2017 Trends In Datacenter And Critical Infrastructure

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Digital Twin Technologies and Smart Cities - Maryam Farsi 2019-07-22
This book provides a holistic perspective on Digital Twin (DT) technologies, and presents cutting-edge research in the field. It assesses the opportunities that DT can offer for smart cities, and covers the requirements for ensuring secure, safe and sustainable smart cities. Further, the book demonstrates that DT and its benefits with regard to: data visualisation, real-

time data analytics, and learning leading to improved confidence in decision making; reasoning, monitoring and warning to support accurate diagnostics and prognostics; acting using edge control and what-if analysis; and connection with back-end business applications hold significant potential for applications in smart cities, by employing a wide range of sensory and data-acquisition systems in various parts of the urban infrastructure. The contributing authors reveal how and why DT technologies that are used for monitoring, visualising, diagnosing and predicting in real-time are vital to cities' sustainability and efficiency. The concepts outlined in the book represents a city together with all of its infrastructure elements, which communicate with each other in a complex manner. Moreover, securing Internet of Things (IoT) which is one of the key enablers of DT's is discussed in details and from various perspectives. The book offers an outstanding reference guide for practitioners and researchers in manufacturing, operations research and communications, who are considering digitising some of their assets and related services. It is also a valuable asset for graduate students and academics who are looking to identify research gaps and develop their own proposals for further research.

Risk Management for IT Infrastructure - Julian Kudritzki 2016-12-15
The keys to risk management for IT infrastructure are identifying the risks your organization faces, assessing your organization's exposure, and ensuring that your processes and procedures are aligned with industry. In this volume, we have included excerpts of Uptime Institute's extensive thought leadership in this area. recommendations.

The Datacenter as a Computer - Luiz André Barroso 2018-10-29
This book describes warehouse-scale computers (WSCs), the computing platforms that power cloud computing and all the great web services

we use every day. It discusses how these new systems treat the datacenter itself as one massive computer designed at warehouse scale, with hardware and software working in concert to deliver good levels of internet service performance. The book details the architecture of WSCs and covers the main factors influencing their design, operation, and cost structure, and the characteristics of their software base. Each chapter contains multiple real-world examples, including detailed case studies and previously unpublished details of the infrastructure used to power Google's online services. Targeted at the architects and programmers of today's WSCs, this book provides a great foundation for those looking to innovate in this fascinating and important area, but the material will also be broadly interesting to those who just want to understand the infrastructure powering the internet. The third edition reflects four years of advancements since the previous edition and nearly doubles the number of pictures and figures. New topics range from additional workloads like video streaming, machine learning, and public cloud to specialized silicon accelerators, storage and network building blocks, and a revised discussion of data center power and cooling, and uptime. Further discussions of emerging trends and opportunities ensure that this revised edition will remain an essential resource for educators and professionals working on the next generation of WSCs.

Global Trends 2040 - National Intelligence Council 2021-03
"The ongoing COVID-19 pandemic marks the most significant, singular global disruption since World War II, with health, economic, political, and security implications that will ripple for years to come." -Global Trends 2040 (2021) Global Trends 2040-A More Contested World (2021), released by the US National Intelligence Council, is the latest report in its series of reports starting in 1997 about megatrends and

the world's future. This report, strongly influenced by the COVID-19 pandemic, paints a bleak picture of the future and describes a contested, fragmented and turbulent world. It specifically discusses the four main trends that will shape tomorrow's world: - Demographics-by 2040, 1.4 billion people will be added mostly in Africa and South Asia. - Economics-increased government debt and concentrated economic power will escalate problems for the poor and middleclass. - Climate-a hotter world will increase water, food, and health insecurity. - Technology-the emergence of new technologies could both solve and cause problems for human life. Students of trends, policymakers, entrepreneurs, academics, journalists and anyone eager for a glimpse into the next decades, will find this report, with colored graphs, essential reading.

Research Anthology on Business Continuity and Navigating Times of Crisis - Management Association, Information Resources 2022-01-07

When the COVID-19 pandemic caused a halt in global society, many business leaders found themselves unprepared for the unprecedented change that swept across industry. Whether the need to shift to remote work or the inability to safely conduct business during a global pandemic, many businesses struggled in the transition to the "new normal." In the wake of the pandemic, these struggles have created opportunities to study how businesses navigate these times of crisis. The Research Anthology on Business Continuity and Navigating Times of Crisis discusses the strategies, cases, and research surrounding business continuity throughout crises such as pandemics. This book analyzes business operations and the state of the economy during times of crisis and the leadership involved in recovery. Covering topics such as crisis management, entrepreneurship, and business sustainability, this four-volume comprehensive major reference work is a valuable resource for managers, CEOs, business

leaders, entrepreneurs, professors and students of higher education, researchers, and academicians.

Coastal Flood Risk Reduction - Samuel Brody 2022-05-06
Coastal Flood Risk Reduction: The Netherlands and the U.S. Upper Texas Coast represents the culmination of a 5-year international research and education partnership funded by the US National Science Foundation (NSF) and more than 10 years of collaboration between Dutch and U.S. flood experts on the basic issue of how to protect society from growing flood risks. Multiple case studies integrating the fields of engineering, hydrology, landscape architecture, economics, and planning address the underlying characteristics of physical flood risks and their prediction; human communities and the associated built environment; physical, social, and built-environment variables; and mitigation techniques. In recognition of the lack of systematic research and the growing societal need to better understand flood impacts, this edited book provides an in-depth, comparative evaluation of flood problems and solutions in two key places: the Netherlands and the U.S. Upper Texas Coast. Both regions are extremely flood-prone and have experienced continual adverse impacts throughout their histories. For researchers in flood management, geographers, hydrologists, environmental studies, and social science as well as policymakers and decision-makers in flood management authorities and related industries, this book provides an essential resource. Introduces integrated comparative work on flood risk reduction and management across disciplines and international boundaries Presents chapters written by dozens of experts across six U.S. and Dutch universities that have formally participated in the international research and education program funded by the U.S. National Science Foundation (NSF) Provides a basis for understanding and mitigating flood risk over a range of necessary

perspectives, from modeling inputs to design solutions Integrates cutting-edge scientific methods and state-of-the-art knowledge with examples of specific solutions and how they are being implemented in each national case study

Algorithms and Architectures for Parallel Processing - Meikang Qiu 2020-09-29
This three-volume set LNCS 12452, 12453, and 12454 constitutes the proceedings of the 20th International Conference on Algorithms and Architectures for Parallel Processing, ICA3PP 2020, in New York City, NY, USA, in October 2020. The total of 142 full papers and 5 short papers included in this proceedings volumes was carefully reviewed and selected from 495 submissions. ICA3PP is covering the many dimensions of parallel algorithms and architectures, encompassing fundamental theoretical approaches, practical experimental projects, and commercial components and systems. As applications of computing systems have permeated in every aspects of daily life, the power of computing system has become increasingly critical. This conference provides a forum for academics and practitioners from countries around the world to exchange ideas for improving the efficiency, performance, reliability, security and interoperability of computing systems and applications. ICA3PP 2020 focus on two broad areas of parallel and distributed computing, i.e. architectures, algorithms and networks, and systems and applications.

Deep Mediatization - Andreas Hepp 2019-12-20
Andreas Hepp takes an integrative look at one of the biggest questions in media and communications research: how digital media is changing society. Often, such questions are discussed in isolation, losing sight of the overarching context in which they are situated. Hepp has developed a theory of the re-figuration of society by digital media and their infrastructures, and provides an understanding

of how profound today's media-related changes are, not only for institutions, organizations and communities, but for the individual as well. Rooted in the latest research, this book does not stop at a description of media-related change; instead, it raises the normative challenge of what deep mediatization should look like so that it might just stimulate a 'good life' for all. Providing original and critical research, the book introduces deep mediatization to students of media and cultural studies, as well as neighboring disciplines like sociology, political science and other cognate disciplines.

Non-state Actors in the Arctic Region - Nikolas Sellheim 2022-11-10
This book comprehensively discusses the role that non-state actors play in the Arctic and assesses the normative role of these actors. Beyond any organised forum, there are actors that have a significant impact on the way the Arctic is developed, adjudicated, managed, perceived, presented and represented. This book complements the literature on non-state actors in international law and international security, world politics and international relations and provides a geographical account of their role for the Arctic. The book content is not limited to a specific discipline, but takes into account different approaches to the topic. This means that it contains three types of contributions: research articles, shorter research notes and commentaries. While the research articles constitute the main body of the work, it is also the research notes which provide an insight into issues related to the topic of the book.
Appalachia - 1987

Handbook of Research on Big Data and the IoT - Kaur, Gurjit 2019-03-29
The increase in connected devices in the internet of things (IoT) is leading to an exponential increase in the data that an organization is required to manage. To successfully utilize IoT in businesses, big data

analytics are necessary in order to efficiently sort through the increased data. The combination of big data and IoT can thus enable new monitoring services and powerful processing of sensory data streams. The Handbook of Research on Big Data and the IoT is a pivotal reference source that provides vital research on emerging trends and recent innovative applications of big data and IoT, challenges facing organizations and the implications of these technologies on society, and best practices for their implementation. While highlighting topics such as bootstrapping, data fusion, and graph mining, this publication is ideally designed for IT specialists, managers, policymakers, analysts, software engineers, academicians, and researchers.

Digital Humanities and Scholarly Research Trends in the Asia-Pacific - Wong, Shun-han Rebekah 2019-01-25
Digital humanities is a dynamic and emerging field that aspires to enhance traditional research and scholarship through digital media. Although countries around the world are witnessing the widespread adoption of digital humanities, only a small portion of the literature discusses its development in the Asia Pacific region. Digital Humanities and Scholarly Research Trends in the Asia-Pacific provides innovative insights into the development of digital humanities and their ability to facilitate academic exchange and preserve cultural heritage. The content covers challenges including the need to maintain digital humanities momentum in libraries and research communities, to increase international collaboration, to maintain and promote developed digital projects, to deploy and redeploy resources to support research, and to build new skillsets and new professionals in the library. It is designed for librarians, government agencies, industry professionals, academicians, and researchers.

Trends in Telecommunication Reform 2015 - International Telecommunication Union

2017-07-11

Under the overarching theme "Getting ready for the digital economy", the 15th edition of Trends in Telecommunication Reform discusses changing ICT consumer behaviour, consumer empowerment and protection in the digital age. It further explores the opportunities and challenges of big data and what it means from a regulatory perspective; why competition matters. It also attempts to answer whether it is time to rethink spectrum licensing, how to monitor the implementation of broadband plans and what are the new business models driven by digital communications and services. As in previous editions, the publication will feature an in-depth analysis of current market and regulatory trends based on ITU data from one of the world's most comprehensive data platforms, the ICT Eye.

Emerging Trends in Intelligent and Interactive Systems and Applications - Madjid Tavana 2020-12-17

This book reports on the proceeding of the 5th International Conference on Intelligent, Interactive Systems and Applications (IISA 2020), held in Shanghai, China, on September 25–27, 2020. The IISA proceedings, with the latest scientific findings, and methods for solving intriguing problems, are a reference for state-of-the-art works on intelligent and interactive systems. This book covers nine interesting and current topics on different systems' orientations, including Analytical Systems, Database Management Systems, Electronics Systems, Energy Systems, Intelligent Systems, Network Systems, Optimization Systems, and Pattern Recognition Systems and Applications. The chapters included in this book cover significant recent developments in the field, both in terms of theoretical foundations and their practical application. An important characteristic of the works included here is the novelty of the solution approaches to the most interesting applications of intelligent and interactive

systems.

Advances in Emerging Trends and Technologies - Miguel Botto-Tobar 2019-10-12 This book constitutes the proceedings of the 1st International Conference on Advances in Emerging Trends and Technologies (ICAETT 2019), held in Quito, Ecuador, on 29–31 May 2019, jointly organized by Universidad Tecnológica Israel, Universidad Técnica del Norte, and Instituto Tecnológico Superior Rumiñahui, and supported by SNOTRA. ICAETT 2019 brought together top researchers and practitioners working in different domains of computer science to share their expertise and to discuss future developments and potential collaborations. Presenting high-quality, peer-reviewed papers, the book discusses the following topics: Technology Trends Electronics Intelligent Systems Machine Vision Communication Security e-Learning e-Business e-Government and e-Participation *Advances in Information and Communication -*

Kohei Arai 2019-02-01 This book presents a remarkable collection of chapters that cover a wide range of topics in the areas of information and communication technologies and their real-world applications. It gathers the Proceedings of the Future of Information and Communication Conference 2019 (FICC 2019), held in San Francisco, USA from March 14 to 15, 2019. The conference attracted a total of 462 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. Following a double-blind peer review process, 160 submissions (including 15 poster papers) were ultimately selected for inclusion in these proceedings. The papers highlight relevant trends in, and the latest research on: Communication, Data Science, Ambient Intelligence, Networking, Computing, Security, and the Internet of Things. Further, they address all aspects of Information Science and communication technologies, from classical to

intelligent, and both the theory and applications of the latest technologies and methodologies. Gathering chapters that discuss state-of-the-art intelligent methods and techniques for solving real-world problems, along with future research directions, the book represents both an interesting read and a valuable asset.

Power Engineering - Viorel Badescu 2018-12-07 Traditionally, power engineering has been a subfield of energy engineering and electrical engineering which deals with the generation, transmission, distribution and utilization of electric power and the electrical devices connected to such systems including generators, motors and transformers. Implicitly this perception is associated with the generation of power in large hydraulic, thermal and nuclear plants and distributed consumption. Faced with the climate change phenomena, humanity has had to now contend with changes in attitudes in respect of environment protection and depletion of classical energy resources. These have had consequences in the power production sector, already faced with negative public opinions on nuclear energy and favorable perception of renewable energy resources and about distributed power generation. The objective of this edited book is to review all these changes and to present solutions for future power generation. Future energy systems must factor in the changes and developments in technology like improvements of natural gas combined cycles and clean coal technologies, carbon dioxide capture and storage, advancements in nuclear reactors and hydropower, renewable energy engineering, power-to-gas conversion and fuel cells, energy crops, new energy vectors biomass-hydrogen, thermal energy storage, new storage systems diffusion, modern substations, high voltage engineering equipment and compatibility, HVDC transmission with FACTS, advanced optimization in a liberalized market environment, active grids and smart grids, power system resilience, power quality and cost

of supply, plug-in electric vehicles, smart metering, control and communication technologies, new key actors as prosumers, smart cities. The emerging research will enhance the security of energy systems, safety in operation, protection of environment, improve energy efficiency, reliability and sustainability. The book reviews current literature in the advances, innovative options and solutions in power engineering. It has been written for researchers, engineers, technicians and graduate and doctorate students interested in power engineering.

World Development Report 2021 - World Bank 2021-06-15
Today's unprecedented growth of data and their ubiquity in our lives are signs that the data revolution is transforming the world. And yet much of the value of data remains untapped. Data collected for one purpose have the potential to generate economic and social value in applications far beyond those originally anticipated. But many barriers stand in the way, ranging from misaligned incentives and incompatible data systems to a fundamental lack of trust. World Development Report 2021: Data for Better Lives explores the tremendous potential of the changing data landscape to improve the lives of poor people, while also acknowledging its potential to open back doors that can harm individuals, businesses, and societies. To address this tension between the helpful and harmful potential of data, this Report calls for a new social contract that enables the use and reuse of data to create economic and social value, ensures equitable access to that value, and fosters trust that data will not be misused in harmful ways. This Report begins by assessing how better use and reuse of data can enhance the design of public policies, programs, and service delivery, as well as improve market efficiency and job creation through private sector growth. Because better data governance is key to realizing this value, the Report then

looks at how infrastructure policy, data regulation, economic policies, and institutional capabilities enable the sharing of data for their economic and social benefits, while safeguarding against harmful outcomes. The Report concludes by pulling together the pieces and offering an aspirational vision of an integrated national data system that would deliver on the promise of producing high-quality data and making them accessible in a way that promotes their safe use and reuse. By examining these opportunities and challenges, the Report shows how data can benefit the lives of all people, particularly poor people in low- and middle-income countries. .

Routledge Handbook of Sustainable and Resilient Infrastructure - Paolo Gardoni 2018-12-17
To best serve current and future generations, infrastructure needs to be resilient to the changing world while using limited resources in a sustainable manner. Research on and funding towards sustainability and resilience are growing rapidly, and significant research is being carried out at a number of institutions and centers worldwide. This handbook brings together current research on sustainable and resilient infrastructure and, in particular, stresses the fundamental nexus between sustainability and resilience. It aims to coalesce work from a large and diverse group of contributors across a wide range of disciplines including engineering, technology and informatics, urban planning, public policy, economics, and finance. Not only does it present a theoretical formulation of sustainability and resilience but it also demonstrates how these ideals can be realized in practice. This work will provide a reference text to students and scholars of a number of disciplines.

Big Data Technologies and Applications - Jason J. Jung 2018-11-08
This book constitutes the refereed post-conference proceedings of the 8th International Conference on Big Data Technologies and

Applications, BDTA 2017, held in Gwangju, South Korea, in November 2017. The 15 revised full papers were carefully reviewed and selected from 25 submissions and handle theoretical foundations and practical applications which premise the new generation of data analytics and engineering. The contributions deal with following topics: privacy and security, image processing, context awareness, s/w engineering and e-commerce, social media and health care.
Infrastructure and Technology Management - Tugrul U. Daim 2018-01-10
This book presents emerging technology management approaches and applied cases from leading infrastructure sectors such as energy, healthcare, transportation and education. Featuring timely topics such as fracking technology, electric cars, Google's eco-friendly mobile technology and Amazon Prime Air, the volume's contributions explore the current management challenges that have resulted from the development of new technologies, and present tools, applications and frameworks that can be utilized to overcome these challenges. Emerging technologies make us rethink how our infrastructure will look in the future. Solar and wind generation, for example, have already changed the dynamics of the power sector. While they have helped to reduce the use of fossil fuels, they have created management complications due to their intermittent natures. Meanwhile, information technologies have changed how we manage healthcare, making it safer and more accessible, but not without implications for cost and administration. Autonomous cars are around the corner. On-line education is no longer a myth but still a largely unfulfilled opportunity. Digitization of car ownership is achievable thanks to emerging business models leveraging new communication technologies. The major challenge is how to evaluate the relative costs and benefits of these technologies. This book offers insights from both researchers and industry practitioners to

address this challenge and anticipate the impact of new technologies on infrastructure now and in the future.

CCNA Data Center DCICT 200-155 Official Cert Guide - Navaid Shamsee 2017-02-09
CCNA Data Center DCICT 200-155 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. A team of leading Cisco data center experts shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This is the eBook edition of the CCNA Data Center DCICT 200-155 Official Cert Guide. This eBook does not include the access code for the practice exam that comes with the print edition. This complete, official study package includes A test-preparation routine proven to help you pass the exam "Do I Know This Already?" quizzes, which enable you to decide how much time you need to spend on each section Part-ending exercises, which help you drill on key concepts you must know thoroughly Study plan suggestions and templates to help you organize and optimize your study time A final preparation chapter that guides you through tools and resources to help you craft your review and test-taking strategies Well regarded for its level of detail, study plans, assessment features, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success. The official study guide helps you master topics on the CCNA Data Center DCICT 200-155 exam.

Engineering and Management of Data Centers - Jorge Marx Gómez 2017-11-10
This edited volume covers essential and recent development in the engineering and management of data centers. Data centers are complex systems requiring ongoing support, and their high value for keeping business continuity operations is crucial. The book presents core

topics on the planning, design, implementation, operation and control, and sustainability of a data center from a didactical and practitioner viewpoint. Chapters include: · Foundations of data centers: Key Concepts and Taxonomies · ITSDM: A Methodology for IT Services Design · Managing Risks on Data Centers through Dashboards · Risk Analysis in Data Center Disaster Recovery Plans · Best practices in Data Center Management Case: KIO Networks · QoS in NaaS (Network as a Service) using Software Defined Networking · Optimization of Data Center Fault-Tolerance Design · Energetic Data Centre Design Considering Energy Efficiency Improvements During Operation · Demand-side Flexibility and Supply-side Management: The Use Case of Data Centers and Energy Utilities · DevOps: Foundations and its Utilization in Data Centers · Sustainable and Resilient Network Infrastructure Design for Cloud Data Centres · Application Software in Cloud-Ready Data Centers This book bridges the gap between academia and the industry, offering essential reading for practitioners in data centers, researchers in the area, and faculty teaching related courses on data centers. The book can be used as a complementary text for traditional courses on Computer Networks, as well as innovative courses on IT Architecture, IT Service Management, IT Operations, and Data Centers.

Handbook of Data Center Management - Wayne C. Bradley 2017-11-22
Accounting for the rapid and often confusing changes currently underway in the information systems of organizations, such as the rush to replace mainframes with networks and the decentralization of data storage and processing, provides insights on the duties and challenges of a data center manager. Covers strategic planning, management practices, controls, systems and contingency planning, network technology, human resources, desktop computing, and future directions....

Digital Transformation of the Economy:

Challenges, Trends and New Opportunities - Svetlana Ashmarina 2019-02-05 This book gathers the best contributions from the conference "Digital Transformation of the Economy: Challenges, Trends and New Opportunities", which took place in Samara, Russian Federation, on May 29–31, 2018. Organized by Samara State University of Economics (Samara), Russia, the conference was devoted to issues of the digital economy.Presenting international research on the impact of digitalization on economic development, it includes topics such as the transformation of the institutional environment under the influence of informatization, the comparative analysis of the digitalization development in different countries, and modeling the dependence of the rate of change in the economy on the level of the digitalization penetration into various spheres of human activity. It also covers business-process transformation in the context of digitalization and changes in the structure of employment and personnel training for the digital economy. Lastly, it addresses the issue of ensuring information security and dealing with information risks for both individual enterprises and national economies as a whole. The book appeals to both students and researchers whose interests include the development of the digital economy, as well as to managers and professionals who integrate digital solutions into real-world business practice.

Blockchain - Rajdeep Chakraborty 2022-09-28 Blockchain: Principles and Applications in IoT covers all the aspects of Blockchain and its application in IOT. The book focuses on Blockchain, its features, and the core technologies that are used to build the Blockchain network. The gradual flow of chapters traces the history of blockchain from cryptocurrencies to blockchain technology platforms and applications that are adopted by mainstream financial and industrial domains

worldwide due to their ease of use, increased security and transparency. • Focuses on application of Blockchain on IoT domain • Focuses on Blockchain as a data repository • Most books on Blockchain cover bitcoins and crypto currency. This book will also cover blockchain in other areas like healthcare, supply chain management, etc • Covers consensus algorithms like PAROX, RAFT etc. and its applications This book is primarily aimed at graduates and researchers in computer science and IT.

Proceedings of the Fifth HPI Cloud Symposium "Operating the Cloud" 2017 - Andreas Polze 2018

Jedes Jahr lädt das Hasso-Plattner-Institut (HPI) Gäste aus der Industrie und der Wissenschaft zu einem kooperativen und wissenschaftlichen Symposium zum Thema Cloud Computing ein. Unser Ziel ist es, ein Forum für den Austausch von Wissen und Erfahrungen zwischen der Industrie und der Wissenschaft zu bieten.

Parallel zur Veranstaltung findet der HPI Future SOC Lab Tag statt, der eine zusätzliche attraktive Umgebung für wissenschaftliche und branchenbezogene Diskussionen bietet. Das Symposium zielt darauf ab, eine Plattform für produktive Interaktionen von innovativen Ideen, Visionen und aufkommenden Technologien im Bereich von Cloud Computing zu bitten. Anlässlich dieses Symposiums fordern wir die Einreichung von Forschungsarbeiten und Erfahrungsberichte. Dieser technische Bericht umfasst eine Zusammenstellung der im Rahmen des fünften HPI Cloud Symposiums "Operating the Cloud" 2017 angenommenen Forschungspapiere. Wir danken den Autoren für spannende Vorträge und Einblicke in ihre aktuelle Arbeit und Forschung. Darüber hinaus freuen wir uns auf weitere interessante Einreichungen für das kommende Symposium im Laufe des Jahres. Every year, the Hasso Plattner Institute (HPI) invites guests from industry and academia to a collaborative scientific workshop

on the topic Operating the Cloud. Our goal is to provide a forum for the exchange of knowledge and experience between industry and academia. Co-located with the event is the HPI's Future SOC Lab day, which offers an additional attractive and conducive environment for scientific and industry related discussions. Operating the Cloud aims to be a platform for productive interactions of innovative ideas, visions, and upcoming technologies in the field of cloud operation and administration. In these proceedings, the results of the fifth HPI cloud symposium Operating the Cloud 2017 are published. We thank the authors for exciting presentations and insights into their current work and research. Moreover, we look forward to more interesting submissions for the upcoming symposium in 2018.

Advances in Quantitative Remote Sensing in China – In Memory of Prof. Xiaowen Li - Shunlin Liang 2019-03-07

Quantitative land remote sensing has recently advanced dramatically, particularly in China. It has been largely driven by vast governmental investment, the availability of a huge amount of Chinese satellite data, geospatial information requirements for addressing pressing environmental issues and other societal benefits. Many individuals have also fostered and made great contributions to its development, and Prof. Xiaowen Li was one of these leading figures. This book is published in memory of Prof. Li. The papers collected in this book cover topics from surface reflectance simulation, inversion algorithm and estimation of variables, to applications in optical, thermal, Lidar and microwave remote sensing. The wide range of variables include directional reflectance, chlorophyll fluorescence, aerosol optical depth, incident solar radiation, albedo, surface temperature, upward longwave radiation, leaf area index, fractional vegetation cover, forest biomass, precipitation, evapotranspiration, freeze/thaw snow cover, vegetation productivity,

phenology and biodiversity indicators. They clearly reflect the current level of research in this area. This book constitutes an excellent reference suitable for upper-level undergraduate students, graduate students and professionals in remote sensing.

Novel Practices and Trends in Grid and Cloud Computing - Raj, Pethuru 2019-06-28 Business and IT organizations are currently embracing new strategically sound concepts in order to be more customer-centric, competitive, and cognitive in their daily operations. While useful, the various software tools, pioneering technologies, as well as their unique contributions largely go unused due to the lack of information provided on their special characteristics. Novel Practices and Trends in Grid and Cloud Computing is a collection of innovative research on the key concerns of cloud computing and how they are being addressed, as well as the various technologies and tools empowering cloud theory to be participative,

penetrative, pervasive, and persuasive. While highlighting topics including cyber security, smart technology, and artificial intelligence, this book is ideally designed for students, researchers, and business managers on the lookout for innovative IT solutions for all the business automation software and improvisations of computational technologies. Futuristic Trends in Network and Communication Technologies - Pradeep Kumar Singh 2021-03-30 This two-wolume set (CCIS 1395-1396) constitutes the refereed proceedings of the Third International Conference on Futuristic Trends in Network and Communication Technologies, FTNCT 2020, held in Taganrog, Russia, in October 2020. The 80 revised full papers presented were carefully reviewed and selected from 291 submissions. The prime aim of the conference is to invite researchers from different domains of network and communication technologies to a single platform to showcase

their research ideas. The selected papers are organized in topical sections on communication technologies; security and privacy; futuristic computing technologies; network and computing technologies; wireless networks and Internet of Things (IoT).

Software Engineering Trends and Techniques in Intelligent Systems - Radek Silhavy 2017-04-07
This book presents new approaches and methods to solve real-world problems as well as exploratory research describing novel approaches in the field of software engineering and intelligent systems. It particularly focuses on modern trends in selected fields of interest, introducing new algorithms, methods and application of intelligent systems in software engineering. The book constitutes the refereed proceedings of the Software Engineering Trends and Techniques in Intelligent Systems Section of the 6th Computer Science On-line Conference 2017 (CSOC 2017), held in April 2017.

Beginning C# 7 Programming with Visual Studio 2017 - Benjamin Perkins 2018-03-20
Easily get started programming using the ultra-versatile C# 7 and Visual Studio 2017 Beginning C# 7 Programming with Visual Studio 2017 is the beginner's ultimate guide to the world's most popular programming language. Whether you're new to programming entirely, or just new to C#, there has never been a better time to get started. The new C# 7 and Visual Studio 2017 updates feature a number of new tools and features that streamline the workflow, simplify the code, and make it easier than ever to build high-quality apps. This book walks you through everything you need to know, starting from the very basics, to have you programming in no time. You'll learn about variables, flow control, and object oriented programming, then move into Web and Windows programming as well as databases and XML. The companion website provides downloadable code examples, and practical Try It Out sections provide explicit,

step-by-step instructions for writing your own useful, customizable code. C# 7 can be used to build Windows applications, program Windows 10, and write Web apps when used alongside ASP.NET. With programming skills becoming de rigueur in fields far beyond the tech world, C# 7 is a great place to start building versatile, helpful skills. This book gets you started quickly and easily with instruction from a master-team of C# programmers. Learn how to program using the world's leading programming language Build smarter, faster apps using the latest features in C# 7 and Visual Studio 2017 Find and fix bugs sooner, saving headaches down the line Integrate with all .NET Core, Azure applications, cloud services, Docker containers, and more The world of programming can seem intimidating to a beginner, and the prospect of learning a whole new "language" can seem daunting. Beginning C# 7 Programming with Visual Studio 2017 demystifies the process and shows you how to bring your ideas to life.

Advances and New Trends in Environmental Informatics - Andreas Kamilaris 2020-12-16 This book is an outcome of the 34th International Conference EnviroInfo 2020, hosted virtually in Nicosia, Cyprus by the Research Centre on Interactive Media, Smart Systems and Emerging Technologies (RISE). It presents a selection of papers that describe innovative scientific approaches and ongoing research in environmental informatics and the emerging field of environmental sustainability, promoted and facilitated by the use of information and communication technologies (ICT). The respective articles cover a broad range of scientific aspects including advances in core environmental informatics-related technologies such as earth observation, environmental modelling, big data and machine learning, robotics, smart agriculture and food solutions, renewable energy-based solutions, optimization of infrastructures, sustainable industrial processes, and citizen science, as well

as applications of ICT solutions intended to support societal transformation processes toward the more sustainable management of resource use, transportation and energy supplies. Given its scope, the book is essential reading for scientists, experts and students in these fields of research. Chapter "Developing a Configuration System for a Simulation Game in the Domain of Urban CO2 Emissions Reduction" is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Advances in Edge Computing: Massive Parallel Processing and Applications - F. Xhafa
2020-03-10
The rapid advance of Internet of Things (IoT) technologies has resulted in the number of IoT-connected devices growing exponentially, with billions of connected devices worldwide. While this development brings with it great opportunities for many fields of science, engineering, business and everyday life, it also presents challenges such as an architectural bottleneck – with a very large number of IoT devices connected to a rather small number of servers in Cloud data centers – and the problem of data deluge. Edge computing aims to alleviate the computational burden of the IoT for the Cloud by pushing some of the computations and logics of processing from the Cloud to the Edge of the Internet. It is becoming commonplace to allocate tasks and applications such as data filtering, classification, semantic enrichment and data aggregation to this layer, but to prevent this new layer from itself becoming another bottleneck for the whole computing stack from IoT to the Cloud, the Edge computing layer needs to be capable of implementing massively parallel and distributed algorithms efficiently. This book, Advances in Edge Computing: Massive Parallel Processing and Applications, addresses these challenges in 11 chapters. Subjects covered include: Fog storage software architecture; IoT-based crowdsourcing; the

industrial Internet of Things; privacy issues; smart home management in the Cloud and the Fog; and a cloud robotic solution to assist medical applications. Providing an overview of developments in the field, the book will be of interest to all those working with the Internet of Things and Edge computing.

Handbook of Wireless Sensor Networks: Issues and Challenges in Current Scenario's - Pradeep Kumar Singh 2020-02-08
This book explores various challenging problems and applications areas of wireless sensor networks (WSNs), and identifies the current issues and future research challenges. Discussing the latest developments and advances, it covers all aspects of in WSNs, from architecture to protocols design, and from algorithm development to synchronization issues. As such the book is an essential reference resource for undergraduate and postgraduate students as well as scholars and academics working in the field.

Thriving on Our Changing Planet - National Academies of Sciences, Engineering, and Medicine 2019-01-20
We live on a dynamic Earth shaped by both natural processes and the impacts of humans on their environment. It is in our collective interest to observe and understand our planet, and to predict future behavior to the extent possible, in order to effectively manage resources, successfully respond to threats from natural and human-induced environmental change, and capitalize on the opportunities â€" social, economic, security, and more â€" that such knowledge can bring. By continuously monitoring and exploring Earth, developing a deep understanding of its evolving behavior, and characterizing the processes that shape and reshape the environment in which we live, we not only advance knowledge and basic discovery about our planet, but we further develop the foundation upon which benefits to society are built. Thriving on Our Changing Planet presents

prioritized science, applications, and observations, along with related strategic and programmatic guidance, to support the U.S. civil space Earth observation program over the coming decade.

Energy Futures - Simone Abram 2022-12-31 Everyday life as we knew it is increasingly challenged in a world of climate, social, health and political crisis. Emerging technologies, data analytics and automation open up new possibilities which have implications for energy generation, storage and energy demand. To support these changes we urgently need to rethink how energy will be sourced, shared and used. Yet existing approaches to this problem, driven by engineering, data analytics and capital, are dangerously conservative and entrenched. Energy Futures critically evaluates this context, and the energy infrastructures, stakeholders, and politics that participate in it, to propose plausible, responsible and ethical modes of encountering possible energy futures.

Imagining anthropocene challenges, emerging technologies and everyday life otherwise through empirically grounded studies, opens up possible energy futures. Energy Futures proposes and demonstrates a new critical and interventional futures-oriented energy anthropology. Combining the theories and methods of futures anthropology with the critical expertise and perspectives of energy anthropology creates a powerful mode of engagement, which this book argues is needed to disrupt the dominant narratives about our energy futures. Its contributors collectively reveal and evidence through innovative ethnographic practice how new knowledge about imagined and possible energy futures can be mobilised in engagements with emerging technologies, anthropocene challenges and everyday realities. In doing so it brings together authors, analytical expertise and ethnographic evidence from the global south, north and places in between, generated through innovative

methodologies including remote video and comic strip methods and documentary video practice as well as long term fieldwork.

Recent Trends in Intensive Computing - M. Rajesh 2021-12-22
In a world where computer science is now an essential element in all of our lives, a new opportunity to disseminate the latest research and trends is always welcome. This book presents the proceedings of the first International Conference on Recent Trends in Computing (ICRTC 2021), which was held as a virtual event on 21 – 22 May 2021 at Sanjivani College of Engineering, Kopargaon, India due to the restrictions of the COVID-19 pandemic. This online conference, aimed at facilitating academic exchange among researchers, enabled experts and scholars around from around the globe to gather for the discussion of the latest advanced research in the field despite the extensive travel restrictions still in place. The book contains 134 papers selected from 329 submitted papers after a rigorous peer-review process, and topics covered include advanced computing, networking, informatics, security and privacy, and other related fields. The book will be of interest to all those eager to find the latest trends and most recent developments in computer science.

Emerging Trends in Intelligent Computing and Informatics - Faisal Saeed 2019-11-01
This book presents the proceedings of the 4th International Conference of Reliable Information and Communication Technology 2019 (IRICT 2019), which was held in Pulai Springs Resort, Johor, Malaysia, on September 22–23, 2019. Featuring 109 papers, the book covers hot topics such as artificial intelligence and soft computing, data science and big data analytics, internet of things (IoT), intelligent communication systems, advances in information security, advances in information systems and software engineering.

Emerging Trends and Applications of the

Internet of Things - Kocovic, Petar 2017-03-16 The widespread availability of technologies has increased exponentially in recent years. This ubiquity has created more connectivity and seamless integration among technology devices. Emerging Trends and Applications of the Internet of Things is an essential reference publication featuring the latest scholarly research on the surge of connectivity between computing devices in modern society, as well as the benefits and challenges of this. Featuring extensive coverage on a broad range of topics such as cloud computing, spatial cognition, and ultrasonic sensing, this book is ideally designed for researchers, professionals, and academicians seeking current research on upcoming advances in the Internet of Things (IoT).