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KEY=LEVEL - KARLEE ROBERSON

THE VIENNA LTE-ADVANCED SIMULATORS

UP AND DOWNLINK, LINK AND SYSTEM LEVEL SIMULATION

Springer **This book introduces the Vienna Simulator Suite for 3rd-Generation Partnership Project (3GPP)-compatible Long Term Evolution-Advanced (LTE-A) simulators and presents applications to demonstrate their uses for describing, designing, and optimizing wireless cellular LTE-A networks. Part One addresses LTE and LTE-A link level techniques. As there has been high demand for the downlink (DL) simulator, it constitutes the central focus of the majority of the chapters. This part of the book reports on relevant highlights, including single-user (SU), multi-user (MU) and single-input-single-output (SISO) as well as multiple-input-multiple-output (MIMO) transmissions. Furthermore, it summarizes the optimal pilot pattern for high-speed communications as well as different synchronization issues. One chapter is**

devoted to experiments that show how the link level simulator can provide input to a testbed. This section also uses measurements to present and validate fundamental results on orthogonal frequency division multiplexing (OFDM) transmissions that are not limited to LTE-A. One chapter exclusively deals with the newest tool, the uplink (UL) link level simulator, and presents cutting-edge results. In turn, Part Two focuses on system-level simulations. From early on, system-level simulations have been in high demand, as people are naturally seeking answers when scenarios with numerous base stations and hundreds of users are investigated. This part not only explains how mathematical abstraction can be employed to speed up simulations by several hundred times without sacrificing precision, but also illustrates new theories on how to abstract large urban heterogeneous networks with indoor small cells. It also reports on advanced applications such as train and car transmissions to demonstrate the tools' capabilities.

HIGH-PERFORMANCE MODELLING AND SIMULATION FOR BIG DATA APPLICATIONS

SELECTED RESULTS OF THE COST ACTION IC1406 CHIPSET

Springer **This open access book was prepared as a Final Publication of the COST Action IC1406 "High-Performance Modelling and Simulation for Big Data Applications (cHiPSet)" project. Long considered important pillars of the scientific method, Modelling and Simulation have evolved from traditional discrete numerical methods to complex data-intensive continuous analytical optimisations. Resolution, scale, and accuracy have become essential to predict and analyse natural and complex systems in science and engineering. When their level of abstraction raises to have a better discernment of the domain at hand, their representation gets increasingly demanding for computational and data resources. On the other hand, High Performance Computing typically entails the effective use of parallel and distributed processing units coupled with efficient storage, communication and visualisation systems to underpin complex data-intensive applications in distinct scientific and technical domains. It is then arguably required to have a seamless interaction of High Performance Computing with Modelling and Simulation in order to store, compute, analyse, and visualise large data sets in science and engineering. Funded by the European Commission, cHiPSet has provided a dynamic trans-European forum for their members and distinguished guests to openly discuss novel perspectives and topics of interests for these two communities. This cHiPSet compendium presents a set of selected case studies related to healthcare, biological data, computational advertising, multimedia, finance, bioinformatics, and telecommunications.**

VEHICULAR NETWORKING

Cambridge University Press **Learn about the basics and the future of vehicular networking research with this essential guide to in- and inter-vehicle communication.**

COMPUTER SAFETY, RELIABILITY, AND SECURITY

SAFECOMP 2019 WORKSHOPS, ASSURE, DECSOS, SASSUR, STRIVE, AND WAISE, TURKU, FINLAND, SEPTEMBER 10, 2019, PROCEEDINGS

Springer Nature **This book constitutes the proceedings of the Workshops held in conjunction with SAFECOMP 2019, 38th International Conference on Computer Safety, Reliability and Security, in September 2019 in Turku, Finland. The 32 regular papers included in this volume were carefully reviewed and selected from 43 submissions; the book also contains two invited papers. The workshops included in this volume are: ASSURE 2019: 7th International Workshop on Assurance Cases for Software-Intensive Systems DECSoS 2019: 14th ERCIM/EWICS/ARTEMIS Workshop on Dependable Smart Embedded and Cyber-Physical Systems and Systems-of-Systems SASSUR 2019: 8th International Workshop on Next Generation of System Assurance Approaches for Safety-Critical Systems STRIVE 2019: Second International Workshop on Safety, securiTy, and pRivacy In automotiVe systEms WAISE 2019: Second International Workshop on Artificial Intelligence Safety Engineering**

INFRASTRUCTURE AND SAFETY IN A COLLABORATIVE WORLD

ROAD TRAFFIC SAFETY

Springer Science & Business Media **The book investigates how, and which, forgiving road environments (FOR) and self-explaining road measures (SER) will contribute to increasing road safety and also increase network efficiency on the road. It presents both the general approach and the methodology for generating the possible FOR and SER measures. The book further discusses the prioritization and the testing methodologies, as well as the designing VMS methodology. The next parts of the book present a few important examples: lane departure warning systems; intelligent speed adaptation systems and perception enhancement studies; designs of European pictorial signs, e.g. for VMS but also examples of designs of European road wordings; and finally how personalization can take place of VMS**

signs and wordings for the individual driver. The last part shows the final evaluation of FOR and SER, and detailed Multiple Criterion Analysis and Cost Benefit Analyses are performed on a number of FOR and SER measures. This results in the development of a set of guidelines, conclusions and recommendations for the future.

INTERNET OF THINGS AND SENSORS NETWORKS IN 5G WIRELESS COMMUNICATIONS

MDPI **The Internet of Things (IoT) has attracted much attention from society, industry and academia as a promising technology that can enhance day to day activities, and the creation of new business models, products and services, and serve as a broad source of research topics and ideas. A future digital society is envisioned, composed of numerous wireless connected sensors and devices. Driven by huge demand, the massive IoT (mIoT) or massive machine type communication (mMTC) has been identified as one of the three main communication scenarios for 5G. In addition to connectivity, computing and storage and data management are also long-standing issues for low-cost devices and sensors. The book is a collection of outstanding technical research and industrial papers covering new research results, with a wide range of features within the 5G-and-beyond framework. It provides a range of discussions of the major research challenges and achievements within this topic.**

EMBEDDED SYSTEM DESIGN

EMBEDDED SYSTEMS FOUNDATIONS OF CYBER-PHYSICAL SYSTEMS

Springer Science & Business Media **Until the late 1980s, information processing was associated with large mainframe computers and huge tape drives. During the 1990s, this trend shifted toward information processing with personal computers, or PCs. The trend toward miniaturization continues and in the future the majority of information processing systems will be small mobile computers, many of which will be embedded into larger products and interfaced to the physical environment. Hence, these kinds of systems are called embedded systems. Embedded systems together with their physical environment are called cyber-physical systems. Examples include systems such as transportation and fabrication equipment. It is expected that the total market volume of embedded systems will be significantly larger than that of traditional information processing systems such as PCs and mainframes. Embedded systems share a number of common characteristics. For example, they must be dependable, efficient, meet real-time constraints and require customized user interfaces (instead of generic keyboard and mouse interfaces). Therefore, it makes sense to consider common principles of embedded system design. Embedded System Design starts with an introduction into the**

area and a survey of specification models and languages for embedded and cyber-physical systems. It provides a brief overview of hardware devices used for such systems and presents the essentials of system software for embedded systems, like real-time operating systems. The book also discusses evaluation and validation techniques for embedded systems. Furthermore, the book presents an overview of techniques for mapping applications to execution platforms. Due to the importance of resource efficiency, the book also contains a selected set of optimization techniques for embedded systems, including special compilation techniques. The book closes with a brief survey on testing. Embedded System Design can be used as a text book for courses on embedded systems and as a source which provides pointers to relevant material in the area for PhD students and teachers. It assumes a basic knowledge of information processing hardware and software. Courseware related to this book is available at http://ls12-www.cs.tu-dortmund.de/~marwedel.

HANDBOOK OF DRIVER ASSISTANCE SYSTEMS

BASIC INFORMATION, COMPONENTS AND SYSTEMS FOR ACTIVE SAFETY AND COMFORT

Springer **This fundamental work explains in detail systems for active safety and driver assistance, considering both their structure and their function. These include the well-known standard systems such as Anti-lock braking system (ABS), Electronic Stability Control (ESC) or Adaptive Cruise Control (ACC). But it includes also new systems for protecting collisions protection, for changing the lane, or for convenient parking. The book aims at giving a complete picture focusing on the entire system. First, it describes the components which are necessary for assistance systems, such as sensors, actuators, mechatronic subsystems, and control elements. Then, it explains key features for the user-friendly design of human-machine interfaces between driver and assistance system. Finally, important characteristic features of driver assistance systems for particular vehicles are presented: Systems for commercial vehicles and motorcycles.**

FOG COMPUTING IN THE INTERNET OF THINGS

INTELLIGENCE AT THE EDGE

Springer **This book describes state-of-the-art approaches to Fog Computing, including the background of innovations achieved in recent years. Coverage includes various aspects of fog computing architectures for Internet of Things,**

driving reasons, variations and case studies. The authors discuss in detail key topics, such as meeting low latency and real-time requirements of applications, interoperability, federation and heterogeneous computing, energy efficiency and mobility, fog and cloud interplay, geo-distribution and location awareness, and case studies in healthcare and smart space applications.

DIGITAL TRANSFORMATION OF THE DESIGN, CONSTRUCTION AND MANAGEMENT PROCESSES OF THE BUILT ENVIRONMENT

Springer Nature **This open access book focuses on the development of methods, interoperable and integrated ICT tools, and survey techniques for optimal management of the building process. The construction sector is facing an increasing demand for major innovations in terms of digital dematerialization and technologies such as the Internet of Things, big data, advanced manufacturing, robotics, 3D printing, blockchain technologies and artificial intelligence. The demand for simplification and transparency in information management and for the rationalization and optimization of very fragmented and splintered processes is a key driver for digitization. The book describes the contribution of the ABC Department of the Polytechnic University of Milan (Politecnico di Milano) to R&D activities regarding methods and ICT tools for the interoperable management of the different phases of the building process, including design, construction, and management. Informative case studies complement the theoretical discussion. The book will be of interest to all stakeholders in the building process - owners, designers, constructors, and faculty managers - as well as the research sector.**

NETWORK AND SYSTEM SECURITY

13TH INTERNATIONAL CONFERENCE, NSS 2019, SAPPORO, JAPAN, DECEMBER 15–18, 2019, PROCEEDINGS

Springer Nature **This book constitutes the proceedings of the 13th International Conference on Network and System Security, NSS 2019, held in Sapporo, Japan, in December 2019. The 36 full papers and 7 short papers presented together with 4 invited papers in this book were carefully reviewed and selected from 89 initial submissions. The papers cover a wide range of topics in the field, including authentication, access control, availability, integrity, privacy, confidentiality, dependability and sustainability of computer networks and systems.**

HIGH PERFORMANCE COMPUTING

ISC HIGH PERFORMANCE 2016 INTERNATIONAL WORKSHOPS, EXACOMM, E-MUCOCOS, HPC-IODC, IXPUG, IWOPH, P^3MA, VHPC, WOPSSS, FRANKFURT, GERMANY, JUNE 19–23, 2016, REVISED SELECTED PAPERS

Springer **This book constitutes revised selected papers from 7 workshops that were held in conjunction with the ISC High Performance 2016 conference in Frankfurt, Germany, in June 2016. The 45 papers presented in this volume were carefully reviewed and selected for inclusion in this book. They stem from the following workshops: Workshop on Exascale Multi/Many Core Computing Systems, E-MuCoCoS; Second International Workshop on Communication Architectures at Extreme Scale, ExaComm; HPC I/O in the Data Center Workshop, HPC-IODC; International Workshop on OpenPOWER for HPC, IWOPH; Workshop on the Application Performance on Intel Xeon Phi – Being Prepared for KNL and Beyond, IXPUG; Workshop on Performance and Scalability of Storage Systems, WOPSSS; and International Workshop on Performance Portable Programming Models for Accelerators, P3MA.**

ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS. THE PATH TO INTELLIGENT, COLLABORATIVE AND SUSTAINABLE MANUFACTURING

IFIP WG 5.7 INTERNATIONAL CONFERENCE, APMS 2017, HAMBURG, GERMANY, SEPTEMBER 3-7, 2017, PROCEEDINGS, PART II

Springer **The two-volume set IFIP AICT 513 and 514 constitutes the refereed proceedings of the International IFIP WG 5.7 Conference on Advances in Production Management Systems, APMS 2017, held in Hamburg, Germany, in September 2017. The 121 revised full papers presented were carefully reviewed and selected from 163 submissions. They are organized in the following topical sections: smart manufacturing system characterization; product and asset life cycle management in smart factories of industry 4.0; cyber-physical (IIoT) technology deployments in smart manufacturing systems; multi-disciplinary collaboration in the development of smart product-service solutions; sustainable human integration in cyber-physical systems: the operator 4.0; intelligent diagnostics and maintenance solutions; operations planning, scheduling and control; supply chain design; production management in food supply chains; factory planning; industrial and other services; operations management in engineer-to-order manufacturing; gamification of complex systems design development; lean and green manufacturing; and eco-efficiency in**

manufacturing operations.

RAINWATER TANK SYSTEMS FOR URBAN WATER SUPPLY

IWA Publishing **Rainwater tank systems have been widely adopted across the world to provide a safe local source of water in underdeveloped rural areas, a substitution for mains water for non potable end uses in water stressed urban areas, as well as providing flooding control in monsoonal climates such as Korea, or combined sewer systems such as Germany. The importance of these systems in cities has grown, as water managers seek to provide a range of decentralised solutions to supply constraints of current water supply systems, whilst reducing the impact of urban development on the natural environment, and increasing resilience to the impacts of climate change. Rainwater tank systems are now often implemented under integrated urban water management (IUWM) and water sensitive urban design (WSUD) philosophies, which take a holistic view of the urban water cycle. Rainwater Tank Systems for Urban Water Supply is based on a comprehensive, multi-million dollar research program that was undertaken in South East Queensland (SEQ) Australia in response to the Millennium drought when the water supply level in the regions drinking water dams dropped to 17% in July 2007 and the area came close to running out of water. In particular, the book provides insights and detailed analysis of design, modelling, implementation, operation, energy usage, economics, management, health risk, social perceptions and implications for water quality/quantity of roof water runoff. The approaches and methodologies included in Rainwater Tank Systems for Urban Water Supply inform and validate research programs, and provide insights on the expected performance and potential pitfalls of the adoption of rainwater tanks systems including: actual harvested yield and resulting mains water savings, optimal sizing for rainwater storages and roof collection systems, expected water quality and implications for managing public health risks, modelling tools available for decision support, operation and management approaches of a decentralised asset at the household scale and community acceptance. The book is suitable for use at undergraduate and post graduate levels and is of particular interest to water professionals across the globe, who are involved in the strategic water planning for a town, city or a region. It is a valuable resource for developers, civil designers, water planners, architects and plumbers seeking to implement sustainable water servicing approaches for residential, industrial and commercial developments.**

MOBILE WEB AND INTELLIGENT INFORMATION SYSTEMS

13TH INTERNATIONAL CONFERENCE, MOBIWIS 2016, VIENNA, AUSTRIA, AUGUST 22-24, 2016, PROCEEDINGS

Springer **This book constitutes the refereed proceedings of the 13th International Conference on Mobile Web and Intelligent Information Systems, MobiWIS 2016, held in Vienna, Austria, in August 2016. The 36 papers presented in this volume were carefully reviewed and selected from 98 submissions. They were organization in topical sections named: mobile Web - practice and experience; advanced Web and mobile systems; security of mobile applications; mobile and wireless networking; mobile applications and wearable devices; mobile Web and applications; personalization and social networks.**

NETWORKING VEHICLES TO EVERYTHING

EVOLVING AUTOMOTIVE SOLUTIONS

Walter de Gruyter GmbH & Co KG **Communication between vehicles and infrastructure will enable an entirely new way of managing traffic, reducing accidents, and increasing citizens' quality of life. Networking Vehicles to Everything provides a 360-degree overview of networking vehicle technology. This informational account also covers challenges, case considerations, current activities in standards, product implementation, and upcoming trends such as software reconfiguration, mmWave technology and advanced control theory tools. Readers will gain in-depth understanding of the main bodies and institutions developing and regulating the technology, current technological battles including in particular IEEE 802.11p and 3GPP LTE V2X technologies which compete for the top-spot in a multi-billion market, and will become aware of currently open technological questions and corresponding trends in terms of applications and markets for any type of vehicle.**

ANIMAL LIVES WORTH LIVING

PROCEEDINGS OF THE 53RD CONGRESS OF THE INTERNATIONAL SOCIETY FOR APPLIED ETHOLOGY

Wageningen Academic Publishers **The main theme of this year’s congress is 'Animal lives worth living'. This theme focuses on our responsibility for all animals kept or influenced by humans, to ensure that we can provide a life for them that**

takes into account all relevant aspects of animal welfare, aided by applied ethology as the key scientific discipline. This not only means avoiding and alleviating suffering but also promoting resilience and positive experiences. By monitoring and interpreting animal behaviour, we gain important insights into each of these aspects of quality of life.

ENTERPRISE CONTINUOUS TESTING

TRANSFORMING TESTING FOR AGILE AND DEVOPS

Even with the most extreme automation, we simply don't have time for the "test everything" approach. It's impossible to test every possible path through a modern business application every time that we want to release. Fortunately, we don't need to. If we rethink our testing approach, we can get a thorough assessment of a release candidate's business risk with much less testing than most companies are doing today. Enterprise Continuous Testing: Transforming Testing for Agile and DevOps introduces a Continuous Testing strategy that helps enterprises accelerate and prioritize testing to meet the needs of fast-paced Agile and DevOps initiatives. Software testing has traditionally been the enemy of speed and innovation--a slow, costly process that delays releases while delivering questionable business value. This new strategy helps you test smarter, so testing provides rapid insight into what matters most to the business. Target AudienceThis book is written for senior quality managers and business executives who need to achieve the optimal balance between speed and quality when delivering the software that drives the modern business. It provides a roadmap for how to accelerate delivery with high confidence and low business risk.In summary: If you want to realign your Global 2000 organization's quality process with the unrelenting drive towards accelerated delivery speed and "Continuous Everything," then you're in the right place.

AVENUE21. CONNECTED AND AUTOMATED DRIVING: PROSPECTS FOR URBAN EUROPE

Springer Vieweg **This open access publication examines the impact of connected and automated vehicles on the European city and the conditions that can enable this technology to make a positive contribution to urban development. The authors argue for two theses that have thus far received little attention in scientific discourse: as connected and automated vehicles will not be ready for use in all parts of the city for a long time, previously assumed effects – from traffic safety to traffic performance as well as spatial effects – will need to be re-evaluated. To ensure this technology has a positive impact on the mobility of the future, transport and settlement policy regulations must be adapted and further developed. Established territorial, institutional and organizational boundaries must be**

investigated and challenged quickly. Despite – or, indeed, because of – the many uncertainties, we find ourselves at the beginning of a new design phase, not only in terms of technology development, but also regarding politics, urban planning, administration and civil society.

THE TECHNOLOGICAL AND ECONOMIC FUTURE OF NUCLEAR POWER

Springer **This open access book discusses the eroding economics of nuclear power for electricity generation as well as technical, legal, and political acceptance issues. The use of nuclear power for electricity generation is still a heavily disputed issue. Aside from technical risks, safety issues, and the unsolved problem of nuclear waste disposal, the economic performance is currently a major barrier. In recent years, the costs have skyrocketed especially in the European countries and North America. At the same time, the costs of alternatives such as photovoltaics and wind power have significantly decreased. Contents History and Current Status of the World Nuclear Industry The Dramatic Decrease of the Economics of Nuclear Power Nuclear Policy in the EU The Legacy of Csernobyl and Fukushima Nuclear Waste and Decommissioning of Nuclear Power Plants Alternatives: Heading Towards Sustainable Electricity Systems Target Groups Researchers and students in the fields of political, economic and technical sciences Energy (policy) experts, nuclear energy experts and practitioners, economists, engineers, consultants, civil society organizations The Editors Prof. Dr. Reinhard Haas is University Professor of energy economics at the Institute of Energy Systems and Electric Drives at Technische Universität Wien, Austria. PD Dr. Lutz Mez is Associate Professor at the Department for Political and Social Sciences of Freie Universität Berlin, Germany. PD Dr. Amela Ajanovic is a senior researcher and lecturer at the Institute of Energy Systems and Electrical Drives at Technische Universität Wien, Austria.--**

RESOURCE EFFICIENCY AND CLIMATE CHANGE

MATERIAL EFFICIENCY STRATEGIES FOR A LOW-CARBON FUTURE

UN **"The International Resource Panel (IRP) was established to provide independent, coherent and authoritative scientific assessments on the use of natural resources and their environmental impacts over the full life cycle. The Panel aims to contribute to a better understanding of how to decouple economic growth from environmental degradation while enhancing well-being. The Secretariat is hosted by the United Nations Environment Programme. IRP assessments demonstrate the opportunities for governments, businesses and wider society to work together to create and implement policies that ultimately lead to sustainable resource management, including through better planning,**

technological innovation and strategic incentives and investments. Materials are vital to modern society, but their production is an important source of greenhouse gases. Emissions from material production are now comparable to those from agriculture, forestry, and land use change combined, yet they have received much less attention from the climate policy community. The IPR authors propose looking beyond energy efficiency to reduce global carbon footprint. This report was developed by the IRP in response to a request from the Group of 7. It conducts a rigorous assessment of the contribution of material efficiency to GHG abatement strategies. More concretely, it assesses the potential reduction of GHG emissions from material efficiency strategies applied in residential buildings and light duty vehicles, and reviews policies that address these strategies. The IRP modelling results show that increasing material efficiency can help enhance efforts in moving towards the 1.5° C target set by the Paris Agreement." -- Page 4 of cover

ARCHITECTING THE INTERNET OF THINGS

Springer Science & Business Media **Many of the initial developments towards the Internet of Things have focused on the combination of Auto-ID and networked infrastructures in business-to-business logistics and product lifecycle applications. However, the Internet of Things is more than a business tool for managing business processes more efficiently and more effectively – it will also enable a more convenient way of life. Since the term Internet of Things first came to attention when the Auto-ID Center launched their initial vision for the EPC network for automatically identifying and tracing the flow of goods within supply-chains, increasing numbers of researchers and practitioners have further developed this vision. The authors in this book provide a research perspective on current and future developments in the Internet of Things. The different chapters cover a broad range of topics from system design aspects and core architectural approaches to end-user participation, business perspectives and applications.**

NEXT GENERATION SUPPLY CHAINS

A ROADMAP FOR RESEARCH AND INNOVATION

Springer Nature **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.

RECENT ADVANCES IN NETWORK SIMULATION

THE OMNET++ ENVIRONMENT AND ITS ECOSYSTEM

Springer **This book provides a comprehensive introduction to the OMNeT++ simulation environment and an overview of its ecosystem of ever-growing frameworks, which provide simulation models for diverse communication systems, protocols, and standards. The book covers the most recent advances of the three key points in the OMNeT++ environment: (1) The latest features that are being added to OMNeT++ itself, including improvements in the visualization options, in data processing, etc. (2) A comprehensive description of the current state of development and the work in progress of the main simulation frameworks, covering several aspects of communication such as vehicular, cellular, and sensor networks. (3) The latest advances and novel developments coming from a large research community. The presentation is guided through use cases and examples, always keeping in mind the practical and research purposes of the simulation process. Includes an introduction to the OMNeT++ simulation framework and its main features; Gives a comprehensive overview of ongoing research topics that exploits OMNeT++ as the simulation environment; Provides examples and uses cases focusing on the practical aspects of simulation.**

COMPLEX SYSTEMS DESIGN & MANAGEMENT

PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON COMPLEX SYSTEMS DESIGN & MANAGEMENT CSD&M 2012

Springer Science & Business Media **This book contains all refereed papers that were accepted to the third edition of the « Complex Systems Design & Management » (CSD&M 2012) international conference that took place in Paris (France) from December 12-14, 2012. (Website: http://www.csdm2012.csdm.fr) These proceedings cover the most recent trends in the emerging field of complex systems sciences & practices from an industrial and academic perspective, including the main industrial domains (transport, defense & security, electronics, energy & environment, e-services), scientific &**

technical topics (systems fundamentals, systems architecture& engineering, systems metrics & quality, systemic tools) and system types (transportation systems, embedded systems, software & information systems, systems of systems, artificial ecosystems). The CSD&M 2012 conference is organized under the guidance of the CESAMES non-profit organization (http://www.cesames.net).

PRODUCT LIFECYCLE MANAGEMENT FOR DIGITAL TRANSFORMATION OF INDUSTRIES

13TH IFIP WG 5.1 INTERNATIONAL CONFERENCE, PLM 2016, COLUMBIA, SC, USA, JULY 11-13, 2016, REVISED SELECTED PAPERS

Springer **This book constitutes the refereed proceedings of the 13th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2016, held in Columbia, SC, USA, in July 2016. The 57 revised full papers presented were carefully reviewed and selected from 77 submissions. The papers are organized in the following topical sections: knowledge sharing, re-use and preservation; collaborative development architectures; interoperability and systems integration; lean product development and the role of PLM; PLM and innovation; PLM tools; cloud computing and PLM tools; traceability and performance; building information modeling; big data analytics and business intelligence; information lifecycle management; industry 4.0; metrics, standards and regulation; and product, service and systems.**

THE FUTURE INTERNET

FUTURE INTERNET ASSEMBLY 2011: ACHIEVEMENTS AND TECHNOLOGICAL PROMISES

Springer **Irrespective of whether we use economic or societal metrics, the Internet is one of the most important technical infrastructures in existence today. It will be a catalyst for much of our innovation and prosperity in the future. A competitive Europe will require Internet connectivity and services beyond the capabilities offered by current technologies. Future Internet research is therefore a must. This book is published in full compliance with the Open Access publishing initiative; it is based on the research carried out within the Future Internet Assembly (FIA). It contains a sample of representative results from the recent FIA meetings spanning a broad range of topics, all being of crucial importance for the future Internet. The book includes 32 contributions and has been structured into the following sections, each of which is preceded by a short introduction: Foundations: architectural issues; socio-economic issues; security and trust; and experiments and experimental design. Future Internet Areas: networks,**

services, and content; and applications.

THE PRACTICE OF EVERYDAY LIFE

Univ of California Press **Repackage of a classic sociology text in which the author developes the idea of resistance to social and economic pressures.**

COMPUTING SCIENCE, COMMUNICATION AND SECURITY

FIRST INTERNATIONAL CONFERENCE, COMS2 2020, GUJARAT, INDIA, MARCH 26–27, 2020, REVISED SELECTED PAPERS

Springer Nature **This book constitutes revised selected papers of the First International Conference on Computing Science, Communication and Security, COMS2 2020, held in March 2020. Due to the COVID-19 pandemic the conference was held virtually. The 26 full papers and 1 short paper were thoroughly reveiwed and selected from 79 submissions. Papers are organised according to the topical sections on artificial intelligence and machine learning; network, communication and security; computing science.**

MOBILE WEB AND INTELLIGENT INFORMATION SYSTEMS

16TH INTERNATIONAL CONFERENCE, MOBIWIS 2019, ISTANBUL, TURKEY, AUGUST 26–28, 2019, PROCEEDINGS

Springer **This book constitutes the refereed proceedings of the 16th International Conference on Mobile Web and Intelligent Information Systems, MobiWIS 2019, held in Istanbul, Turkey, in August 2019. The 23 full papers presented together with 3 short papers were carefully reviewed and selected from 74 submissions. The papers of the MobiWIS 2019 deal with areas such as: mobile apps and services; web and mobile applications; security and privacy; wireless networks and cloud computing; intelligent mobile applications; and mobile web and practical applications.**

THE FUTURE INTERNET

FUTURE INTERNET ASSEMBLY 2012: FROM PROMISES TO REALITY

Springer **Irrespective of whether we use economic or societal metrics, the Internet is one of the most important**

technical infrastructures in existence today. It will serve as a catalyst for much of our innovation and prosperity in the future. A competitive Europe will require Internet connectivity and services beyond the capabilities offered by current technologies. Future Internet research is therefore a must. The Future Internet Assembly (FIA) is a successful and unique bi-annual conference that brings together participants of over 150 projects from several distinct but interrelated areas in the EU Framework Programme 7. The 20 full papers included in this volume were selected from 40 submissions, and are preceded by a vision paper describing the FIA Roadmap. The papers have been organized into topical sections on the foundations of Future Internet, the applications of Future Internet, Smart Cities, and Future Internet infrastructures.

ELASMOBRANCH BIODIVERSITY, CONSERVATION AND MANAGEMENT

PROCEEDINGS OF THE INTERNATIONAL SEMINAR AND WORKSHOP, SABAH, MALAYSIA, JULY 1997

IUCN **The Darwin Elasmobranch Biodiversity Conservation and Management project in Sabah held a three-day international seminar that included a one-day workshop in order to highlight freshwater and coastal elasmobranch conservation issues in the region and worldwide, to disseminate the result of the project to other Malaysian states and countries, and to raise awareness of the importance of considering aspects of elasmobranch biodiversity in the context of nature conservation, commercial fisheries management, and for subsistence fishing communities. These proceedings contain numerous peer-reviewed papers originally presented at the seminar, which cover a wide range of topics, with particular reference to species from freshwater and estuarine habitats. The workshop served to develop recommendations concerning the future prospects of elasmobranch fisheries, biodiversity, conservation and management. This paper records those conclusions, which highlight the importance of elasmobranchs as top marine predators and keystone species, noting that permanent damage to shark and ray populations are likely to have serious and unexpected negative consequences for commercial and subsistence yields of other important fish stocks.**

5G PHYSICAL LAYER

PRINCIPLES, MODELS AND TECHNOLOGY COMPONENTS

Academic Press **5G Physical Layer: Principles, Models and Technology Components explains fundamental physical layer design principles, models and components for the 5G new radio access technology – 5G New Radio (NR). The physical**

layer models include radio wave propagation and hardware impairments for the full range of frequencies considered for the 5G NR (up to 100 GHz). The physical layer technologies include flexible multi-carrier waveforms, advanced multi-antenna solutions, and channel coding schemes for a wide range of services, deployments, and frequencies envisioned for 5G and beyond. A MATLAB-based link level simulator is included to explore various design options. 5G Physical Layer is very suitable for wireless system designers and researchers: basic understanding of communication theory and signal processing is assumed, but familiarity with 4G and 5G standards is not required. With this book the reader will learn: The fundamentals of the 5G NR physical layer (waveform, modulation, numerology, channel codes, and multi-antenna schemes). Why certain PHY technologies have been adopted for the 5G NR. The fundamental physical limitations imposed by radio wave propagation and hardware impairments. How the fundamental 5G NR physical layer functionalities (e.g., parameters/methods/schemes) should be realized. The content includes: A global view of 5G development – concept, standardization, spectrum allocation, use cases and requirements, trials, and future commercial deployments. The fundamentals behind the 5G NR physical layer specification in 3GPP. Radio wave propagation and channel modeling for 5G and beyond. Modeling of hardware impairments for future base stations and devices. Flexible multi-carrier waveforms, multi-antenna solutions, and channel coding schemes for 5G and beyond. A simulator including hardware impairments, radio propagation, and various waveforms. Ali Zaidi is a strategic product manager at Ericsson, Sweden. Fredrik Athley is a senior researcher at Ericsson, Sweden. Jonas Medbo and Ulf Gustavsson are senior specialists at Ericsson, Sweden. Xiaoming Chen is a professor at Xi'an Jiaotong University, China. Giuseppe Durisi is a professor at Chalmers University of Technology, Sweden, and a guest researcher at Ericsson, Sweden.

MOBILE PHONE SECURITY AND FORENSICS

A PRACTICAL APPROACH

Springer **This new edition provides both theoretical and practical background of security and forensics for mobile phones. The author discusses confidentiality, integrity, and availability threats in mobile telephones to provide background for the rest of the book. Security and secrets of mobile phones are discussed including software and hardware interception, fraud and other malicious techniques used "against" users. The purpose of this book is to raise user awareness in regards to security and privacy threats present in the use of mobile phones while readers will also learn where forensics data reside in the mobile phone and the network and how to conduct a relevant analysis. The**

information on denial of service attacks has been thoroughly updated for the new edition. Also, a major addition to this edition is a section discussing software defined radio and open source tools for mobile phones.

ICT SYSTEMS SECURITY AND PRIVACY PROTECTION

29TH IFIP TC 11 INTERNATIONAL CONFERENCE, SEC 2014, MARRAKECH, MOROCCO, JUNE 2-4, 2014, PROCEEDINGS

BUILDING BLOCKS FOR IOT ANALYTICS

River Publishers **Internet-of-Things (IoT) Analytics are an integral element of most IoT applications, as it provides the means to extract knowledge, drive actuation services and optimize decision making. IoT analytics will be a major contributor to IoT business value in the coming years, as it will enable organizations to process and fully leverage large amounts of IoT data, which are nowadays largely underutilized. The Building Blocks of IoT Analytics is devoted to the presentation the main technology building blocks that comprise advanced IoT analytics systems. It introduces IoT analytics as a special case of BigData analytics and accordingly presents leading edge technologies that can be deployed in order to successfully confront the main challenges of IoT analytics applications. Special emphasis is paid in the presentation of technologies for IoT streaming and semantic interoperability across diverse IoT streams. Furthermore, the role of cloud computing and BigData technologies in IoT analytics are presented, along with practical tools for implementing, deploying and operating non-trivial IoT applications. Along with the main building blocks of IoT analytics systems and applications, the book presents a series of practical applications, which illustrate the use of these technologies in the scope of pragmatic applications. Technical topics discussed in the book include: Cloud Computing and BigData for IoT analyticsSearching the Internet of ThingsDevelopment Tools for IoT Analytics ApplicationsIoT Analytics-as-a-ServiceSemantic Modelling and Reasoning for IoT AnalyticsIoT analytics for Smart BuildingsIoT analytics for Smart CitiesOperationalization of IoT analyticsEthical aspects of IoT analytics This book contains both research oriented and applied articles on IoT analytics, including several articles reflecting work undertaken in the scope of recent European Commission funded projects in the scope of the FP7 and H2020 programmes. These articles present results of these projects on IoT analytics platforms and applications. Even though several articles have been contributed by different authors, they are structured in a well thought order that facilitates the reader either to follow the evolution of the book or to focus on specific topics depending on his/her background**

and interest in IoT and IoT analytics technologies. The compilation of these articles in this edited volume has been largely motivated by the close collaboration of the co-authors in the scope of working groups and IoT events organized by the Internet-of-Things Research Cluster (IERC), which is currently a part of EU's Alliance for Internet of Things Innovation (AIOTI).

INNOVATIVE DATA COMMUNICATION TECHNOLOGIES AND APPLICATION

PROCEEDINGS OF ICIDCA 2020

Springer **This book presents the latest research in the fields of computational intelligence, ubiquitous computing models, communication intelligence, communication security, machine learning, informatics, mobile computing, cloud computing and big data analytics. The best selected papers, presented at the International Conference on Innovative Data Communication Technologies and Application (ICIDCA 2020), are included in the book. The book focuses on the theory, design, analysis, implementation and applications of distributed systems and networks.**

NEGATIVE EMISSIONS TECHNOLOGIES AND RELIABLE SEQUESTRATION

A RESEARCH AGENDA

National Academies Press **To achieve goals for climate and economic growth, "negative emissions technologies" (NETs) that remove and sequester carbon dioxide from the air will need to play a significant role in mitigating climate change. Unlike carbon capture and storage technologies that remove carbon dioxide emissions directly from large point sources such as coal power plants, NETs remove carbon dioxide directly from the atmosphere or enhance natural carbon sinks. Storing the carbon dioxide from NETs has the same impact on the atmosphere and climate as simultaneously preventing an equal amount of carbon dioxide from being emitted. Recent analyses found that deploying NETs may be less expensive and less disruptive than reducing some emissions, such as a substantial portion of agricultural and land-use emissions and some transportation emissions. In 2015, the National Academies published Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration, which described and initially assessed NETs and sequestration technologies. This report acknowledged the relative paucity of research on NETs and recommended development of a research agenda that covers all aspects of NETs from fundamental science to full-scale deployment. To address this need, Negative Emissions Technologies and Reliable Sequestration: A Research Agenda assesses the**

benefits, risks, and "sustainable scale potential" for NETs and sequestration. This report also defines the essential components of a research and development program, including its estimated costs and potential impact.

CYBER SECURITY

A CRISIS OF PRIORITIZATION

FUTURE MOBILE COMMUNICATIONS

LTE OPTIMIZATION AND MOBILE NETWORK VIRTUALIZATION

Springer Science & Business Media **The key to a successful future mobile communication system lies in the design of its radio scheduler. One of the key challenges of the radio scheduler is how to provide the right balance between Quality of Service (QoS) guarantees and the overall system performance. Yasir Zaki proposes innovative solutions for the design of the Long Term Evolution (LTE) radio scheduler and presents several LTE radio scheduler analytical models that can be used as efficient tools for radio dimensioning. The author also introduces a novel wireless network virtualization framework and highlights the potential gains of using this framework for the future network operators. This framework enables the operators to share their resources and reduce their cost, thus achieving a better overall system performance and radio resource utilization.**