

# Smart Workshop Solutions

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[Transportation and Power Grid in Smart Cities](#) - Hussein T. Mouftah  
2018-12-28

With the increasing worldwide trend in population migration into urban centers, we are beginning to see the emergence of the kinds of megacities which were once the stuff of science fiction. It is clear to most urban planners and developers that accommodating the needs of the tens of millions of inhabitants of those megalopolises in an orderly and uninterrupted manner will require the seamless integration of and real-time monitoring and response services for public utilities and transportation systems. Part speculative look into the future of the world's urban centers, part technical blueprint, this visionary book helps lay the groundwork for the communication networks and services on which tomorrow's "smart cities" will run. Written by a uniquely well-qualified author team, this book provides detailed insights into the technical requirements for the wireless sensor and actuator networks required to make smart cities a reality.

**Chairmaking and Design** - Jeff Miller 1997

Chairmaking is widely considered to be the pinnacle of the woodworker's art. Mysterious. Intimidating. Impossible. The reality is that chairmaking is fulfilling, rewarding, and fun.

[Smart Grid as a Solution for Renewable and Efficient Energy](#) - Ahmad, Ayaz 2016-04-20

As the need for proficient power resources continues to grow, it is becoming increasingly important to implement new strategies and technologies in energy distribution to meet consumption needs. The employment of smart grid networks assists in the efficient allocation of energy resources. Smart Grid as a Solution for Renewable and Efficient Energy features emergent research and trends in energy consumption and management, as well as communication techniques utilized to monitor power transmission and usage. Emphasizing developments and challenges occurring in the field, this book is a critical resource for researchers and students concerned with signal processing, power demand management, energy storage procedures, and control techniques within smart grid networks.

*Global Problems, Smart Solutions* - Bjørn Lomborg 2013-11-14

A high profile thought experiment asks leading scholars to make cases for spending additional aid money to combat major world problems.

**Communication Challenges and Solutions in the Smart Grid** -

Fayçal Bouhafs 2014-10-31

This SpringerBrief discusses the rise of the smart grid from the perspective of computing and communications. It explains how current and next-generation network technology and methodologies help recognize the potential that the smart grid initiative promises. Chapters provide context on the smart grid before exploring specific challenges related to communication control and energy management. Topics include control in heterogeneous power supply, solutions for backhaul and wide area networks, home energy management systems, and technologies for smart energy management systems. Designed for researchers and professionals working on the smart grid, Communication Challenges and Solutions in the Smart Grid offers context and applications for the common issues of this developing technology. Advanced-level students interested in networking and communications engineering will also find the brief valuable.

**Enterprise Interoperability: Smart Services and Business Impact of Enterprise Interoperability** - Martin Zelm 2018-12-18

The ability of future industry to create interactive, flexible and always-on connections between design, manufacturing and supply is an ongoing challenge, affecting competitiveness, efficiency and resourcing. The goal of enterprise interoperability (EI) research is therefore to address the effectiveness of solutions that will successfully prepare organizations for the advent and uptake of new technologies. This volume outlines results and practical concepts from recent and ongoing European research studies in EI, and examines the results of research and discussions

cultivated at the I-ESA 2018 conference, "Smart services and business impact of enterprise interoperability". The conference, designed to encourage collaboration between academic inquiry and real-world industry applications, addressed a number of advanced multidisciplinary topics including Industry 4.0, Big Data, the Internet of Things, Cloud computing, ontology, artificial intelligence, virtual reality and enterprise modelling for future "smart" manufacturing. Readers will find this book to be a source of invaluable knowledge for enterprise architects in a range of industries and organizations.

**Grid and Pervasive Computing Workshops** - Mika Rautiainen  
2012-01-18

This book constitutes the carefully refereed post-conference proceedings of two International Workshops: Self-Managing Solutions for Smart Environments, S3E 2011; and the workshop on Health and Well-being Technologies and Services for Elderly, HWTS 2011; as well as a Doctoral Colloquium, held in conjunction with, GPC 2011, in Oulu, Finland, in May 2011. The 19 revised full papers presented together with 1 keynote lecture were carefully revised and selected from 26 submissions and focus on the topics self-managing solutions for smart environments; health and well-being technologies, and services for elderly. The topics of the doctoral colloquium papers had a wide scope and they represented different viewpoints and sub-disciplines inside the ICT field.

*How Smart Is Your City?* - Maria Isabel Aldinhas Ferreira 2020-10-20

This book focuses on the potential benefits that the so-called smart technologies have been bringing to the urban reality and to the management and governance of the city, simultaneously highlighting the necessity for its responsible and ethically guided deployment, respecting essential humanistic values. The urban ecosystem has been, in the last decades, the locus to where the most advanced forms of technological innovation converge, creating intelligent management platforms meant to produce models of energy, water consumption, mobility/transportation, waste management and efficient cities. Due to the coincidence of the punctual overlap of its own genesis with the pandemics outbreak, the present book came to embody both the initial dream and desire of an intelligent city place of innovation, development and equity - a dream present in most of the chapters - and the fear not just of the pandemics per se, but of the consequences that this may have for the character of the intelligent city and for the nature of its relationship with its dwellers that, like a mother, it is supposed to nurture, shelter and protect.

*Smart Services Summit* - Shaun West 2021-06-25

This book offers state-of-the-art descriptions of intelligent service innovations in industry, supported by novel scientific approaches. It gathers findings presented at the 3rd Intelligent Services Summit, which took place in Zurich in September 2020, and chiefly focused on the design and application of Digital Twin as an enabler for business development in the field of smart services. Divided into three parts, the book addresses the challenges involved in the successful development and implementation of smart services for industry and science, ranging from data management to product design and lifecycle management. The four main aspects covered are industrial challenges, value system design (how to integrate resources into service ecosystems to create value), value creation through value proposition (how to create value for ecosystem actors), and value capture (how to create value for ecosystem businesses). Given its scope, the book offers an essential guide for practitioners and advanced students alike.

**Smart Agricultural Services Using Deep Learning, Big Data, and IoT** - Gupta, Amit Kumar 2020-10-30

The agricultural sector can benefit immensely from developments in the field of smart farming. However, this research area focuses on providing specific fixes to particular situations and falls short on implementing data-driven frameworks that provide large-scale benefits to the industry as a whole. Using deep learning can bring immense data and improve

our understanding of various earth sciences and improve farm services to yield better crop production and profit. Smart Agricultural Services Using Deep Learning, Big Data, and IoT is an essential publication that focuses on the application of deep learning to agriculture. While highlighting a broad range of topics including crop models, cybersecurity, and sustainable agriculture, this book is ideally designed for engineers, programmers, software developers, agriculturalists, farmers, policymakers, researchers, academicians, and students.

Security and Trust Management - Gilles Barthe 2016-09-16

This book constitutes the refereed proceedings of the 12th International Workshop on Security and Trust Management, STM 2016, held in Heraklion, Crete, Greece, in September 2016, in conjunction with the 21st European Symposium Research in Computer Security, ESORICS 2016. The 13 full papers together with 2 short papers were carefully reviewed and selected from 34 submissions. the focus on the workshop was on following topics: access control, data protection, mobile security, privacy, security and trust policies, trust models.

Pervasive and Smart Technologies for Healthcare: Ubiquitous Methodologies and Tools - Coronato, Antonio 2010-03-31

"This book reports several experiences concerning the application of pervasive computing technologies, methodologies and tools in healthcare"--Provided by publisher.

Ultimate Workshop Solutions - Editors of Popular Woodworking 2012-10-18

A Place to Relax and Create... A woodworker's workshop is many things: a place to relax; a place to escape; and a place to create. Not all the creation results in a finished piece of furniture, though. Often, the creative urge turns to improving the shop or the accuracy of the way you work while you're in it. That's what Ultimate Workshop Solutions delivers. From better clamp storage, to the perfect miter saw stand to benches and beyond, you'll find 35 projects specifically designed to improve and organize your favorite space. These projects have been created by the editors of Popular Woodworking Magazine for our shop, and now we're pleased to share them with you. We hope many of them will soon make your shop a better place to relax and create. Projects inside include: Power tool and hand tool workbenches Lumber racks The ultimate miter saw stand Storage projects One-weekend router table Router jigs and fixtures Table saw outfeed tables And more!

Planning Climate Smart and Wise Cities - Kwi-Gon Kim 2021-12-19

This book provides information that facilitates integrated climate actions in cities, leveraging disruptive technologies, business models, policies, financing, and leadership solutions. It fosters the development of climate smart and wise cities. It reviews the major developments of climate actions in cities and combines climate environment and energy technology, policy and financing instruments. A range of distinguished authors assess the experiences thus far and also consider future development from both theoretical and practical perspectives. They also discuss many policy and technical options, including climate smart and wise city planning, inclusion of urban nature, international and national carbon market mechanisms and measuring its impact and digital transformation. Moreover, attention is paid to the role of natural principles, the role of transparency principles and to aspects of democratic climate governance within a climate action scheme. This book makes clear that the carbon neutrality, sustainability, circularity, efficiency, connectivity and resiliency of cities depend to a large extent on the specific digital technologies and the leadership reshaping our cities. Discussing multidisciplinary aspects of climate action, this book offers new insights to academics, policymakers and practitioners both in the public and private sectors. Those insights are not only retrospective, relevant for understanding the past, but they are also prospective and forward-looking, guiding the achievements of the SDGs and the climate goals.

Towards the Future Internet - Georgios Tselentis 2010

This book contains papers describing the major scientific achievements supported by European funding in the area of Future Internet. It is published in the context of FIA, the Future Internet Assembly<sup>1</sup>, which is structured to permit interactions across technical domains from researchers and other stakeholders active in Future Internet research. FIA holds two meetings per year and calls on those involved in relevant funded research projects to participate actively and to steer its work. On 31 March, 2008 the Bled Declaration "Towards a European approach to the Future Internet"<sup>2</sup> was officially presented at the FIA Conference in Bled, Slovenia "In the future, even more users, objects, services and critical information infrastructures will be networked through the Future Internet which will underpin an ever larger share of our modern and

global economies. It is therefore time to strengthen and focus European activities on the Future Internet to maintain Europe's competitiveness in the global marketplace. A significant change is required and the European Internet scientific and economic actors, researchers, industrialists, SMEs, users, service and content providers, now assert the urgent necessity to redesign the Internet, taking a broad multidisciplinary approach, to meet Europe's societal and commercial ambitions."

Machine Learning Techniques for Smart City Applications: Trends and Solutions - D. Jude Hemanth 2022-10-21

This book discusses the application of different machine learning techniques to the sub-concepts of smart cities such as smart energy, transportation, waste management, health, infrastructure, etc. The focus of this book is to come up with innovative solutions in the above-mentioned issues with the purpose of alleviating the pressing needs of human society. This book includes content with practical examples which are easy to understand for readers. It also covers a multi-disciplinary field and, consequently, it benefits a wide readership including academics, researchers, and practitioners.

Workshop Proceedings of the 11th International Conference on Intelligent Environments - D. Preuveneers 2015-07-06

With emerging trends such as the Internet of Things, sensors and actuators are now deployed and connected everywhere to gather information and solve problems, and such systems are expected to be trustworthy, dependable and reliable under all circumstances. But developing intelligent environments which have a degree of common sense is proving to be exceedingly complicated, and we are probably still more than a decade away from sophisticated networked systems which exhibit human-like thought and intelligent behavior. This book presents the proceedings of four workshops and symposia: the 4th International Workshop on Smart Offices and Other Workplaces (SOOW'15); the 4th International Workshop on the Reliability of Intelligent Environments (WoRIE'15); the Symposium on Future Intelligent Educational Environments and Learning 2015 (SOFIEEe'15); and the 1st immersive Learning Research Network Conference (iLRN'15). These formed part of the 11th International Conference on Intelligent Environments, held in Prague, Czech Republic, in July 2015, which focused on the development of advanced, reliable intelligent environments, as well as newly emerging and rapidly evolving topics. This overview of and insight into the latest developments of active researchers in the field will be of interest to all those who follow developments in the world of intelligent environments.

Training module - How to integrate gender issues in climate-smart agriculture projects - Food and Agriculture Organization of the United Nations 2017-01-01

The purpose of the training module is to provide learners with a better understanding of what the gender roles in CSA are and their critical impact on project outcomes and sustainability. The training will teach them about different methods and tools to identify, formulate, implement, monitor and evaluate gender-responsive actions and practices in CSA development projects. Through the training, learners will become familiar with the main concepts of gender, climate change and climate-smart agriculture. They will also understand the relevance of gender dimensions in climate change adaptation and mitigation and in developing gender-responsive CSA interventions. Furthermore, they will learn the steps to take and tools and approaches available for conducting gender analysis and promoting gender mainstreaming in CSA project design, implementation and monitoring. The manual also presents available gender, climate change and CSA guidelines and other relevant materials to support learners in their work in implementing gender-responsive interventions. This training module provides basic information for organizing a short training workshop to develop gender mainstreaming capacities in CSA-related projects, throughout the whole project cycle. The module mainly focuses on activities in the field. It is important to recognize, however, that gender-responsive CSA development also requires actions at the institutional and policy level as well as changes in the existing social and cultural norms. The module also provides some recommendations for better integration of gender issues in governments' CSA policies and strategies.

Solutions to GET Smart Book for Class 5 - Leena Kapoor 2021-01-01

Semantic Interoperability Issues, Solutions, Challenges - Salvatore F. Pileggi 2022-09-01

Semantic technologies are experiencing an increasing popularity in the context of different domains and applications. The understanding of any class of system can be significantly changed under the assumption any

system is part of a global ecosystem known as Semantic Web. The Semantic Web would be an evolving extension of current Web model (normally referred as Syntactic Web) that introduces a semantic layer in which semantics, or meaning of information, are formally defined. So, semantics should integrate web-centric standard information infrastructures improving several aspects of interaction among heterogeneous systems. This is because common interoperability models are progressively becoming obsolete if compared with the intrinsic complexity and always more distributed focus that feature modern systems. For example, the basic interoperability model, that assumes the interchange of messages among systems without any interpretation, is simple but effective only in the context of close environments. Also more advanced models, such as the functional interoperability model that integrates basic interoperability model with the ability of interpreting data context under the assumption of a shared schema for data fields accessing, appears not able to provide a full sustainable technologic support for open systems. The Semantic Interoperability model would improve common interoperability models introducing the interpretation of means of data. Semantic interoperability is a concretely applicable interaction model under the assumption of adopting rich data models (commonly called Ontology) composed of concepts within a domain and the relationships among those concepts. In practice, semantic technologies are partially inverting the common view at actor intelligence: intelligence is not implemented (only) by actors but it is implicitly resident in the knowledge model. In other words, schemas contain information and the "code" to interpretate it.

**Smart Objects and Technologies for Social Good** - Ivan Miguel Pires 2021

This book constitutes the refereed post-conference proceedings of the 7th EAI International Conference on Smart Objects and Technologies for social Good, GOODTECHS 2021, held in September 2021. Due to COVID-19 pandemic the conference was held virtually. The 24 full papers presented were selected from 53 submissions and issue design, implementation, deployment, operation, and evaluation of smart objects and technologies for social good. Social goods are products and services provided through private enterprises, government, or non-profit institutions and are related to healthcare, safety, sports, environment, democracy, computer science, and human rights. The papers are arranged in tracks on machine learning; IoT; social considerations of technology; technology and ageing; healthcare.

**Sustainable Cities and Communities Design Handbook** - Woodrow W. Clark 2017-11-27

Sustainable Communities Design Handbook: Green Engineering, Architecture, and Technology, Second Edition, brings together the major players responsible for sustainable development at both community and metropolitan scales. The book aims to explain and demonstrate the practice, planning, design, building and managing of the engineering, architectural and economic development of cities and communities to meet sustainable development objectives. Offering a holistic approach to creating sustainable communities, the book includes a 40 percent increase in new methods and technology over the last edition, and 50 percent more case studies from around the world to illustrate how common sustainability problems are solved. As the concept and practices of a sustainable built environment have evolved over the years, it is increasingly recognized that the scope should be expanded beyond individual buildings to the community scale. Written by an international team of engineers, architects, and environmental experts this second edition includes new HVAC technologies for heating and cooling, energy effect technologies for lighting, and new construction materials which improve heating and cooling efficiencies. This new edition will also include critical updates on international codes: LEED, BREEAM, and Green Globes. Explains the most cutting-edge green technologies and methods for use in built communities Provides a common approach in using natural resources when building and designing green communities Features coverage of green practices from architecture to construction Covers compliance with various international codes, methods and legal frameworks

**The Smart Village Concept : Examples from Poland** - Sławomir Kalinowski 2022-05-31

The transformation of rural areas and the broadly understood problems of their development have been the subject of scientific analyses and lively public debate for many years. The ongoing discussions stem from a reflection on the increased effectiveness of rural development policies and the search for new approaches to their programming at the local level. They are also the result of a growing feeling that it is necessary to achieve sustainable development objectives more effectively and reduce

social and economic disparities between rural and urban areas. Among the emerging challenges in the last decade, the transition to an information society has come to the fore, however it should be stressed that the changes taking place are dependent on global technological and digital development. The fact that rural areas are inhabited by about one quarter of the European Union's population makes us aware of the importance of these changes in rural areas. In Poland, this proportion is much higher and amounts to 40%. Being aware of this fact, it may be assumed that adaptation to transformations cannot be treated as an opportunity, but as a necessity, as more and more activities are carried out in the virtual world. The importance of digital and communication technologies has been reinforced in recent months due to the COVID-19 pandemic, which has transferred some activities to the virtual sphere. Equipping rural populations with digital and communications skills will make it possible to "reduce" distance, thereby increasing accessibility to goods and services, especially public ones. In this context, information and communication technologies (ICT) are treated as an opportunity to overcome development-related difficulties. However, their use depends on access to the internet in a given area. Its lack or poor coverage in a particular area deprives it of the opportunities for development based on smart technologies or smart initiatives. As regards the local dimension, it is not only digital technologies that are growing in importance, but also activities aimed to improve broadly understood living conditions of rural residents, also on a micro scale. In these transformations, people and their skills are of unique value, and waiting passively for change does not make much sense. In this context technology can only be a tool, as human competences are becoming the major driver for the improvement of the standard of living and quality of life. Well-identified local human resources form the basis for social innovation, and consequently contribute to increased resilience of rural areas, allowing them to solve problems faced by local communities. The transition to an information society understood in this way has a significantly broader context than digital and communication technologies and comprises a range of social and agri-environmental issues.

**Smart Questions** - Gerald Nadler 2004-03-11

Smart Questions offers an entirely new framework for creating solutions. Drawn from the authors' many years of research and field experience, the Smart Questions Approach reveals how the leading creators of solutions in almost every profession and walk of life—including business, government, education, and even in families—think and approach their assignments. The author's holistic thinking approach shows how to use three "foundation" questions—focusing on uniqueness, purposeful information, and systems—which must be explored for every problem. These three questions, an essential starting point for exploring problems, in turn lead to other key questions that will ultimately create effective solutions.

**Smart Solutions to Climate Change** - Bjørn Lomborg 2010-09-09

The failure of the Copenhagen climate conference in December 2009 revealed major flaws in the way the world's policy makers have attempted to prevent dangerous levels of increases in global temperatures. The expert authors in this specially commissioned collection focus on the likely costs and benefits of a very wide range of policy options, including geo-engineering, mitigation of CO<sub>2</sub>, methane and 'black carbon', expanding forest, research and development of low-carbon energy and encouraging green technology transfer. For each policy, authors outline all of the costs, benefits and likely outcomes, in fully referenced, clearly presented chapters accompanied by shorter, critical alternative perspectives. To further stimulate debate, a panel of economists, including three Nobel laureates, evaluate and rank the attractiveness of the policies. This authoritative and thought-provoking book will challenge readers to form their own conclusions about the best ways to respond to global warming.

**Smart Learning with Educational Robotics** - Linda Daniela 2019-06-28

This book will offer ideas on how robots can be used as teachers' assistants to scaffold learning outcomes, where the robot is a learning agent in self-directed learning who can contribute to the development of key competences for today's world through targeted learning - such as engineering thinking, math, physics, computational thinking, etc. starting from pre-school and continuing to a higher education level. Robotization is speeding up at the moment in a variety of dimensions, both through the automation of work, by performing intellectual duties, and by providing support for people in everyday situations. There is increasing political attention, especially in Europe, on educational systems not being able to keep up with such emerging technologies, and

efforts to rectify this. This edited volume responds to this attention, and seeks to explore which pedagogical and educational concepts should be included in the learning process so that the use of robots is meaningful from the point of view of knowledge construction, and so that it is safe from the technological and cybersecurity perspective.

Workshop Proceedings of the 9th International Conference on Intelligent Environments - J.A. Botía 2013-07-26

Intelligent Environments (IE) play an increasingly important role in many areas of our lives, including education, healthcare and the domestic environment. The term refers to physical spaces incorporating pervasive computing technology used to achieve specific goals for the user, the environment or both. This book presents the proceedings of the workshops of the 9th International Conference on Intelligent Environments (IE '13), held in Athens, Greece, in July 2013. The workshops which were presented in the context of this conference range from regular lectures to practical sessions. They provide a forum for scientists, researchers and engineers from both industry and academia to engage in discussions on newly emerging or rapidly evolving topics in the field. Topics covered in the workshops include artificial intelligence techniques for ambient intelligence; applications of affective computing in intelligent environments; smart offices and other workplaces; intelligent environment technology in education for creative learning; museums as intelligent environments; the application of intelligent environment technologies in the urban context for creating more sociable, intelligent cities and for constructing urban intelligence. IE can enrich user experience, better manage the environment's resources, and increase user awareness of that environment. This book will be of interest to all those whose work involves the application of intelligent environments.

*Intelligent and Fuzzy Techniques: Smart and Innovative Solutions* - Cengiz Kahraman 2020-07-10

This book gathers the most recent developments in fuzzy & intelligence systems and real complex systems presented at INFUS 2020, held in Istanbul on July 21-23, 2020. The INFUS conferences are a well-established international research forum to advance the foundations and applications of intelligent and fuzzy systems, computational intelligence, and soft computing, highlighting studies on fuzzy & intelligence systems and real complex systems at universities and international research institutions. Covering a range of topics, including the theory and applications of fuzzy set extensions such as intuitionistic fuzzy sets, hesitant fuzzy sets, spherical fuzzy sets, and fuzzy decision-making; machine learning; risk assessment; heuristics; and clustering, the book is a valuable resource for academics, M.Sc. and Ph.D. students, as well as managers and engineers in industry and the service sectors.

**Smart Workshop Solutions** - Paul Anthony 2003

With the help of the detailed drawings and step-by-step instructions and photos, you can build and install ingenious shop additions. In this book, Paul Anthony has collected some of the best ideas for shop accessories, workstations, jigs, and storage solutions.

Knowledge Management and Acquisition for Smart Systems and Services - Debbie Richards 2010-08-11

The book constitutes the thoroughly refereed proceedings of the 11th International Workshop on Knowledge Management and Acquisition for Smart Systems and Services, held in Daegu, Korea in August 2010 in conjunction with the Pacific Rim International Conference on Artificial Intelligence, PRICAI 2010. The 26 revised full papers were selected from 94 submissions and are organized in topical sections on Machine Learning, Data Mining, Knowledge Engineering & Ontology, Incremental Knowledge Acquisition, KA Applications in Internet and Mobile Computing and KA Applications in Multimedia and Games.

*Environmental Software Systems. Fostering Information Sharing* - Jiří Hřebíček 2013-09-08

This book constitutes the refereed proceedings of the 10th IFIP WG 5.11 International Symposium on Environmental Software Systems, ISESS 2013, held in Neusiedl am See, Austria, in June 2013. The 65 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in the following topical sections: environmental application in the scope of the future Internet; smart and mobile devices used for environmental applications; information tools for global environmental assessment; environmental applications in risk and crises management; SEIS as a part of the 7th environment action programme of EU; human interaction and human factors driving future EIS/EDSS developments; environmental management/-accounting and -statistics; and information systems and applications.

*Smart Charging Solutions for Hybrid and Electric Vehicles* - Sulabh

Sachan 2022-03-02

**SMART CHARGING SOLUTIONS** The most comprehensive and up-to-date study of smart charging solutions for hybrid and electric vehicles for engineers, scientists, students, and other professionals. As our dependence on fossil fuels continues to wane all over the world, demand for dependable and economically feasible energy sources continues to grow. As environmental regulations become more stringent, energy production is relying more and more heavily on locally available renewable resources. Furthermore, fuel consumption and emissions are facilitating the transition to sustainable transportation. The market for electric vehicles (EVs) has been increasing steadily over the past few years throughout the world. With the increasing popularity of EVs, a competitive market between charging stations (CSS) to attract more EVs is expected. This outstanding new volume is a resource for engineers, researchers, and practitioners interested in getting acquainted with smart charging for electric vehicles technologies. It includes many chapters dealing with the state-of-the-art studies on EV smart charging along with charging infrastructure. Whether for the veteran engineer or student, this is a must-have volume for any library. **Smart Charging Solutions for Hybrid and Electric Vehicles: Presents the state of the art of smart charging for hybrid and electric vehicles, from a technological point of view Focuses on optimization and prospective solutions for practical problems Covers the most important recent developmental technologies related to renewable energy, to keep the engineer up to date and well informed Includes economic considerations, such as business models and price structures Covers standards and regulatory frameworks for smart charging solutions**

**Artificial Intelligence Perspective for Smart Cities** - Vahap Tecim 2022-11-23

The concept of a "smart city" is used widely in general; however, it is hard to explain because of the complexity and multidimensionality of this notion. However, the essential qualification for being a smart city is to achieve "sustainable social, environmental, and economic development" and boost the living standards of society based on Information and Communication Technology (ICT) and Artificial intelligence (AI). AI in smart cities has become an important aspect for cities that face great challenges to make smart decisions for social well-being, particularly cybersecurity and corporate sustainability. In this context, we aim to contribute literature with a value-added approach where various AI applications of smart cities are discussed from a different perspective. First, we start by discussing the conceptual design, modeling, and determination of components for the sustainability of a smart city structure. Since smart cities operate on spatial-based data, it is important to design, operate, and manage smart city elements using Geographical Information Systems (GIS) technologies. Second, we define the structure, type, unit, and functionality of the layers to be placed on the GIS to achieve best practices based on Industry 4.0 components. Transportation is one of the key indicators of smart cities, so it is critical to make transportation in smart cities accessible for different disabled groups by using AI technologies. Third, we demonstrate what kinds of technologies should be used for which disabled groups in different transportation vehicles with specific examples. Finally, we create a discussion platform for processes and sub-processes such as waste management, emergency management, risk management, and data management for establishing smart cities including the financial and ethical aspects.

*Nonlinear Homogenization and its Applications to Composites, Polycrystals and Smart Materials* - P. Ponte Castaneda 2006-02-17

Although several books and conference proceedings have already appeared dealing with either the mathematical aspects or applications of homogenization theory, there seems to be no comprehensive volume dealing with both aspects. The present volume is meant to fill this gap, at least partially, and deals with recent developments in nonlinear homogenization emphasizing applications of current interest. It contains thirteen key lectures presented at the NATO Advanced Workshop on Nonlinear Homogenization and Its Applications to Composites, Polycrystals and Smart Materials. The list of thirty one contributed papers is also appended. The key lectures cover both fundamental, mathematical aspects of homogenization, including nonconvex and stochastic problems, as well as several applications in micromechanics, thin films, smart materials, and structural and topology optimization. One lecture deals with a topic important for nanomaterials: the passage from discrete to continuum problems by using nonlinear homogenization methods. Some papers reveal the role of parameterized or Young measures in description of microstructures and in optimal design. Other

papers deal with recently developed methods - both analytical and computational - for estimating the effective behavior and field fluctuations in composites and polycrystals with nonlinear constitutive behavior. All in all, the volume offers a cross-section of current activity in nonlinear homogenization including a broad range of physical and engineering applications. The careful reader will be able to identify challenging open problems in this still evolving field. For instance, there is the need to improve bounding techniques for nonconvex problems, as well as for solving geometrically nonlinear optimum shape-design problems, using relaxation and homogenization methods.

**Smart Solutions in Today's Transport** - Jerzy Mikulski 2017-09-08

This book constitutes the thoroughly refereed proceedings of the 17th International Conference on Transport Systems Telematics, TST 2017, held in Katowice-Ustrón, Poland, in April 2017. The 40 full papers presented in this volume were carefully reviewed and selected from 128 submissions. They present and organize the knowledge from within the field of intelligent transportation systems, the specific solutions applied in it and their influence on improving efficiency of transport systems.

*Smart Cities, Green Technologies, and Intelligent Transport Systems* - Brian Donnellan 2018-11-23

This book constitutes the thoroughly refereed post-conference proceedings of the 5th International Conference on Smart Cities and Green ICT Systems, SMARTGREENS 2017, and the Third International Conference on Vehicle Technology and Intelligent Transport Systems, VEHITS 2017, held in Porto, Portugal in April 2017. The 8 full papers of SMARTGREENS 2017 presented were carefully reviewed and selected from 70 submissions. VEHITS 2017 received 77 paper submissions from which 9 papers were selected and published in this book. The papers reflect topics such as smart cities, energy-aware systems and technologies, sustainable computing and communications, sustainable transportation and smart mobility.

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

This book constitutes the proceedings of the Second International Conference on Cloud, Networking for IoT Systems, CN4IoT 2017, and the Second EAI International Conference on ICT Infrastructures and Services for Smart Cities, IISSC 2017, held in Brindisi, Italy, in April 2017. The 26 full papers of both conferences were selected from 39 submissions. CN4IoT presents research activities on the uniform management and operation related to software defined infrastructures, in particular by analyzing limits or advantages in solutions for Cloud Networking and IoT. IISSC papers focus on ICT infrastructures (technologies, models, frameworks) and services in cities and smart communities.

**Enabling Smart Urban Services with GPS Trajectory Data** - Chao Chen 2021-05-12

With the proliferation of GPS devices in daily life, trajectory data that records where and when people move is now readily available on a large scale. As one of the most typical representatives, it has now become widely recognized that taxi trajectory data provides rich opportunities to enable promising smart urban services. Yet, a considerable gap still exists between the raw data available, and the extraction of actionable intelligence. This gap poses fundamental challenges on how we can achieve such intelligence. These challenges include inaccuracy issues, large data volumes to process, and sparse GPS data, to name but a few. Moreover, the movements of taxis and the leaving trajectory data are the

result of a complex interplay between several parties, including drivers, passengers, travellers, urban planners, etc. In this book, we present our latest findings on mining taxi GPS trajectory data to enable a number of smart urban services, and to bring us one step closer to the vision of smart mobility. Firstly, we focus on some fundamental issues in trajectory data mining and analytics, including data map-matching, data compression, and data protection. Secondly, driven by the real needs and the most common concerns of each party involved, we formulate each problem mathematically and propose novel data mining or machine learning methods to solve it. Extensive evaluations with real-world datasets are also provided, to demonstrate the effectiveness and efficiency of using trajectory data. Unlike other books, which deal with people and goods transportation separately, this book also extends smart urban services to goods transportation by introducing the idea of crowdshipping, i.e., recruiting taxis to make package deliveries on the basis of real-time information. Since people and goods are two essential components of smart cities, we feel this extension is both logical and essential. Lastly, we discuss the most important scientific problems and open issues in mining GPS trajectory data.

**Smart Home Technologies and Services for Geriatric Rehabilitation** - Mohamed-Amine Choukou 2021-10-18

Smart Home Technologies and Services for Geriatric Rehabilitation provides a toolbox for healthcare stakeholders involved in decision-making for the design, development and implementation of smart home solutions. The book provides an in-depth look at the field of smart homes with readers from both research and practice in mind. It addresses the roles and contributions of smart home technologies and services in supporting geriatric rehabilitation and discusses the challenges of current practice and future innovation, especially with wireless technology and 5G advancements. This reference offers advice on how to implement solutions in the home, and how to framework the modalities of modifying and measuring responses to rehabilitation interventions in geriatric populations. Acceptability, usability and adherence are all considered. Content coverage includes how to navigate policies, regulations, standards and how to build business models. The book's editorial team is multidisciplinary, multisectoral, and from very different regions of the world, thus ensuring a comprehensive scope and global approach. Offers an overview on the state-of-the-art, advanced technologies used in home healthcare to improve patient safety and care. Explores the challenges of current practices and discusses new perspectives for future innovations in geriatric rehabilitation services. Combines the technical aspects of computer science and technology design with the practical aspects of care giving.

**Security Solutions and Applied Cryptography in Smart Grid Communications** - Ferrag, Mohamed Amine 2016-11-29

Electrical energy usage is increasing every year due to population growth and new forms of consumption. As such, it is increasingly imperative to research methods of energy control and safe use. Security Solutions and Applied Cryptography in Smart Grid Communications is a pivotal reference source for the latest research on the development of smart grid technology and best practices of utilization. Featuring extensive coverage across a range of relevant perspectives and topics, such as threat detection, authentication, and intrusion detection, this book is ideally designed for academicians, researchers, engineers and students seeking current research on ways in which to implement smart grid platforms all over the globe.