Home Automation Research Issues

Using clear and accessible language this book examines the growing field of 'smart technology' for the home. The author first introduces the field before exploring the various background issues, including how the home differs from other environments. He then shows how these background issues affect the design and usability of these technologies. A detailed case study looks at the use of handheld and wearable digital technology in sheltered housing. The last section examines what it is like to live in a smart home and why they have so far failed to reach the levels of success originally predicted. Invaluable reading for anybody interested in designing smart technologies for the home. The four-volume set LNCS 8517, 8518, 8519 and 8520 constitutes the proceedings of the Third International Conference on Design, User Experience and Usability, DUXU 2014, held as part of the 16th International Conference on Human-Computer Interaction, HCII 2014, held in Heraklion, Crete, Greece in June 2014, jointly with 13 other thematically similar conferences. The total of 1476 papers and 220 posters presented at the HCII 2014 conferences were carefully reviewed and selected from 4766 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The total of 256 contributions included in the DUXU proceedings were carefully reviewed and selected for inclusion in this four-volume set. The 66 papers included in this volume are organized in topical sections on design theories, methods and tools; user experience evaluation; heuristic evaluation; media and design; design and creativity.

Design is an art form in which the designer selects from a myriad of alternatives to bring an "optimum" choice to a user. In many complex of "optimum" is difficult to define. Indeed, the users systems the notion themselves will not agree, so the "best" system is simply the one in which the designer and the user have a congruent viewpoint. Compounding the design problem are tradeoffs that span a variety of technologies and user requirements. The electronic business system is a classically complex system whose tradeoff criteria and user views are constantly changing with rapidly developing underlying technology. Professor Milutinovic has chosen this area for his capstone contribution to the computer systems design. This book completes his trilogy on design issue in computer systems. His first work, "Surviving the Design of a 200 MHz RISC Microprocessor" (1997) focused on the tradeoffs and design issues within a processor. His second work, "Surviving the Design of Microprocessor and Multiprocessor Systems" (2000) considers the design issues involved with assembling a number of processors into a coherent system. Finally, this book generalizes the system design problem to electronic commerce on the Internet, a global system of immense consequence.

The exponential growth of urban settings has led to an increase in pollutants and waste management issues around the world. As the environment continues to falter under the weight of these pressing issues, it has become increasingly imperative to develop new technologies and methodologies that have the potential to improve the overall sustainability and cleanliness of these cities. Smart Cities as a Solution for Reducing Urban Waste and Pollution examines emergent research on smart innovations within built urban environments. Featuring best practices and theoretical frameworks, as well as potential issues in the implementation of smart and green technology in urban settings, this publication is a vital reference source for graduate students, researchers, academics, engineers, architects, facility managers, and government officials.

This book constitutes the proceedings of the 18th International Conference on Software and Systems Reuse, ICSR 2019, held in Cincinnati, Ohio, USA in June 2019. The 13 research papers included in this book were carefully reviewed and selected from 32 submissions. In addition, 3 industry innovation papers are included. The papers were organized in topical sections named: software reuse practice; software product line and requirements reuse; reuse and design and evolution; intelligent software reuse; and domain-specific software development.

This book constitutes the proceedings of the 6th International Conference on Internet of Things (IoT) Technologies for HealthCare, HealthyIoT 2019, held in Braga, Portugal, in December 2019. The IoT as a set of existing and emerging technologies, notions and services can provide many solutions to delivery of electronic healthcare, patient care, and medical data management. The 10 revised full papers presented were carefully reviewed and selected from 26 submissions. The papers cover topics such as healthcare information systems, consumer health, health informatics, engineering, telecommunications, mathematics and statistics, life and medical sciences, and cloud computing.

New Challenges for Future Sustainability and Wellbeing is a collection of studies about sustainability and related challenges, such as income, wealth, the environment, education and regional equality that influence the pace of economic development and affects the well-being of people and organisations all over the world.

This volume constitutes the proceedings of the "Second International Workshop on Cooperative Buildings (CoBuild'99) – Integrating Information, Organizations, and Architecture" held at the Carnegie Museum of Art in Pittsburgh on October 1–2, 1999. The success of the First International Workshop on Cooperative Buildings (CoBuild'98), held at GMD in Darmstadt in February 1998, showed that there is a demand for an appropriate forum to present research about the intersection of information technology, organizational innovation, and architecture. Thus, it was decided to organize a follow-up event. The decision of where to organize CoBuild'99 was straight forward. Since we had many high quality contributions from the United States (U. S.) presented at CoBuild'98, we wanted to hold the second workshop in the U. S. reaching out to a large audience and at the same time turning it into an international series of events held in different places in the world. Due to the excellent work carried out at Carnegie Mellon University, it was an obvious choice to ask Volker Hartkopf from the Department of Architecture and Jane Siegel from the Human Computer Interaction Institute to be conference cochairs for CoBuild'99. The workshop is organized in cooperation with the German National Research Center for Information Technology (GMD), in particular the Integrated Publication and Information Systems Institute (IPSI) in Darmstadt providing continuity between the events.

This book constitutes the thoroughly refereed post-conference proceedings of the 11th IFIP WG 6.11 Conference on e-Business, e-Services and e-Society, I3E 2011, held in Kaunas, Lithuania, in October 2011. The 25 revised papers presented were carefully reviewed and selected from numerous submissions. They are organized in the following topical sections: e-government and e-governance, e-services, digital goods and products, e-business process modeling and re-engineering, innovative e-business models and implementation, e-health and e-education, and innovative e-business models.

Data storage, processing, and management at remote location over dynamic networks is the most challenging task in cloud networks. Users' expectations are very high for data accuracy, reliability, accessibility, and availability in pervasive cloud environment. It was the core motivation for the Cloud Networks Internet of Things (CNIoT). The exponential growth of the networks and data management in CNIoT must be implemented in fast growing service sectors such as logistic and enterprise management. The network based IoT works as a bridge to fill the gap between IT and cloud networks, where data is easily accessible and available. This book provides a framework for the next generation of cloud networks, which is the emerging part of 5G partnership projects. This contributed book has following salient features, A cloud-based next generation networking technologies. Cloud-based IoT and mobility management technology. The proposed book is

a reference for research scholars and course supplement for cloud-IoT related subjects such as distributed networks in computer/ electrical engineering. Sanjay Kumar Biswash is working as an Assistant professor in NIIT University, India. He held Research Scientist position, Institute of Cybernetics, National Research Tomsk Polytechnic University, Russia. He was PDF at LNCC, Brazil and SDSU, USA. He was a visiting researcher to the UC, Portugal. Sourav Kanti Addya is working as an Assistant professor in NITK, Surathkal, India. He was a PDF at IIT Kharagpur, India. He was a visiting scholar at SDSU, USA. He obtained national level GATE scholarship. He is a member of IEEE, ACM.

An examination of a range of technological issues at stake in the European Union, from employment and the labour market, to implications for political processes and democracy. It discerns social trends but finds there is considerable room to use the technologies as a force for social change.

This book offers practical as well as conceptual knowledge of the latest trends, tools, techniques and methodologies of data analytics in smart cities. The smart city is an advanced technological area that is capable of understanding the environment by examining the data to improve the livability. The smart cities allow different kinds of wireless sensors to gather massive amounts, full speed and a broad range of city data. The smart city has a focus on data analytics facilitated through the IoT platforms. There is a need to customize the IoT architecture and infrastructures to address needs in application of specific domains of smart cities such as transportation, traffic, health and, environment. The smart cities will provide next generation development technologies for urbanization that includes the need of environmental sustainability, personalization, mobility, optimum energy utilization, better administrative services and higher quality of life. Each chapter presents the reader with an in-depth investigation regarding the possibility of data analytics perspective in smart cities. The book presents cutting-edge and future perspectives of smart cities, where industry experts, scientists, and scholars exchange ideas and experience about surrounding frontier technologies, breakthrough and innovative solutions and applications.

This book constitutes the refereed proceedings of the Third International Conference on HCI for Cybersecurity, Privacy and Trust, HCI-CPT 2021, held as part of the 23rd International Conference, HCI International 2021, which took place virtually in July 2021. The total of 1276 papers and 241 posters included in the 39 HCII 2021 proceedings volumes was carefully reviewed and selected from 5222 submissions. HCI-CPT 2021 includes a total of 30 papers; they were organized in topical sections named: usable security; security and privacy by design; user behavior analysis in cybersecurity; and security and privacy awareness.

From Internet of Things to Smart Cities: Enabling Technologies explores the information and communication technologies (ICT) needed to enable real-time responses to current environmental, technological, societal, and economic challenges. ICT technologies can be utilized to help with reducing carbon emissions, improving resource utilization efficiency, promoting active engagement of citizens, and more. This book aims to introduce the latest ICT technologies and to promote international collaborations across the scientific community, and eventually, the general public. It consists of three tightly coupled parts. The first part explores the involvement of enabling technologies from basic machine-to-machine communications to Internet of Things technologies. The second part of the book focuses on state of the art data analytics and security techniques, and the last part of the book discusses the design of human-machine interfaces, including smart home and cities. Features Provides an extended literature review of relevant technologies, in addition to detailed comparison diagrams, making new readers be easier to grasp fundamental and wide knowledge Contains the most recent research results in the field of communications, signal processing and computing sciences for facilitating smart homes, buildings, and cities Includes future research directions in Internet of Things, smart homes, smart buildings, smart grid, and smart cities Presents real examples of applying these enabling technologies to smart homes, transportation systems and cities With contributions from leading experts, the book follows an easy structure that not only presents timely research topics in-depth, but also integrates them into real world applications to help readers to better understand them.

Throughout human history, technological advancements have been made for the ease of human labor. With our most recent advancements, it has been the work of scholars to discover ways for machines to take over a large part of this labor and reduce human intervention. These advancements may become essential processes to nearly every industry. It is essential to be knowledgeable about automation so that it may be applied. Research Anthology on Cross-Disciplinary Designs and Applications of Automation is a comprehensive resource on the emerging designs and application of automation. This collection features a number of authors spanning multiple disciplines such as home automation, healthcare automation, government automation, and more. Covering topics such as human-machine interaction, trust calibration, and sensors, this research anthology is an excellent resource for technologists, IT specialists, computer engineers, systems and software engineers, manufacturers, engineers, government officials, professors, students, healthcare administration, managers, CEOs, researchers, and academicians.

The Industrial Communication Technology Handbook focuses on current and newly emerging communication technologies and systems that are evolving in response to the needs of industry and the demands of industry-led consortia and organizations. Organized into two parts, the text first summarizes the basics of data communications and IP networks, then presents a comprehensive overview of the field of industrial communications. This book extensively covers the areas of fieldbus technology, industrial Ethernet and real-time extensions, wireless and mobile technologies in industrial applications, the linking of the factory floor with the Internet and wireless fieldbuses, network security and safety, automotive applications, automation and energy system applications, and more. The Handbook presents material in the form of tutorials, surveys, and technology overviews, combining fundamentals and advanced issues with articles grouped into sections for a cohesive and comprehensive presentation. The text contains 42 contributed articles by experts from industry and industrial research establishments at the forefront of development, and some of the most

renowned academic institutions worldwide. It analyzes content from an industrial perspective, illustrating actual implementations and successful technology deployments.

The lives of people with disabilities are complex and various, and there are many situations where technology – particularly assistive technology – already makes a real difference. It is clear that smart phone and tablet computer based solutions continue to enhance the independence of many users, but it is also important that more traditional assistive technologies and services are not forgotten or neglected. This book presents the proceedings of the 14th conference of the Association for the Advancement of Assistive Technology in Europe (AAATE 2017) entitled: 'Harnessing the power of technology to improve lives', held in Sheffield, UK, in September 2017. This 4-day event about assistive technologies (AT) highlights the association's interest in innovating not only technology, but also services, and addresses the global challenge of meeting the needs of the increasing number of people who could benefit from assistive technology. The 200+ papers in the book are grouped under 30 subject headings, and include contributions on a wide range of topical subjects, including aging well and dementia; care robotics; eHealth and apps; innovations; universal design; sport; and disordered speech. The breadth of the AAATE conference reflects people's life needs and so the book is sure to contain something of interest to all those whose work involves the design, development and use of assistive technology, whatever the situation. The photo on the front cover illustrates the breadth of assistive technologies that can improve lives. Photographer: Simon Butler.

Internet of Things (IoT) is a recent technology paradigm that creates a global network of machines and devices that are capable of communicating with each other. Security cameras, sensors, vehicles, buildings, and software are examples of devices that can exchange data between each other. IoT is recognized as one of the most important areas of future technologies and is gaining vast recognition in a wide range of applications and fields related to smart homes and cities, military, education, hospitals, homeland security systems, transportation and autonomous connected cars, agriculture, intelligent shopping systems, and other modern technologies. This book explores the most important IoT automated and smart applications to help the reader understand the principle of using IoT in such applications.

This book constitutes the refereed proceedings of the 17th EUNICE 2011 Workshop on energy-aware communications, held in Dresden, in September 2011. The proceedings comprise 16 full papers and 7 poster papers which are presented together with the abstracts of the 3 invited talks. The topics covered are: network architectures; ad-hoc and wireless networks; system simulation; network planning, optimization, and migration; traffic engineering; quality of experience; and energy efficient architectures.

The recent surge of interest in digital ecosystems is not only transforming the business landscape, but also poses several human and organizational challenges. Due to the pervasive effects of the transformation on firms and societies alike, both scholars and practitioners are interested in understanding the key mechanisms behind digital ecosystems, their emergence and evolution. In order to disentangle such factors, this book presents a collection of research papers focusing on the relationship between technologies (e.g. digital platforms, AI, infrastructure) and behaviours (e.g. digital learning, knowledge sharing, decision-making). Moreover, it provides critical insights into how digital ecosystems can shape value creation and benefit various stakeholders. The plurality of perspectives offered makes the book particularly relevant for users, companies, scientists and governments. The content is based on a selection of the best papers – original double-blind peer-reviewed contributions – presented at the annual conference of the Italian chapter of the AIS, which took place in Pavia, Italy in October 2018.

As innovators continue to explore and create new developments within the fields of artificial intelligence and computer science, subfields such as machine learning and the internet of things (IoT) have emerged. Now, the internet of everything (IoE), foreseen as a cohesive and intelligent connection of people, processes, data, and things, is theorized to make internet connections more valuable by converting information into wise actions that create unprecedented capabilities, richer experiences, and economic opportunities to all players in the market. Harnessing the Internet of Everything (IoE) for Accelerated Innovation Opportunities discusses the theoretical, design, evaluation, implementation, and use of innovative technologies within the fields of IoE, machine learning, and IoT. Featuring research on topics such as low-power electronics, mobile technology, and artificial intelligence, this book is ideally designed for computer engineers, software developers, investigators, advanced-level students, professors, and professionals seeking coverage on the various contemporary theories, technologies, and tools in IoE engineering.

Issues in Computer Engineering / 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Circuits Research. The editors have built Issues in Computer Engineering: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Circuits Research in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Computer Engineering: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

As Industry 4.0 brings on a new bout of transformation and fundamental changes in various industries, the traditional manufacturing and production methods are falling to the wayside. Industrial processes must embrace modern technology and the most recent trends to keep up with the times. With "smart factories"; the automation of information and data; and the inclusion of IoT, AI technologies, robotics, and cloud computing comes new challenges to tackle. These changes are creating new threats in security, reliability, the regulations around legislation and standardization of technologies, malfunctioning devices or operational disruptions, and more. These effects span a variety of industries and need to be

discussed. Research Anthology on Cross-Industry Challenges of Industry 4.0 explores the challenges that have risen as multidisciplinary industries adapt to the Fourth Industrial Revolution. With a shifting change in technology, operations, management, and business models, the impacts of Industry 4.0 and digital transformation will be long-lasting and will forever change the face of manufacturing and production. This book highlights a cross-industry view of these challenges, the impacts they have, potential solutions, and the technological advances that have brought about these new issues. It is ideal for mechanical engineers, electrical engineers, manufacturers, supply chain managers, logistics specialists, investors, managers, policymakers, production scientists, researchers, academicians, and students looking for cross-industry research on the challenges associated with Industry 4.0.

If there exists a single term that summarizes the key to success in modern industrial automation, the obvious choice would be integration. Integration is critical to aligning all levels of an industrial enterprise and to optimizing each stratum in the hierarchy. While many books focus on the technological components of enterprise information systems, Integration Technologies for Industrial Automated Systems is the first book to present a comprehensive picture of the technologies, methodologies, and knowledge used to integrate seamlessly the various technologies underlying modern industrial automation and information systems. In chapters drawn from two of Zurawski's popular works, The Industrial Communication Technology Handbook and The Industrial Information Technology Handbook, this practical guide offers tutorials, surveys, and technology overviews contributed by experts from leading industrial and research institutions from around the world. The book is organized into sections for cohesive and comprehensive treatment. It examines e-technologies, software and IT technologies, communication network-based technologies, agent-based technologies, and security in detail as well as their role in the integration of industrial automated systems. For each of these areas, the contributors discuss emerging trends, novel solutions, and relevant standards. Charting the course toward more responsive and agile enterprise, Integration Technologies for Industrial Automated Systems gives you the tools to make better decisions and develop more integrated systems.

This book introduces the concept of the wise home. Whilst smart homes focus on automation technologies, forcing users to deal with complex and incomprehensible control and programming procedures, the wise home is different. By going beyond intelligence (or smartness) the wise home puts technology in the background and supports explicit (enhanced user-experience) as well as implicit (artificial intelligence) interaction adequate to the end-user's needs. The theoretical basis of the wise home is explored and examples for its application for future living are presented based on empirical studies and field work carried out by the author. Principles of HCI and the meaning of the home from differing scientific perspective are discussed and a research model (based on the concept of user experience (UX)) and iterations is introduced. This has resulted in field deployment guides being produced through a systematic development process. The Future Home is Wise, not Smart will be essential reading to home system developers, designers and researchers, responsible for smart home deployment or Ambient Assisted Living (AAL) who will get insights on how to follow a novel approach in developing and adapting smart home systems to their users' needs. Students with an interest in software design for pervasive systems will benefit by receiving information on how to develop and customise systems for the specific needs of living environments.

An ageing population is burdening social and healthcare services around the world, and thisproblem is likely to get worse as the percentage of older people continues to rise. Manygovernments are already responding to this challenge, and a key element in their strategies is thedevelopment and deployment of computer-based telecare and telehealth technologies to support care athome in a cost-effective manner. Human involvement in care continues to be central, but home caretechnologies can offer reassurance, and support routine aspects, to the benefit of all concerned. This bookprovides an up-to-date overview of key advances in the relevant

This volume constitutes the proceedings of the 13th International Conference on Combinatorial Optimization and Applications, COCOA 2019, held in Xiamen, China, in December 2019. The 49 full papers presented in this volume were carefully reviewed and selected from 108 submissions. The papers cover the various topics, including cognitive radio networks, wireless sensor networks, cyber-physical systems, distributed and localized algorithm design and analysis, information and coding theory for wireless networks, localization, mobile cloud computing, topology control and coverage, security and privacy, underwater and underground networks, vehicular networks, information processing and data management, programmable service interfaces, energy-efficient algorithms, system and protocol design, operating system and middleware support, and experimental test-beds, models and case studies.

The Cloud in IoT-enabled Spaces addresses major issues and challenges in IoT-based solutions proposed for the Cloud. It paves the way for IoT-enabled spaces in the next generation cloud computing paradigm and opens the door for further innovative ideas. Topics include Cloud-based optimization in the IoT era, scheduling and routing, medium access, data caching, secure access, uncertainty, home automation, machine learning in wearable devices, energy monitoring, and plant phenotyping in farming. Smart spaces are solutions where Internet of Things (IoT)-enabling technologies have been employed towards further advances in the lifestyle. It tightly integrates with the existing Cloud infrastructure to impact several fields in academia and industry. The Cloud in IoT-enabled Spaces provides an overview of the issues around small spaces and proposes the most up-to-date alternatives and solutions. The objective is to pave the way for IoT-enabled spaces in the next-generation Cloud computing and open the door for further innovative ideas.

This book covers the proceedings of INTERACT 2001 held in Tokyo, Japan, July 2001. The conference covers human-computer interaction and topics presented include: interaction design, usability, novel interface devices, computer supported co-operative works, visualization, and virtual reality. The papers presented in this book should appeal to students and professionals who wish to understand multimedia technologies and human-computer interaction.

Emerging Communication Technologies Based on Wireless Sensor Networks: Current Research and Future Applications fills a gap in the existing literature by combining a plethora of WSN-based emerging technologies into a single source so that researchers can form opinions regarding these technologies. It presents different types of emerging communication technologies based on WSNs and describes how wireless sensor networks can be integrated with other communication technologies. It covers many of the new techniques and demonstrates the application of WSNs. The book's 14 chapters are divided into four parts. The

first part covers the basics of wireless sensor networks and their principal working methods. The authors then move on to discuss different types of WSNs, characteristics of different types of emerging technologies based on WSNs, renewable energy sources, battery replenishment strategies, and application-specific energy challenges of WSNs. The second part is dedicated to issues related to wireless body area networks (WBANs). It discusses wearable WSNs and their applications, standards, and research trends. The authors also discuss routing schemes devised for WBANs and thermal-aware routing protocols for WBANs. The third part focuses on different emerging communication technologies based on WSNs, including electromagnetic wireless nanosensor networks, WSNs in the IoT, management of WSNs through satellite networks, WSNs in smart homes, and cognitive radio technology in conjunction with WSNs. The last part of the book covers topics generally related to typical WSNs, including energy-efficient data collection in WSNs, key distribution mechanisms in WSNs, distributed data gathering algorithms for mobile WSNs, and finally, a novel mobility scheme for WSNs that supports IPv6.

"This book presents the latest developments in computer vision methods applicable to various problems in multimedia computing, including new ideas, as well as problems in computer vision and multimedia computing"--Provided by publisher.

This book presents the peer-reviewed proceedings of the Sixth International Conference on Intelligent Computing and Applications (ICICA 2020), held at Government College of Engineering, Keonjhar, Odisha, India, during December 22-24, 2020. The book includes the latest research on advanced computational methodologies such as neural networks, fuzzy systems, evolutionary algorithms, hybrid intelligent systems, uncertain reasoning techniques, and other machine learning methods and their applications to decision-making and problem-solving in mobile and wireless communication networks.

The seven volumes LNCS 12249-12255 constitute the refereed proceedings of the 20th International Conference on Computational Science and Its Applications, ICCSA 2020, held in Cagliari, Italy, in July 2020. Due to COVID-19 pandemic the conference was organized in an online event. Computational Science is the main pillar of most of the present research, industrial and commercial applications, and plays a unique role in exploiting ICT innovative technologies. The 466 full papers and 32 short papers presented were carefully reviewed and selected from 1450 submissions. Apart from the general track, ICCSA 2020 also include 52 workshops, in various areas of computational sciences, ranging from computational science technologies, to specific areas of computational sciences, such as software engineering, security, machine learning and artificial intelligence, blockchain technologies, and of applications in many fields.

The 2nd World Congress on Genetics, Geriatrics and Neurodegenerative Disease Research (GeNeDis 2016), will focus on recent advances in geriatrics and neurodegeneration, ranging from basic science to clinical and pharmaceutical developments and will provide an international focum for the latest scientific discoveries, medical practices, and care initiatives. Advances information technologies will be discussed along with their implications for various research, implementation, and policy concerns. In addition, the conference will address European and global issues in the funding of long-term care and medico-social policies regarding elderly people. GeNeDis 2016 takes place in Sparta, Greece, 20-23 October, 2016. This volume focuses on the sessions that address geriatrics.

As the human population expands and natural resources become depleted, it becomes necessary to explore other sources for energy consumption and usage. Renewable and Alternative Energy: Concepts, Methodologies, Tools, and Applications provides a comprehensive overview of emerging perspectives and innovations for alternative energy sources. Highlighting relevant concepts on energy efficiency, current technologies, and ongoing industry trends, this is an ideal reference source for academics, practitioners, professionals, and upper-level students interested in the latest research on renewable energy.

Fog computing is quickly increasing its applications and uses to the next level. As it continues to grow, different types of virtualization technologies can thrust this branch of computing further into mainstream use. The Handbook of Research on Cloud and Fog Computing Infrastructures for Data Science is a key reference volume on the latest research on the role of next-generation systems and devices that are capable of self-learning and how those devices will impact society. Featuring wide-ranging coverage across a variety of relevant views and themes such as cognitive analytics, data mining algorithms, and the internet of things, this publication is ideally designed for programmers, IT professionals, students, researchers, and engineers looking for innovative research on software-defined cloud infrastructures and domain-specific analytics.

Issues in Applied Computing / 2013 Edition is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Computer-Assisted Tomography. The editors have built Issues in Applied Computing: 2013 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Computer-Assisted Tomography in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Applied Computing: 2013 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

Smart home technologies promise to transform domestic comfort, convenience, security and leisure while also reducing energy use. But delivering on these potentially conflicting promises depends on how they are adopted and used in homes. This book starts by developing a new analytical framework for understanding smart homes and their users. Drawing on a range of new empirical research combining both qualitative and quantitative data, the book then explores how smart home technologies are perceived by potential users, how they can be used to link domestic energy use to common daily activities, how they may (or may not) be integrated into everyday life by actual users, and how they serve to change the nature of control within households and the home. The book concludes by synthesising a range of evidence-based insights, and posing a series of challenges for industry, policy, and research that need addressing if a smart home future is to be realised. Researchers will find this book provides useful insights into this fast-growing field

With the rapid growth of technology in society, communication networks have become a heavily researched topic. Implementing these advanced systems is a challenge, however, due to the abundance of optimization problems within these networks. The use of meta-heuristic algorithms and nature-inspired computing has become a prevalent technique among researchers for solving these complex problems within communication networks. Despite its popularity, this specific computing technique lacks the appropriate amount of research that is needed for professionals to grasp a definite understanding. Nature-Inspired Computing Applications in Advanced Communication Networks is a collection of innovative research on the methods and applications of natural computation techniques and algorithms within communication systems such as wireless sensor networks, vehicular adhoc networks, and internet of things. While highlighting topics including mobile sensor deployment, routing optimization, and sleep scheduling, this book is ideally designed for researchers, network professionals, computer scientists, mathematicians, developers, scholars, educators, and students seeking to enhance their understanding of nature-inspired computing and its solutions within various advanced communication networks.