exclusively on security for the emerging 5G ecosystem. 5G networks are not only expected to be faster, but provide a backbone for many new services, such as IoT and the Industrial Internet. Those services will provide connectivity for everything from autonomous cars and UAVs to remote health monitoring through body-attached sensors, smart logistics through item tracking to remote diagnostics and preventive maintenance of equipment. Most services will be integrated with Cloud computing and novel concepts, such as mobile edge computing, which will require smooth and transparent communications between user devices, data centers and operator networks. Featuring contributions from an international team of experts at the forefront of 5G system design and security, this book: Provides priceless insights into the current and future threats to mobile networks and mechanisms to protect it Covers critical lifecycle functions and stages of 5G security and how to build an effective security architecture for 5G based mobile networks Addresses mobile network security based on network-centricity, device-centricity, information-centricity and people-centricity views Explores security considerations for all relative stakeholders of mobile networks, including mobile network operators, mobile network virtual operators, mobile users, wireless users, Internet-of things, and cybersecurity experts Providing a comprehensive guide to state-of-the-art in 5G security theory and practice, A Comprehensive Guide to 5G Security is an important working resource for researchers, engineers and business professionals working on 5G development and deployment.

Microsoft Azure Security Center - Yuri Diogenes 2018-06-04

Discover high-value Azure security insights, tips, and operational optimizations This book presents comprehensive Azure Security Center techniques for safeguarding cloud and hybrid environments. Leading Microsoft security and cloud experts Yuri Diogenes and Dr. Thomas Shinder show how to apply Azure Security Center's full spectrum of features and capabilities to address protection, detection, and response

in key operational scenarios. You'll learn how to secure any Azure workload, and optimize virtually all facets of modern security, from policies and identity to incident response and risk management. Whatever your role in Azure security, you'll learn how to save hours, days, or even weeks by solving problems in most efficient, reliable ways possible. Two of Microsoft's leading cloud security experts show how to:

- Assess the impact of cloud and hybrid environments on security, compliance, operations, data protection, and risk management
- Master a new security paradigm for a world without traditional perimeters
- Gain visibility and control to secure compute, network, storage, and application workloads
- Incorporate Azure Security Center into your security operations center
- Integrate Azure Security Center with Azure AD Identity Protection Center and third-party solutions
- Adapt Azure Security Center's built-in policies and definitions for your organization
- Perform security assessments and implement Azure Security Center recommendations
- Use incident response features to detect, investigate, and address threats
- Create high-fidelity fusion alerts to focus attention on your most urgent security issues
- Implement application whitelisting and just-in-time VM access
- Monitor user behavior and access, and investigate compromised or misused credentials
- Customize and perform operating system security baseline assessments
- Leverage integrated threat intelligence to identify known bad actors

5G Enabled Secure Wireless Networks - Dushantha Nalin K. Jayakody 2019-02-05

This book covers issues related to 5G network security. The authors start by providing details on network architecture and key requirements. They then outline the issues concerning security policies and various solutions that can handle these policies. Use of SDN-NFV technologies for security enhancement is also covered. The book includes intelligent solutions by utilizing the features of artificial intelligence and machine learning to improve the performance of the 5G security protocols and models. Optimization of security models is covered as a separate section with a detailed information on the security of 5G-based edge, fog, and osmotic computing. This book provides detailed guidance and reference material for academicians, professionals, and researchers. Presents extensive information and data on research and challenges in 5G networks; Covers basic architectures, models, security frameworks, and software-defined solutions for security issues in 5G networks; Provides solutions that can help in the growth of new startups as well as research directions concerning the future of 5G networks.

Achieving Sustainability Using Creativity, Innovation, and Education: A Multidisciplinary Approach - Fields, Ziska 2021-11-26

In recent years, there has been an increased emphasis placed on the role of creativity and innovation in critical areas such as thinking and problem-solving, self-management, stress tolerance and flexibility, education, sustainability, and the new normal caused by COVID-19. Though creativity is a crucial cognitive skill and innovation is a requirement to meet the challenges of today and tomorrow, these concepts must be thoroughly examined and considered as they are often misunderstood and underestimated. Achieving Sustainability Using Creativity, Innovation, and Education: A Multidisciplinary Approach discusses important issues surrounding human creativity and innovation as well as how education can develop cognitive abilities and skills and be improved to meet future challenges and demands using creativity and innovation. Covering topics such as creative leadership and problem-solving skills, it is ideal for practitioners, academicians, managers, policymakers, consultants, development specialists, researchers, instructors, and students.

World Of 5g, The (In 5 Volumes) - Quan Xue 2022-04-07

5G is becoming a critically important supporting technology for industrial evolvement. The World of 5G series consists of five salient volumes — Internet of Everything, Intelligent Manufacturing, Intelligent Home, Intelligent Transportation, and Intelligent Medicine. Aim to capture new opportunities brought by 5G, this compendium set focuses on the key technologies, requirements, users' experiences, industry applications, and industrial reforms from the perspective of experts, and comprehensively introduces the related knowledge of 5G. These reference volumes inform readers the essences of 5G, potential changes to the development of public life and society brought by 5G, as well as the potential security and risks such as the legal, moral and ethical aspects. The set also prominently reflects the latest business status in different industrial and social fields, and the great changes that follow.

Emerging Technologies - Sinan Küfeoğlu 2022-07-11

This monograph investigates a multitude of emerging technologies including 3D printing, 5G, blockchain, and many more to assess their potential for use to further humanity's shared goal of sustainable development. Through case studies detailing how these technologies are already being used at companies worldwide, author Sinan Küfeoğlu explores how emerging technologies can be used to enhance progress toward each of the seventeen United Nations Sustainable Development Goals and to guarantee economic growth even in the face of challenges such as climate change. To assemble this book, the author explored the business models of 650 companies in order to demonstrate how innovations can be converted into value to support sustainable development. To ensure practical application, only technologies currently on the market and in use actual companies were investigated. This volume will be of great use to academics, policymakers, innovators at the forefront of green business, and anyone else who is interested in novel and innovative business models and how they could help to achieve the Sustainable Development Goals. This is an open access book.

The Handbook of Board Governance - Richard Leblanc 2020-04-06

The revised new edition of the must-read guide for executives—provides comprehensive coverage of topics in corporate governance by leading subject-matter experts The Handbook of Board Governance is the marketing-leading text on public, nonprofit, and private board governance. Providing comprehensive, in-depth coverage, this unique text represents a collaboration of internationally-recognized academics and prominent organization directors, executives, managers, and advisors. Contributors include Ariel Fromer Babcock, Robert Eccles, Alice Korngold, Ellie Mulholland, Michael Useem, Elizabeth Valentine and John Zinkin. Practical, expert guidance enables readers to understand value creation and the strategic role of the board, risk governance and oversight, audit and compensation committee effectiveness, CEO succession planning, and other diverse board duties and responsibilities. Now in its second edition, the Handbook offers substantial updates and revisions reflecting contemporary trends, practices, and developments in board governance. New content includes discussions of pressing issues related to climate change, examination of information technology and cybersecurity challenges, and recent tax legislation that will impact executive compensation. Editor Dr. Richard Leblanc—an award-winning teacher, professor, lawyer, management consultant, and specialist on boards of directors—integrates practical experience and academic rigor to assist readers: Build and strengthen engaged and collaborative leadership in the boardroom Recognize the role and responsibilities of a well-functioning governing board Risk governance, assurance, and the duties of directors Keep pace with new trends in board governance and shareholder responsibility Measure performance and align performance measurement to executive pay Understand information technology governance, sustainability governance, and the different forms of governance Highly relevant to board and committee members regardless of sector or industry, The Handbook of Board Governance, 2nd Edition is an invaluable source of knowledge on all aspects of corporate and organization governance.

Fog/Edge Computing For Security, Privacy, and Applications - Wei Chang 2021-01-04

This book provides the state-of-the-art development on security and privacy for fog/edge computing, together with their system architectural support and applications. This book is organized into five parts with a total of 15 chapters. Each area corresponds to an important snapshot. The first part of this book presents an overview of fog/edge computing, focusing on its relationship with cloud technology and the future with the use of 5G communication. Several applications of edge computing are discussed. The second part of this book considers several security issues in fog/edge computing, including the secure storage and search services, collaborative intrusion detection method on IoT-fog computing, and the feasibility of deploying Byzantine agreement protocols in untrusted environments. The third part of this book studies the privacy issues in fog/edge computing. It first investigates the unique privacy challenges in fog/edge computing, and then discusses a privacy-preserving framework for the edge-based video analysis, a popular machine learning application on fog/edge. This book also covers the security architectural design of fog/edge computing, including a comprehensive overview of vulnerabilities in fog/edge computing within multiple architectural levels, the security and intelligent management, the implementation of network-function-virtualization-enabled multicasting in part four. It explains how to use the blockchain to realize security services. The last part of this book surveys applications of fog/edge computing, including the

fog/edge computing in Industrial IoT, edge-based augmented reality, data streaming in fog/edge computing, and the blockchain-based application for edge-IoT. This book is designed for academics, researchers and government officials, working in the field of fog/edge computing and cloud computing. Practitioners, and business organizations (e.g., executives, system designers, and marketing professionals), who conduct teaching, research, decision making, and designing fog/edge technology will also benefit from this book. The content of this book will be particularly useful for advanced-level students studying computer science, computer technology, and information systems, but also applies to students in business, education, and economics, who would benefit from the information, models, and case studies therein.

Artificial Intelligence and Machine Learning for EDGE Computing - Rajiv Pandey 2022-05-06

Artificial Intelligence and Machine Learning for Predictive and Analytical Rendering in Edge Computing focuses on the role of AI and machine learning as it impacts and works alongside Edge Computing. Sections cover the growing number of devices and applications in diversified domains of industry, including gaming, speech recognition, medical diagnostics, robotics and computer vision and how they are being driven by Big Data, Artificial Intelligence, Machine Learning and distributed computing, may it be Cloud Computing or the evolving Fog and Edge Computing paradigms. Challenges covered include remote storage and computing, bandwidth overload due to transportation of data from End nodes to Cloud leading in latency issues, security issues in transporting sensitive medical and financial information across larger gaps in points of data generation and computing, as well as design features of Edge nodes to store and run AI/ML algorithms for effective rendering. Provides a reference handbook on the evolution of distributed systems, including Cloud, Fog and Edge Computing Integrates the various Artificial Intelligence and Machine Learning techniques for effective predictions at Edge rather than Cloud or remote Data Centers Provides insight into the features and constraints in Edge Computing and storage, including hardware constraints and the technological/architectural developments that shall overcome those constraints

The Social Sciences Empowered - Ford Lumban Gaol 2020-04-14

The Social Sciences Empowered contains papers presented at the 7th International Congress on Interdisciplinary Behavior and Social Science 2018 (ICIBSoS 2018), held 21-22 July 2018, Bangkok, Thailand, 22-23 September 2018, Bali, Indonesia, 6-7 October 2018, Kuta, Bali, Indonesia, and 24-25 November 2018, Yogyakarta, Indonesia. ICIBSoS 2018 provided the economic and social analysis necessary for addressing issues in Humanities disciplines such as Education, Sociology, Anthropology, Politics, History, Philosophy, Psychology as well as food security. Contributions to these proceedings give necessary insight into the cultural and human dimension of such diverse research areas as transport, climate change, energy and agriculture. ICIBSoS 2018 also analyses the cultural, behavioural, psychological, social and institutional drivers that transform people's behaviour and the global environment. ICIBSoS 2018 proposes new ideas, strategies and governance structures for overcoming the crisis from a global perspective, innovating the public sector and business models, promoting social innovation and fostering creativity in the development of services and product design.

Information Systems - Marinos Themistocleous 2020-04-17

This book constitutes selected papers from the 16th European, Mediterranean, and Middle Eastern Conference, EMCIS 2019, held in Dubai, UAE, in October 2019. EMCIS is dedicated to the definition and establishment of Information Systems as a discipline of high impact for the methodical community and IS professionals, focusing on approaches that facilitate the identification of innovative research of significant relevance to the IS discipline. The 48 full papers presented in this volume were carefully reviewed and selected from a total of 138 submissions. They were organized in topical sections named: Big Data and Analytics; Blockchain Technology and Applications; Cloud Computing; Digital Services and Social Media; e-Government; Enterprise Information Systems; Health-Care Information Systems; Information Systems Security and Information Privacy Protection; Innovative Research Projects; IT Governance; and Management and Organizational Issues in Information Systems.

Cloud Infrastructures, Services, and IoT Systems for Smart Cities - Antonella Longo 2017-10-25

This book constitutes the proceedings of the Second International Conference on Cloud, Networking for IoT Systems, CN4IoT 2017, and the Second EAI International Conference on ICT Infrastructures and Services for Smart Cities, IISCC 2017, held in Brindisi, Italy, in April 2017. The 26 full papers of both conferences

were selected from 39 submissions. CN4IoT presents research activities on the uniform management and operation related to software defined infrastructures, in particular by analyzing limits or advantages in solutions for Cloud Networking and IoT. IISCC papers focus on ICT infrastructures (technologies, models, frameworks) and services in cities and smart communities.

Medical Internet of Things - Anirban Mitra 2021-10-29

In recent years, the Medical Internet of Things (MIoT) has emerged as one of the most helpful technological gifts to mankind. With the incredible development in data science, big data technologies, IoT and embedded systems, it is now possible to collect a huge amount of sensitive and personal data, compile it and store it through cloud or edge computing techniques. However, important concerns remain about security and privacy, the preservation of sensitive and personal data, and the efficient transfer, storage and processing of MIoT-based data. Medical Internet of Things: Techniques, Practices and Applications is an attempt to explore new ideas and novel techniques in the area of MIoT. The book is composed of fifteen chapters discussing basic concepts, issues, challenges, case studies and applications in MIoT. This book offers novel advances and applications of MIoT in a precise and clear manner to the research community to achieve in-depth knowledge in the field. This book will help those interested in the field as well as researchers to gain insight into different concepts and their importance in multifaceted applications of real life. This has been done to make the book more flexible and to stimulate further interest in the topic. Features: A systematic overview of concepts in Medical Internet of Things (MIoT) is included. Recent research and some pointers on future advancements in MIoT are discussed. Examples and case studies are included. It is written in an easy-to-understand style with the help of numerous figures and datasets. This book serves as a reference book for scientific investigators who are interested in working on MIoT, as well as researchers developing methodology in this field. It may also be used as a textbook for postgraduate-level courses in computer science or information technology.

Official Gazette of the United States Patent and Trademark Office - 1975

5G Enabled Internet of Things - Xulei Wu 2019-05-29

How the enabling technologies in 5G as an integral or as a part can seamlessly fuel the IoT revolution is still very challenging. This book presents the state-of-the-art solutions to the theoretical and practical challenges stemming from the integration of 5G enabling technologies into IoTs in support of a smart 5G-enabled IoT paradigm, in terms of network design, operation, management, optimization, privacy and security, and applications. In particular, the technical focus covers a comprehensive understanding of 5G-enabled IoT architectures, converged access networks, privacy and security, and emerging applications of 5G-enabled IoT.

Artificial Intelligence in Healthcare - Lalit Garg 2021-10-29

This book highlights the analytics and optimization issues in healthcare systems, proposes new approaches, and presents applications of innovative approaches in real facilities. In the past few decades, there has been an exponential rise in the application of swarm intelligence techniques for solving complex and intricate problems arising in healthcare. The versatility of these techniques has made them a favorite among scientists and researchers working in diverse areas. The primary objective of this book is to bring forward thorough, in-depth, and well-focused developments of hybrid variants of swarm intelligence algorithms and their applications in healthcare systems.

Radically Human - Paul Daugherty 2022-04-26

Technology advances are making tech more . . . human. This changes everything you thought you knew about innovation and strategy. In their groundbreaking book, Human + Machine, Accenture technology leaders Paul R. Daugherty and H. James Wilson showed how leading organizations use the power of human-machine collaboration to transform their processes and their bottom lines. Now, as new AI powered technologies like the metaverse, natural language processing, and digital twins begin to rapidly impact both life and work, those companies and other pioneers across industries are tipping the balance even more strikingly toward the human side with technology-led strategy that is reshaping the very nature of innovation. In Radically Human, Daugherty and Wilson show this profound shift, fast-forwarded by the pandemic, toward more human—and more humane—technology. Artificial intelligence is becoming less

artificial and more intelligent. Instead of data-hungry approaches to AI, innovators are pursuing data-efficient approaches that enable machines to learn as humans do. Instead of replacing workers with machines, they're unleashing human expertise to create human-centered AI. In place of lumbering legacy IT systems, they're building cloud-first IT architectures able to continuously adapt to a world of billions of connected devices. And they're pursuing strategies that will take their place alongside classic, winning business formulas like disruptive innovation. These against-the-grain approaches to the basic building blocks of business—Intelligence, Data, Expertise, Architecture, and Strategy (IDEAS)—are transforming competition. Industrial giants and startups alike are drawing on this radically human IDEAS framework to create new business models, optimize post-pandemic approaches to work and talent, rebuild trust with their stakeholders, and show the way toward a sustainable future. With compelling insights and fresh examples from a variety of industries, *Radically Human* will forever change the way you think about, practice, and win with innovation.

Next Generation Supply Chains - Rosanna Fornasiero 2020-12-31

This open access book explores supply chains strategies to help companies face challenges such as societal emergency, digitalization, climate changes and scarcity of resources. The book identifies industrial scenarios for the next decade based on the analysis of trends at social, economic, environmental technological and political level, and examines how they may impact on supply chain processes and how to design next generation supply chains to answer these challenges. By mapping enabling technologies for supply chain innovation, the book proposes a roadmap for the full implementation of the supply chain strategies based on the integration of production and logistics processes. Case studies from process industry, discrete manufacturing, distribution and logistics, as well as ICT providers are provided, and policy recommendations are put forward to support companies in this transformative process.

Edge/Fog Computing Paradigm: The Concept, Platforms and Applications. - 2022-05-01

Advances in Computers, Volume 127 presents innovations in computer hardware, software, theory, design and applications, with this updated volume including new chapters on Edge AI, Edge Computing, Edge Analytics, Edge Data Analytics, Edge Native Applications, Edge Platforms, Edge Computing, IoT, Internet of Things, etc. Contains novel subject matter that is relevant to computer science Includes the expertise of contributing authors Presents an easy to comprehend writing style

Intelligent Connectivity - Abdulrahman Yarali 2021-11-01

INTELLIGENT CONNECTIVITY AI, IOT, AND 5G Explore the economics and technology of AI, IOT, and 5G integration Intelligent Connectivity: AI, IoT, and 5G delivers a comprehensive technological and economic analysis of intelligent connectivity and the integration of artificial intelligence, Internet of Things (IoT), and 5G. It covers a broad range of topics, including Machine-to-Machine (M2M) architectures, edge computing, cybersecurity, privacy, risk management, IoT architectures, and more. The book offers readers robust statistical data in the form of tables, schematic diagrams, and figures that provide a clear understanding of the topic, along with real-world examples of applications and services of intelligent connectivity in different sectors of the economy. Intelligent Connectivity describes key aspects of the digital transformation coming with the 4th industrial revolution that will touch on industries as disparate as transportation, education, healthcare, logistics, entertainment, security, and manufacturing. Readers will also get access to: A thorough introduction to technology adoption and emerging trends in technology, including business trends and disruptive new applications Comprehensive explorations of telecommunications transformation and intelligent connectivity, including learning algorithms, machine learning, and deep learning Practical discussions of the Internet of Things, including its potential for disruption and future trends for technological development In-depth examinations of 5G wireless technology, including discussions of the first five generations of wireless tech Ideal for telecom and information technology managers, directors, and engineers, Intelligent Connectivity: AI, IoT, and 5G is also an indispensable resource for senior undergraduate and graduate students in telecom and computer science programs.

Handbook of Research on the IoT, Cloud Computing, and Wireless Network Optimization Surjit 2019-03-29

ICT technologies have contributed to the advances in wireless systems, which provide seamless connectivity for worldwide communication. The growth of interconnected devices and the need to store,

manage, and process the data from them has led to increased research on the intersection of the internet of things and cloud computing. The Handbook of Research on the IoT, Cloud Computing, and Wireless Network Optimization is a pivotal reference source that provides the latest research findings and solutions for the design and augmentation of wireless systems and cloud computing. The content within this publication examines data mining, machine learning, and software engineering, and is designed for IT specialists, software engineers, researchers, academicians, industry professionals, and students.

Advances in Communication and Computational Technology Gurdeep Singh Hura 2020-08-13

This book presents high-quality peer-reviewed papers from the International Conference on Advanced Communication and Computational Technology (ICACCT) 2019 held at the National Institute of Technology, Kurukshetra, India. The contents are broadly divided into four parts: (i) Advanced Computing, (ii) Communication and Networking, (iii) VLSI and Embedded Systems, and (iv) Optimization Techniques. The major focus is on emerging computing technologies and their applications in the domain of communication and networking. The book will prove useful for engineers and researchers working on physical, data link and transport layers of communication protocols. Also, this will be useful for industry professionals interested in manufacturing of communication devices, modems, routers etc. with enhanced computational and data handling capacities.

97 Things Every Cloud Engineer Should Know Emily Freeman 2020-12-04

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer—even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toil, and Why Are SREs Obsessed with It?," Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins

The Future Home in the 5G Era - Jefferson Wang 2020-04-03

The Future Home in the 5G Era looks at new hyper-connected home environments in which devices and apps will work together seamlessly to respond to and anticipate customers' needs, all with maximum security and privacy. Enabled by 5G, AI, and other new technologies such as eSim and edge computing, the Future Home's powerful service ecosystems will be a quantum leap from today's fragmented smart home technology, effectively extending the boundaries of the home even beyond the traditional bounds of the physical, to ultimately make consumers feel 'at home' anywhere. This will create tremendous opportunities for businesses including communication service providers (CSPs), device manufacturers and app developers, as well as those providing services in diverse sectors such as entertainment, health and social care, education, retail, and more. The Future Home in the 5G Era combines original research from Accenture with practical insights and examples, showing how intelligently orchestrated Future Homes can yield economic success for businesses. Written by leaders of strategy and technology consultancy at Accenture, the authors have vast industry experience leading major units of Fortune 500 companies and start-ups. This book looks at how businesses, especially CSPs, can overcome the challenges and capture the multi-billion-dollar Future Home market by putting strategic emphasis on excellent customer experiences, developing new business models, and turning their organizations into competitively agile platform-based innovators. For business leaders in any sector relevant to the Future Home, this book is an indispensable and value-creating guide.

Tech Trends in Practice - Bernard Marr 2020-04-09

Discover how 25 powerful technology trends are transforming 21st century businesses How will the latest

technologies transform your business? Future Tech Trends in Practice will give you the knowledge of today's most important technology trends, and how to take full advantage of them to grow your business. The book presents 25 real-world technology trends along with their potential contributions to organisational success. You'll learn how to integrate existing advancements and plan for those that are on the way. In this book, best-selling author, strategic business advisor, and respected futurist Bernard Marr explains the role of technology in providing innovative business solutions for companies of varying sizes and across different industries. He covers wide-ranging trends and provides an overview of how companies are using these new and emerging technologies in practice. You, too, can prepare your company for the potential and power of trending technology by examining these and other areas of innovation described in Future Tech Trends in Practice: Artificial intelligence, including machine and deep learning The Internet of Things and the rise of smart devices Self-driving cars and autonomous drones 3D printing and additive manufacturing Blockchain technology Genomics and gene editing Augmented, virtual and mixed reality When you understand the technology trends that are driving success, now and into the future, you'll be better positioned to address and solve problems within your organisation.

5G Mobile Communications - Wei Xiang 2016-10-13

This book provides a comprehensive overview of the emerging technologies for next-generation 5G mobile communications, with insights into the long-term future of 5G. Written by international leading experts on the subject, this contributed volume covers a wide range of technologies, research results, and networking methods. Key enabling technologies for 5G systems include, but are not limited to, millimeter-wave communications, massive MIMO technology and non-orthogonal multiple access. 5G will herald an even greater rise in the prominence of mobile access based upon both human-centric and machine-centric networks. Compared with existing 4G communications systems, unprecedented numbers of smart and heterogeneous wireless devices will be accessing future 5G mobile systems. As a result, a new paradigm shift is required to deal with challenges on explosively growing requirements in mobile data traffic volume (1000x), number of connected devices (10-100x), typical end-user data rate (10-100x), and device/network lifetime (10x). Achieving these ambitious goals calls for revolutionary candidate technologies in future 5G mobile systems. Designed for researchers and professionals involved with networks and communication systems, 5G Mobile Communications is a straightforward, easy-to-read analysis of the possibilities of 5G systems.

Cloud Based 5G Wireless Networks - Yin Zhang 2016-11-09

This SpringerBrief introduces key techniques for 5G wireless networks. The authors cover the development of wireless networks that led to 5G, and how 5G mobile communication technology (5G) can no longer be defined by a single business model or a typical technical characteristic. The discussed networks functions and services include Network Function Virtualization (NFV), Cloud Radio Access Networks (Cloud-RAN), and Mobile Cloud Networking (MCN). The benefits of cloud platforms are examined, as are definable networking and green wireless networking. Other related and representative projects on 5G are mobile and wireless communications enablers for the Twenty-Twenty Information Society, Multi-hop Cellular Networks, Network Function as-a-Service over Virtualized Infrastructures, iJOIN, and Nuage Virtualized Services Platform. Major applications of 5G range from RAN sharing and Multi-Operator Core Networks to mobile convergence. Enhancing the user experience by providing smart and customized services, 5G will support the explosive growth of big data, mobile internet, digital media, and system efficiency. This SpringerBrief is designed for professionals, researchers, and academics working in networks or system applications. Advanced-level students of computer science or computer engineering will also find the content valuable.

AI and Blockchain Technology in 6G Wireless Network - Malaya Dutta Borah 2022-09-11

This book highlights future research directions and latent solutions by integrating AI and Blockchain 6G networks, comprising computation efficiency, algorithms robustness, hardware development and energy management. This book brings together leading researchers in Academia and industry from diverse backgrounds to deliver to the technical community an outline of emerging technologies, advanced architectures, challenges, open issues and future directions of 6G networks. This book is written for researchers, professionals and students to learn about the integration of technologies such as AI and

Blockchain into 6G network and communications. This book addresses the topics such as consensus protocol, architecture, intelligent dynamic resource management, security and privacy in 6G to integrate AI and Blockchain and new real-time application with further research opportunities.

Security in Computing and Communications - Sabu M. Thampi 2021-02-09

This book constitutes revised selected papers of the 8th International Symposium on Security in Computing and Communications, SSCC 2020, held in Chennai, India, in October 2020. Due to the COVID-19 pandemic the conference was held online. The 13 revised full papers and 8 revised short papers presented were carefully reviewed and selected from 42 submissions. The papers cover wide research fields including cryptography, database and storage security, human and societal aspects of security and privacy.

The Digital Transformer's Dilemma - Karolin Frankenberger 2020-09-29

Bring your company into the digital era without compromising your core business In The Digital Transformer's Dilemma: How to Energize Your Core Business While Building Disruptive Products and Services, the authors show companies how to go digital while also advancing their core business. The book emphasizes how to strike a difficult balance between establishing a new (digital) business and re-vitalizing - and digitizing - the legacy business. The core of the book is focused on the actual implementation of the digital transformation across both businesses, providing concrete tips, tricks, tools and action plans across six key dimensions: Crafting a flexible organization Using technology as a driver Designing the necessary processes Building transformational leaders "Right-skilling" the workforce of the future Galvanizing cultural change The Digital Transformer's Dilemma is a very visual book, filled with dozens of engaging illustrations that bring the contained concepts to life on the page. Based on 100+ interviews with senior executives at leading companies (such as Nestlé, Novartis, Volkswagen, BNP Paribas, BASF and Michelin) and smaller hidden champions, numerous illuminating case studies, and the authors' own experience from working in international management consulting and years of academic experience, the book highlights the fundamental principles required for executives and businesspeople to transform legacy organizations into digitally empowered companies.

10 Steps to a Digital Practice in the Cloud. Higgins 2017-05-15

Improve the quality, efficiency, and profitability of the services you offer your clients. In today's marketplace, leveraging technology and cloud-based solutions to automate data processing and other low-value work is essential to running an efficient and profitable CPA practice. Given the pace of change, it's also too easy to feel overwhelmed by the abundance of choices and make bad decisions that cost you time and money. 10 Steps to a Digital Practice in the Cloud will help you clear a path for your firm's success. This popular how-to guide is your roadmap to building your successful practice in the cloud in just 10 steps. You'll get practical, comprehensive information with step-by-step instructions, covering areas such as: Infrastructure Scanning Solutions Document Management Client Portals Workflow Management Cloud-based Client Accounting Systems Security Disaster Recovery And more! Authors John Higgins and Bryan Smith guide you through each step, helping you implement best practices in each area, select the right solutions for your firm, and better serve your clients. They also include several real-world CPA firm case studies to illustrate how other firms have saved time and money while making their firms run more efficiently by moving to a digital practice model. This second edition is updated to reflect the current state of the market and the technology solutions available for cloud-based server infrastructure, personal computers and software, mobile computing, scanning, client portals, document management, workflow, cloud accounting and more. Use it to develop your technology plan and make a valuable investment in your firm's future.

5G Mobile Communications - Saad Asif 2018-07-20

This book will help readers comprehend technical and policy elements of telecommunication particularly in the context of 5G. It first presents an overview of the current research and standardization practices and lays down the global frequency spectrum allocation process. It further lists solutions to accommodate 5G spectrum requirements. The readers will find a considerable amount of information on 4G (LTE-Advanced), LTE-Advance Pro, 5G NR (New Radio); transport network technologies, 5G NGC (Next Generation Core), OSS (Operations Support Systems), network deployment and end-to-end 5G network architecture. Some details on multiple network elements (end products) such as 5G base station/small cells and the role of

semiconductors in telecommunication are also provided. Keeping trends in mind, service delivery mechanisms along with state-of-the-art services such as MFS (mobile financial services), mHealth (mobile health) and IoT (Internet-of-Things) are covered at length. At the end, telecom sector's burning challenges and best practices are explained which may be looked into for today's and tomorrow's networks. The book concludes with certain high level suggestions for the growth of telecommunication, particularly on the importance of basic research, departure from ten-year evolution cycle and having a 20-30 year plan. Explains the conceivable six phases of mobile telecommunication's ecosystem that includes R&D, standardization, product/network/device & application development, and burning challenges and best practices Provides an overview of research and standardization on 5G Discusses solutions to address 5G spectrum requirements while describing the global frequency spectrum allocation process Presents various case studies and policies Provides details on multiple network elements and the role of semiconductors in telecommunication Presents service delivery mechanisms with special focus on IoT

5G Second Phase Explained - Jyrki T. J. Penttinen 2021-04-12

5G SECOND PHASE EXPLAINED A one-stop reference that offers an accessible guide to an understanding of the enhanced core technologies of 5G 5G Second Phase Explained - The 3GPP Release 16 Enhancements offers an authoritative and essential guide to the new functionalities of the Release 16 that complement the first phase of the 5G. From the author of 5G Explained comes the next step resource that includes detailed descriptions that provide a clear understanding to the full version of the 5G technologies and their impacts on the Phase 1 networks. The author—an industry expert—not only reviews the most up-to-date functionalities of the Release 16 but includes information on the forthcoming Release 17 as well as material on future developments. The book explores the highly unique aspects of the Release 16, which can help technical personnel's efforts to deliver essential information in a practical way. The two books, 5G Explained and 5G Second Phase Explained, offer a comprehensive understanding of 5G. This important guide: Offers a summary of the newest and key features of 5G Presents a one-stop reference for an understanding of the core technologies of 5G Contains a new book that expands on the author's 5G Explained Puts the focus on security and deployment aspects of 5G enhancements Written for technical personnel of network operators, network element and user device manufacturers, 5G Second Phase Explained offers a guide to an understanding of network deployment and device designing of 5G technologies.

Functional Reverse Engineering of Machine Tools - Wasim Ahmed Khan 2019-09-23

The purpose of this book is to develop capacity building in strategic and non-strategic machine tool technology. The book contains chapters on how to functionally reverse engineer strategic and non-strategic computer numerical control machinery. Numerous engineering areas, such as mechanical engineering, electrical engineering, control engineering, and computer hardware and software engineering, are covered. The book offers guidelines and covers design for machine tools, prototyping, augmented reality for machine tools, modern communication strategies, and enterprises of functional reverse engineering, along with case studies. Features Presents capacity building in machine tool development Discusses engineering design for machine tools Covers prototyping of strategic and non-strategic machine tools Illustrates augmented reality for machine tools Includes Internet of Things (IoT) for machine tools

5G for the Connected World - Devaki Chandramouli 2019-04-29

Comprehensive Handbook Demystifies 5G for Technical and Business Professionals in Mobile Telecommunication Fields Much is being said regarding the possibilities and capabilities of the emerging 5G technology, as the evolution towards 5G promises to transform entire industries and many aspects of our society. 5G for the Connected World offers a comprehensive technical overview that telecommunication professionals need to understand and take advantage of these developments. The book offers a wide-ranging coverage of the technical aspects of 5G (with special consideration of the 3GPP Release 15 content), how it enables new services and how it differs from LTE. This includes information on potential use cases, aspects of radio and core networks, spectrum considerations and the services primarily driving 5G development and deployment. The text also looks at 5G in relation to the Internet of Things, machine to machine communication and technical enablers such as LTE-M, NB-IoT and EC-GSM. Additional chapters discuss new business models for telecommunication service providers and vertical industries as a result of

introducing 5G and strategies for staying ahead of the curve. Other topics include: Key features of the new 5G radio such as descriptions of new waveforms, massive MIMO and beamforming technologies as well as spectrum considerations for 5G radio regarding all possible bands Drivers, motivations and overview of the new 5G system - especially RAN architecture and technology enablers (e.g. service-based architecture, compute-storage split and network exposure) for native cloud deployments Mobile edge computing, Non-3GPP access, Fixed-Mobile Convergence Detailed overview of mobility management, session management and Quality of Service frameworks 5G security vision and architecture Ultra-low latency and high reliability use cases and enablers, challenges and requirements (e.g. remote control, industrial automation, public safety and V2X communication) An outline of the requirements and challenges imposed by massive numbers of devices connected to cellular networks While some familiarity with the basics of 3GPP networks is helpful, 5G for the Connected World is intended for a variety of readers. It will prove a useful guide for telecommunication professionals, standardization experts, network operators, application developers and business analysts (or students working in these fields) as well as infrastructure and device vendors looking to develop and integrate 5G into their products, and to deploy 5G radio and core networks.

A Simple Guide to Technology and Analytics - Brian J. Evans 2021-09-12

Everyday technology is constantly changing, and it's hard to keep up with it at times. What is all this talk about automation, STEM, analytics and super-computers, and how will it really affect my daily life at work and in the home? This book is a simple guide to everyday technology and analytics written in plain language. It starts with explaining how computer networks are increasing in speed so fast that we can do more in less time than ever before. It explains the analytical jargon in plain English and why robotics in the home will be aided by the new technology of the quantum computer. Richly furnished with over 200 illustrations, photos and with minimal equations, A Simple Guide to Technology and Analytics is a ready reference book for those times when you don't really understand the technology and analytics being talked about. It explains complicated topics such as automated character recognition in a very simple way, and has simple exercises for the reader to fully understand the technology (with answers at the back). It even has explanations on how home appliances work, which are very useful the next time you go shopping for a microwave or TV. Even the Glossary at the back can be used as a quick look-up explanation for those on the go.

Learn Azure in a Month of Lunches, Second Edition Iain Foulds 2020-10-06

Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. Summary You can be incredibly productive with Azure without mastering every feature, function, and service. Learn Azure in a Month of Lunches, Second Edition gets you up and running quickly, teaching you the most important concepts and tasks in 21 practical bite-sized lessons. As you explore the examples, exercises, and labs, you'll pick up valuable skills immediately and take your first steps to Azure mastery! This fully revised new edition covers core changes to the Azure UI, new Azure features, Azure containers, and the upgraded Azure Kubernetes Service. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microsoft Azure is vast and powerful, offering virtual servers, application templates, and prebuilt services for everything from data storage to AI. To navigate it all, you need a trustworthy guide. In this book, Microsoft engineer and Azure trainer Iain Foulds focuses on core skills for creating cloud-based applications. About the book Learn Azure in a Month of Lunches, Second Edition, is a tutorial on writing, deploying, and running applications in Azure. In it, you'll work through 21 short lessons that give you real-world experience. Each lesson includes a hands-on lab so you can try out and lock in your new skills. What's inside Understanding Azure beyond point-and-click Securing applications and data Automating your environment Azure services for machine learning, containers, and more About the reader This book is for readers who can write and deploy simple web or client/server applications. About the author Iain Foulds is an engineer and senior content developer with Microsoft. Table of Contents PART 1 - AZURE CORE SERVICES 1 Before you begin 2 Creating a virtual machine 3 Azure Web Apps 4 Introduction to Azure Storage 5 Azure Networking basics PART 2 - HIGH AVAILABILITY AND SCALE 6 Azure Resource Manager 7 High availability and redundancy 8 Load-balancing applications 9

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