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Springer Handbook of Nanotechnology

Soft Computing in Data Science

For every leader there are dozens of followers working closely with them. This updated third edition speaks to those followers and gives them the insights and tools for being effective partners with their leaders.

Stereotypes as Explanations

The European Conference on Information Retrieval Research, now in its 25th "Silver Jubilee" edition, was initially established by the Information Retrieval Specialist Group of the British Computer Society (BCS-IRSG) under the name "Annual Colloquium on Information Retrieval Research," and was always held in the United Kingdom until 1997. Since 1998 the location of the colloquium has alternated between the United Kingdom and the rest of Europe, in order to reflect the growing European orientation of the event. For the same reason, in 2001 the event was renamed "European Annual Colloquium on Information Retrieval Research." Since 2002, the proceedings of the Colloquium have been published by Springer-Verlag in their Lecture Notes in Computer Science series. In 2003 BCS-IRSG decided to rename the event "European Conference on Information Retrieval Research," in order to reflect what the event had slowly turned into, i.e., a full-blown conference with a European program committee, strong peer reviewing, and a (mostly) European audience. However, ECIR still retains the strong student focus that has characterized the Colloquia since their inception: student fees are kept particularly low, a student travel grant program is available in order to encourage

students to attend the conference (and encourage student authors to present their papers pers- ally), and a Best Student Paper Award is assigned (conversely, ECIR has no best paper award).

The SAGE Handbook of Leadership

The vast reduction in size and power consumption of CMOS circuitry has led to a large research effort based around the vision of wireless sensor networks. The proposed networks will be comprised of thousands of small wireless nodes that operate in a multi-hop fashion, replacing long transmission distances with many low power, low cost wireless devices. The result will be the creation of an intelligent environment responding to its inhabitants and ambient conditions. Wireless devices currently being designed and built for use in such environments typically run on batteries. However, as the networks increase in number and the devices decrease in size, the replacement of depleted batteries will not be practical. The cost of replacing batteries in a few devices that make up a small network about once per year is modest. However, the cost of replacing thousands of devices in a single building annually, some of which are in areas difficult to access, is simply not practical. Another approach would be to use a battery that is large enough to last the entire lifetime of the wireless sensor device. However, a battery large enough to last the lifetime of the device would dominate the overall system size and cost, and thus is not very attractive. Alternative methods of powering the devices that will make up the wireless networks are desperately needed.

Proceedings ICT'02

(Preliminary): The Orthogonal Frequency Division Multiplexing (OFDM) digital transmission technique has several advantages in broadcast and mobile communications applications. The main objective of this book is to give a good insight into these efforts, and provide the reader with a comprehensive overview of the scientific progress which was achieved in the last decade. Besides topics of the physical layer, such as coding, modulation and non-linearities, a special emphasis is put on system aspects and concepts, in particular regarding cellular networks and using multiple antenna techniques. The work extensively addresses challenges of link adaptation, adaptive resource allocation and interference mitigation in such systems. Moreover, the domain of cross-layer design, i.e. the combination of physical layer aspects and issues of higher layers, are considered in detail. These results will facilitate and stimulate further innovation and development in the design of modern communication systems, based on the powerful OFDM transmission technique.

Large Area and Flexible Electronics

This book provides an overview on nanostructured thermoelectric materials and devices, covering fundamental concepts, synthesis techniques, device contacts and stability, and potential applications, especially in waste heat recovery and solar energy conversion. The contents focus on thermoelectric devices made from nanomaterials with high thermoelectric efficiency for use in large scale to generate

megawatts electricity. Covers the latest discoveries, methods, technologies in materials, contacts, modules, and systems for thermoelectricity. Addresses practical details of how to improve the efficiency and power output of a generator by optimizing contacts and electrical conductivity. Gives tips on how to realize a realistic and usable device or module with attention to large scale industry synthesis and product development. Prof. Zhifeng Ren is M. D. Anderson Professor in the Department of Physics and the Texas Center for Superconductivity at the University of Houston. Prof. Yucheng Lan is an associate professor in Morgan State University. Prof. Qinyong Zhang is a professor in the Center for Advanced Materials and Energy at Xihua University of China.

Rough-Neural Computing

Vehicle routing problems, among the most studied in combinatorial optimization, arise in many practical contexts (freight distribution and collection, transportation, garbage collection, newspaper delivery, etc.). Operations researchers have made significant developments in the algorithms for their solution, and *Vehicle Routing: Problems, Methods, and Applications, Second Edition* reflects these advances. The text of the new edition is either completely new or significantly revised and provides extensive and complete state-of-the-art coverage of vehicle routing by those who have done most of the innovative research in the area; it emphasizes methodology related to specific classes of vehicle routing problems and, since vehicle routing is used as a benchmark for all new solution techniques, contains a complete overview of current solutions to combinatorial optimization problems. It also includes several chapters on important and emerging applications, such as disaster relief and green vehicle routing.

History of Nordic Computing

The Art of Followership

Computing in the Nordic countries started in late 1940s mainly as an engineering activity to build computing devices to perform mathematical calculations and assist mathematicians and engineers in scientific problem solving. The early computers of the Nordic countries emerged during the 1950s and had names like BARK, BESK, DASK, SMIL, SARA, ESKO, and NUSSE. Each of them became a nucleus in institutes and centres for mathematical computations programmed and used by highly qualified professionals. However, one should not forget the punched-card machine technology at this time that had existed for several decades. In addition, we have a Nordic name, namely Frederik Rosing Bull, contributing to the fundamentals of punched card technology and forming the French company Bull. Commercial products such as FACIT EDB and SAAB D20-series computers in Sweden, the Danish GIER computer, the Nokia MIKKO computer in Finland, as well as the computers of Norsk Data in Norway followed the early computers. In many cases, however, companies and institutions did not further develop or exploit Nordic computing hardware, even though it exhibited technical advantages. Consequently, in the 1970s, US computers, primarily from IBM, flooded the Nordic market.

Information Science and Applications

This major work has established itself as the definitive reference in the nanoscience and nanotechnology area in one volume. It presents nanostructures, micro/nanofabrication, and micro/nanodevices. Special emphasis is on scanning probe microscopy, nanotribology and nanomechanics, molecularly thick films, industrial applications and microdevice reliability, and on social aspects. Reflecting further developments, the new edition has grown from six to eight parts. The latest information is added to fields such as bionanotechnology, nanorobotics, and NEMS/MEMS reliability. This classic reference book is orchestrated by a highly experienced editor and written by a team of distinguished experts for those learning about the field of nanotechnology.

Emerging Trends in Intelligent Computing and Informatics

From materials to applications, this ready reference covers the entire value chain from fundamentals via processing right up to devices, presenting different approaches to large-area electronics, thus enabling readers to compare materials, properties and performance. Divided into two parts, the first focuses on the materials used for the electronic functionality, covering organic and inorganic semiconductors, including vacuum and solution-processed metal-oxide semiconductors, nanomembranes and nanocrystals, as well as conductors and insulators. The second part reviews the devices and applications of large-area electronics, including flexible and ultra-high-resolution displays, light-emitting transistors, organic and inorganic photovoltaics, large-area imagers and sensors, non-volatile memories and radio-frequency identification tags. With its academic and industrial viewpoints, this volume provides in-depth knowledge for experienced researchers while also serving as a first-stop resource for those entering the field.

Thermoelectrics

Soft computing comprises various paradigms dedicated to approximately solving real-world problems, e.g. in decision making, classification or learning; among these paradigms are fuzzy sets, rough sets, neural networks, genetic algorithms, and others. It is well understood now in the soft computing community that hybrid approaches combining various paradigms are very promising approaches for solving complex problems. Exploiting the potential and strength of both neural networks and rough sets, this book is devoted to rough-neuro computing which is also related to the novel aspect of computing based on information granulation, in particular to computing with words. It provides foundational and methodological issues as well as applications in various fields.

Artificial Intelligence and Soft Computing

This book presents the latest research on computational approaches to learning. It includes high-quality peer-reviewed papers from the "Intelligent and Interactive Computing Conference (IIC 2018)" organized by the Universiti Teknikal Malaysia, Melaka. It uses empirical studies, theoretical analysis, and comparisons with

psychological phenomena to show how learning methods can be employed to solve important application problems. The book also describes ongoing research in various research labs, universities and institutions, which may lead to the development of marketable products.

10th International Conference on Robotics, Vision, Signal Processing and Power Applications

Lectori Salutem! This is another book – among the myriads – dealing with wireless communications. The reader might be aware: this topic is really among bestsellers in technology – bestsellers in technology itself and that in technical literature. Communications is one of the leading techniques in information society and mobile/wireless communications is one among the (maybe not more than two with optics the second) leading techniques in communications. Development of wireless communications was and is really spectacular in the last decade of the 20th and first decade of the 21st century. Such topics as MIMO, wireless networking, security in the technological field, new business models in the service providing field, various applications in the users' side, to mention a few only, were undergoing an unprecedented evolution. So it is not surprising that the number of conferences and the number of books in this field grows and grows, in a nearly unbounded way.

Professionalizing Leadership

Implementing the Four Levels

These proceedings gather outstanding research papers presented at the Second International Conference on Data Engineering 2015 (DaEng-2015) and offer a consolidated overview of the latest developments in databases, information retrieval, data mining and knowledge management. The conference brought together researchers and practitioners from academia and industry to address key challenges in these fields, discuss advanced data engineering concepts and form new collaborations. The topics covered include but are not limited to: • Data engineering • Big data • Data and knowledge visualization • Data management • Data mining and warehousing • Data privacy & security • Database theory • Heterogeneous databases • Knowledge discovery in databases • Mobile, grid and cloud computing • Knowledge management • Parallel and distributed data • Temporal data • Web data, services and information engineering • Decision support systems • E-Business engineering and management • E-commerce and e-learning • Geographical information systems • Information management • Information quality and strategy • Information retrieval, integration and visualization • Information security • Information systems and technologies

Simulation Technologies in Networking and Communications

Energy Harvesting Autonomous Sensor Systems: Design, Analysis, and Practical Implementation provides a wide range of coverage of various energy harvesting techniques to enable the development of a truly self-autonomous and sustainable energy harvesting wireless sensor network (EH-WSN). It supplies a practical

overview of the entire EH-WSN system from energy source all the way to energy usage by wireless sensor nodes/network. After an in-depth review of existing energy harvesting research thus far, the book focuses on: Outlines two wind energy harvesting (WEH) approaches, one using a wind turbine generator and one a piezoelectric wind energy harvester Covers thermal energy harvesting (TEH) from ambient heat sources with low temperature differences Presents two types of piezoelectric-based vibration energy harvesting systems to harvest impact or impulse forces from a human pressing a button or switch action Examines hybrid energy harvesting approaches that augment the reliability of the wireless sensor node's operation Discusses a hybrid wind and solar energy harvesting scheme to simultaneously use both energy sources and therefore extend the lifetime of the wireless sensor node Explores a hybrid of indoor ambient light and TEH scheme that uses only one power management circuit to condition the combined output power harvested from both energy sources Although the author focuses on small-scale energy harvesting, the systems discussed can be upsized to large-scale renewable energy harvesting systems. The book goes beyond theory to explore practical applications that not only solve real-life energy issues but pave the way for future work in this area.

Competencies in the 21st Century

This book gives an overview of the physics of Heusler compounds ranging from fundamental properties of these alloys to their applications. Especially Heusler compounds as half-metallic ferromagnetic and topological insulators are important in condensed matter science due to their potential in magnetism and as materials for energy conversion. The book is written by world-leaders in this field. It offers an ideal reference to researchers at any level.

Cartel

Thermoelectrics is the science and technology associated with thermoelectric converters, that is, the generation of electrical power by the Seebeck effect and refrigeration by the Peltier effect. Thermoelectric generators are being used in increasing numbers to provide electrical power in medical, military, and deep space applications where combinations of their desirable properties outweigh their relatively high cost and low generating efficiency. In recent years there also has been an increase in the requirement for thermoelectric coolers (Peltier devices) for use in infrared detectors and in optical communications. Information on thermoelectrics is not readily available as it is widely scattered throughout the literature. The Handbook centralizes this information in a convenient format under a single cover. Sixty of the world's foremost authorities on thermoelectrics have contributed to this Handbook. It is comprised of fifty-five chapters, a number of which contain previously unpublished material. The contents are arranged in eight sections: general principles and theoretical considerations, material preparation, measurement of thermoelectric properties, thermoelectric materials, thermoelectric generation, generator applications, thermoelectric refrigeration, and applications of thermoelectric cooling. The CRC Handbook of Thermoelectrics has a broad-based scope. It will interest researchers, technologists, and manufacturers, as well as students and the well-informed, non-specialist reader.

Assessing 21st Century Skills

Electronic Inspection Copy available for instructors here Leadership pervades every aspect of organizational and social life, and its study has never been more diverse, nor more fertile. With contributions from those who have defined that territory, this volume is not only a key point of reference for researchers, students and practitioners, but also an agenda-setting prospective and retrospective look at the state of leadership in the twenty-first century. It evaluates the domain and stretches it further by considering leadership scholarship from every angle, concluding with an optimistic look at the future of leaders, followers and their place in organizations and society at large. Each section represents a distinctive slant on leadership: - Macro perspectives - including strategic leadership, organization theory, charismatic leadership, complexity leadership, and networks. - Political and philosophical perspectives - including distributed leadership, critical leadership, ethics, the military and cults. - Psychological perspectives - including personality, leadership style and contingency theories, transformational leadership, exchange relationships, shared leadership, cognition, leadership development, gender, trust, identity and the 'dark side' of leadership. - Cultural perspectives - including spirituality, aesthetics, and creativity. - Contemporary and emergent perspectives - followership, historical methods, virtual leadership, emotions, image, celebrity, and the quest for a general theory of leadership

Energy Harvesting Autonomous Sensor Systems

Over the last 40 years, the leadership industry has grown exponentially. Yet leadership education, training, and development still fall far short. Moreover, leaders are demeaned, degraded, and derided as they never were before. Why? The problem is leadership has stayed stuck. It has remained an occupation instead of becoming a profession. Unlike medicine and law, leadership has no core curriculum considered essential. It has no widely agreed on metric, or criteria for qualification. And it has no professional association to oversee the conduct of its members or assure minimum standards. Professionalizing Leadership looks to a past in which learning to lead was the most important of eruditions. It looks to a present in which learning to lead is as effortless as ubiquitous. And it looks to a future in which learning to be a leader might look different altogether - it might resemble the far more rigorous process of learning to be a doctor or a lawyer. As it stands now, the military is the only major American institution that gets it right. It assumes leadership is a profession that requires those who practice it to be taught in accordance with high professional standards. Barbara Kellerman draws on the military experience specifically to develop a template for learning how to lead generally. Leadership in the first quarter of the present century is different from what it was even in the last quarter of the past century - which is why leadership taught casually and carelessly should no longer suffice. Professionalizing Leadership addresses precisely the problem of how to prepare leaders in accordance with professional norms. It provides the template necessary for transforming leadership from dubious occupation to respectable profession.

Proceedings of the International Conference on Data Engineering 2015 (DaEng-2015)

Ten years ago, D.M. Rowe introduced the bestselling CRC Handbook of Thermoelectrics to wide acclaim. Since then, increasing environmental concerns, desire for long-life electrical power sources, and continued progress in miniaturization of electronics has led to a substantial increase in research activity involving thermoelectrics. Reflecting the latest trends and developments, the Thermoelectrics Handbook: Macro to Nano is an extension of the earlier work and covers the entire range of thermoelectrics disciplines. Serving as a convenient reference as well as a thorough introduction to thermoelectrics, this book includes contributions from 99 leading authorities from around the world. Its coverage spans from general principles and theoretical concepts to material preparation and measurements; thermoelectric materials; thermoelements, modules, and devices; and thermoelectric systems and applications. Reflecting the enormous impact of nanotechnology on the field—as the thermoelectric properties of nanostructured materials far surpass the performance of conventional materials—each section progresses systematically from macro-scale to micro/nano-scale topics. In addition, the book contains an appendix listing major manufacturers and suppliers of thermoelectric modules. There is no longer any need to spend hours plodding through the journal literature for information. The Thermoelectrics Handbook: Macro to Nano offers a timely, comprehensive treatment of all areas of thermoelectrics in a single, unified reference.

Intelligent and Interactive Computing

This proceedings book presents a collection of research papers from the 10th International Conference on Robotics, Vision, Signal Processing & Power Applications (ROVISP 2018), which serves as a platform for researchers, scientists, engineers, academics and industrial professionals from around the globe to share their research findings and development activities. The book covers various topics of interest, including, but not limited to: •Robotics, Control, Mechatronics and Automation •Vision, Image, and Signal Processing •Artificial Intelligence and Computer Applications •Electronic Design and Applications •Biomedical, Bioengineering and Applications •RF, Antenna Applications and Telecommunication Systems •Power Systems, High Voltage and Renewable Energy •Electrical Machines, Drives and Power Electronics •Devices, Circuits and Embedded Systems •Sensors and Sensing Techniques

Vehicle Routing

Energy Scavenging for Wireless Sensor Networks

Advances in Mobile and Wireless Communications

Heusler Alloys

The routine jobs of yesterday are being replaced by technology and/or shipped off-shore. In their place, job categories that require knowledge management, abstract

reasoning, and personal services seem to be growing. The modern workplace requires workers to have broad cognitive and affective skills. Often referred to as "21st century skills," these skills include being able to solve complex problems, to think critically about tasks, to effectively communicate with people from a variety of different cultures and using a variety of different techniques, to work in collaboration with others, to adapt to rapidly changing environments and conditions for performing tasks, to effectively manage one's work, and to acquire new skills and information on one's own. The National Research Council (NRC) has convened two prior workshops on the topic of 21st century skills. The first, held in 2007, was designed to examine research on the skills required for the 21st century workplace and the extent to which they are meaningfully different from earlier eras and require corresponding changes in educational experiences. The second workshop, held in 2009, was designed to explore demand for these types of skills, consider intersections between science education reform goals and 21st century skills, examine models of high-quality science instruction that may develop the skills, and consider science teacher readiness for 21st century skills. The third workshop was intended to delve more deeply into the topic of assessment. The goal for this workshop was to capitalize on the prior efforts and explore strategies for assessing the five skills identified earlier. The Committee on the Assessment of 21st Century Skills was asked to organize a workshop that reviewed the assessments and related research for each of the five skills identified at the previous workshops, with special attention to recent developments in technology-enabled assessment of critical thinking and problem-solving skills. In designing the workshop, the committee collapsed the five skills into three broad clusters as shown below: Cognitive skills: nonroutine problem solving, critical thinking, systems thinking Interpersonal skills: complex communication, social skills, teamwork, cultural sensitivity, dealing with diversity Intrapersonal skills: self-management, time management, self-development, self-regulation, adaptability, executive functioning Assessing 21st Century Skills provides an integrated summary of the presentations and discussions from both parts of the third workshop.

The Courageous Follower

The Art of Followership puts dynamic leader-follower interaction at the forefront of discussion. It examines the multiple roles followers play and their often complex relationship to leaders. With contributions from leading scholars and practitioners from the burgeoning field of leadership/followership studies, this groundbreaking book outlines how followers contribute to effective leadership and to organizations overall. Drawing from various disciplines—from philosophy, to psychology and management, to education—the book defines followership and its myriad meanings. The Art of Followership explores the practice and research that promote positive followership and reveals the part that followers play in setting the standards and formulating the culture and policies of the group. The contributors include new models of followership and explore fresh perspectives on the contributions that followers make to groups, organizations, societies, and leaders. The book also explores the most current research on followership and includes insights and perspectives on the future of leader-follower relationships.

Intelligent Information and Database Systems: Recent

Developments

This book provides an introduction to data science and offers a practical overview of the concepts and techniques that readers need to get the most out of their large-scale data mining projects and research studies. It discusses data-analytical thinking, which is essential to extract useful knowledge and obtain commercial value from the data. Also known as data-driven science, soft computing and data mining disciplines cover a broad interdisciplinary range of scientific methods and processes. The book provides readers with sufficient knowledge to tackle a wide range of issues in complex systems, bringing together the scopes that integrate soft computing and data mining in various combinations of applications and practices, since to thrive in these data-driven ecosystems, researchers, data analysts and practitioners must understand the design choice and options of these approaches. This book helps readers to solve complex benchmark problems and to better appreciate the concepts, tools and techniques used.

Final Environmental Impact Statement: Proposed Federal Coal Leasing Program

This book provides a concise but comprehensive introduction to the fundamentals and current state of the art in thermoelectrics. Addressing an audience of materials scientists and engineers, the book covers theory, materials selection, and applications, with a wide variety of case studies reflecting the most up-to-date research approaches from the past decade, from single crystal to polycrystalline form and from bulk to thin films to nano dimensions. The world is facing major challenges for finding alternate energy sources that can satisfy the increasing demand for energy consumption while preserving the environment. The field of thermoelectrics has long been recognized as a potential and ideal source of clean energy. However, the relatively low conversion efficiency of thermoelectric devices has prevented their utility on a large scale. While addressing the need for thermal management in materials, device components, and systems, thermoelectrics provides a fundamental solution to waste heat recovery and temperature control. This book summarizes the global efforts that have been made to enhance the figure of merit of various thermoelectric materials by choosing appropriate processes and their influence on properties and performance. Because of these advances, today, thermoelectric devices are found in mainstream applications such as automobiles and power generators, as opposed to just a few years ago when they could only be used in niche applications such as in aeronautics, infrared imaging, and space. However, the continued gap between fundamental theoretical results and actual experimental data of figure of merit and performance continues to challenge the commercial applications of thermoelectrics. This book presents both recent achievements and continuing challenges, and represents essential reading for researchers working in this area in universities, industry, and national labs.

CRC Handbook of Thermoelectrics

The two-volume set LNCS 11508 and 11509 constitutes the refereed proceedings of of the 18th International Conference on Artificial Intelligence and Soft

Computing, ICAISC 2019, held in Zakopane, Poland, in June 2019. The 122 revised full papers presented were carefully reviewed and selected from 333 submissions. The papers included in the first volume are organized in the following five parts: neural networks and their applications; fuzzy systems and their applications; evolutionary algorithms and their applications; pattern classification; artificial intelligence in modeling and simulation. The papers included in the second volume are organized in the following five parts: computer vision, image and speech analysis; bioinformatics, biometrics, and medical applications; data mining; various problems of artificial intelligence; agent systems, robotics and control.

Intelligent Information and Database Systems

This book presents research reports selected to indicate the state of the art in intelligent and database systems and to promote new research in this field. It includes 34 chapters based on original research presented as posters at the 11th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2019), held in Yogyakarta, Indonesia on 8–11 April 2019. The increasing use of intelligent and database systems in various fields, such as industry, medicine and science places those two elements of computer science among the most important directions of research and application, which currently focuses on such key technologies as machine learning, cloud computing and processing of big data. It is estimated that further development of intelligent systems and the ability to gather, store and process enormous amounts of data will be needed to solve a number of crucial practical and theoretical problems. The book is divided into five parts: (a) Sensor Clouds and Internet of Things, (b) Machine Learning and Decision Support Systems, (c) Computer Vision Techniques and Applications, (d) Intelligent Systems in Biomedicine, and (e) Applications of Intelligent Information Systems. It is a valuable resource for researchers and practitioners interested in increasing the synergy between artificial intelligence and database technologies, as well as for graduate and Ph.D. students in computer science and related fields.

Advanced Thermoelectrics

The search for cleaner, cheaper, smaller and more efficient energy technologies has to a large extent been motivated by the development of new materials. The aim of this collection of articles is therefore to focus on what materials-based solutions can offer and show how the rationale design and improvement of their physical and chemical properties can lead to energy-production alternatives that have the potential to compete with existing technologies. In terms of alternative means to generate electricity that utilize renewable energy sources, the most dramatic breakthroughs for both mobile (i.e., transportation) and stationary applications are taking place in the fields of solar and fuel cells. And from an energy-storage perspective, exciting developments can be seen emerging from the fields of rechargeable batteries and hydrogen storage.

Thermoelectrics Handbook

Simulation is a widely used mechanism for validating the theoretical models of networking and communication systems. Although the claims made based on

simulations are considered to be reliable, how reliable they really are is best determined with real-world implementation trials. *Simulation Technologies in Networking and Communications: Selecting the Best Tool for the Test* addresses the spectrum of issues regarding the different mechanisms related to simulation technologies in networking and communications fields. Focusing on the practice of simulation testing instead of the theory, it presents the work of more than 50 experts from around the world. Considers superefficient Monte Carlo simulations Describes how to simulate and evaluate multicast routing algorithms Covers simulation tools for cloud computing and broadband passive optical networks Reports on recent developments in simulation tools for WSNs Examines modeling and simulation of vehicular networks The book compiles expert perspectives about the simulation of various networking and communications technologies. These experts review and evaluate popular simulation modeling tools and recommend the best tools for your specific tests. They also explain how to determine when theoretical modeling would be preferred over simulation. This book does not provide a verdict on the best suitable tool for simulation. Instead, it supplies authoritative analyses of the different kinds of networks and systems. Presenting best practices and insights from global experts, the book provides you with an understanding of what to simulate, where to simulate, whether to simulate or not, when to simulate, and how to simulate for a wide range of issues.

Cement Based Materials

This book constitutes the refereed proceedings of the International Conference on Soft Computing in Data Science, SCDS 2017, held in Yogyakarta, Indonesia, November 27-28, 2017. The 26 revised full papers presented were carefully reviewed and selected from 68 submissions. The papers are organized in topical sections on deep learning and real-time classification; image feature classification and extraction; classification, clustering, visualization; applications of machine learning; data visualization; fuzzy logic; prediction models and e-learning; text and sentiment analytics.

OFDM

The two-volume set LNAI 10751 and 10752 constitutes the refereed proceedings of the 10th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2018, held in Dong Hoi City, Vietnam, in March 2018. The total of 133 full papers accepted for publication in these proceedings was carefully reviewed and selected from 423 submissions. They were organized in topical sections named: Knowledge Engineering and Semantic Web; Social Networks and Recommender Systems; Text Processing and Information Retrieval; Machine Learning and Data Mining; Decision Support and Control Systems; Computer Vision Techniques; Advanced Data Mining Techniques and Applications; Multiple Model Approach to Machine Learning; Sensor Networks and Internet of Things; Intelligent Information Systems; Data Structures Modeling for Knowledge Representation; Modeling, Storing, and Querying of Graph Data; Data Science and Computational Intelligence; Design Thinking Based R&D, Development Technique, and Project Based Learning; Intelligent and Contextual Systems; Intelligent Systems and Algorithms in Information Sciences; Intelligent Applications of Internet of Thing and Data Analysis Technologies; Intelligent Systems and Methods in Biomedicine; Intelligent

Biomarkers of Neurodegenerative Processes in Brain; Analysis of Image, Video and Motion Data in Life Sciences; Computational Imaging and Vision; Computer Vision and Robotics; Intelligent Computer Vision Systems and Applications; Intelligent Systems for Optimization of Logistics and Industrial Applications.

SRDS Consumer Magazine Advertising Source

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.

Advances in Information Retrieval

Cement-based materials have been used by humans nearly since the dawn of civilization. The Egyptians used lime and gypsum cement to bind their aggregate materials, mud and straw, resulting in bricks that are used for building their famous Egyptian pyramids (between 3000 and 2500 BC). Hydrated cement is a cement material bonded together with water and used for building construction; it is characterized by acceptable chemical, physical, thermal, mechanical, and structural stability. It plays a main role in the creation of vessels for storage, roads to travel on, weather-resistant structure for protection, inert hard stabilizer for hazardous wastes, and so on. Due to the composition of these materials and their advantages, it has been practiced in different applications. Cement is an essential component of making concrete, the single most prevalent building material used worldwide for construction, skyscrapers, highways, tunnels, bridges, hydraulic dams, and railway ties. Besides their numerous desired properties, there are some undesirable features. To overcome these disadvantages, several studies were established to prepare, improve, and evaluate innovative cement-based materials. Despite its oldness and deep research, every year several methods and materials evolve and so do cement technology. This book intends to provide a comprehensive overview on recent advances in the evaluation of these materials.

Recent Advances on Soft Computing and Data Mining

This book presents selected papers from the 10th International Conference on Information Science and Applications (ICISA 2019), held on December 16–18, 2019, in Seoul, Korea, and provides a snapshot of the latest issues regarding technical convergence and convergences of security technologies. It explores how information science is at the core of most current research as well as industrial and commercial activities. The respective chapters cover a broad range of topics, including ubiquitous computing, networks and information systems, multimedia and visualization, middleware and operating systems, security and privacy, data mining and artificial intelligence, software engineering and web technology, as well as applications and problems related to technology convergence, which are reviewed and illustrated with the aid of case studies. Researchers in academia,

industry, and at institutes focusing on information science and technology will gain a deeper understanding of the current state of the art in information strategies and technologies for convergence security.

Materials for Sustainable Energy

Stereotypes as Explanations explores the way that people develop impressions and views of social groups.

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