Pervasive And Le Sensing And Computing For Healthcare Technological And Social Issues Smart Sensors Measurement And Instrumentation

Body Sensor Networks Mobile Crowdsensing Ubiquitous Computing and Ambient Intelligence. Sensing, Processing, and Using Environmental Information


Emerging Technologies in Wireless Ad-hoc Networks: Applications and Future Development Knowledge Management and Acquisition for Intelligent Systems Implantable Sensor Systems for Medical Applications ECWS


Body Sensor Networks Implantable sensor systems offer great potential for enhanced medical care and improved quality of life, consequently leading to major investment in this exciting field. Implantable sensor systems for medical applications provides a wide-ranging overview of the core technologies, key challenges and main issues related to the development and use of these devices in a diverse range of medical applications. Part one reviews the fundamentals of implantable systems, including materials and material-tissue interfaces, packaging and coatings, microassembly, electrode array design and fabrication, and the use of biofuel cells as sustainable power sources. Part two goes on to consider the challenges associated with implantable systems. Biocompatibility, sterilization considerations and the development of active implantable medical devices in a regulated environment are discussed, along with issues regarding data protection and patient privacy in medical sensor networks. Applications of implantable systems are then discussed in part three, beginning with Microelectromechanical systems (MEMS) for in-vivo applications before further exploration of tripolar interfaces for neural recording, sensors for motor neuroprostheses, implantable wireless body area networks and retina implants. With its distinguished editors and international team of expert contributors, Implantable sensor systems for medical applications is a comprehensive guide for all those involved in the design, development and application of these life-changing technologies. Provides a wide-ranging overview of the core technologies, key challenges and main issues related to the development and use of implantable sensor systems in a range of medical applications. Reviews the fundamentals of implantable systems, including materials and material-tissue interfaces, packaging and coatings, and microassembly. Considers the challenges associated with implantable systems, including biocompatibility and sterilization.

Mobile Crowdsensing Sensors are effective tools used to carry out cost-effective, fast, and reliable sensing for a wide range of applications. This volume presents a brief history behind sensing technology and highlights a broad range of biosensing techniques based on optical and electrochemical response methods. Starting from the traditional enzyme-based biosensing method to functionalized nanostructure-based sensors, this book also provides a detailed overview of some of the advanced sensing methodologies based on photonic crystal cavity-based sensing devices. The authors showcase the extraordinary success of nanomaterials, their current strategic exploitation, and an unprecedented pool of possibilities they hold for the future. Many of the technologies have been developed recently for the sensing of various bioanalytes and molecules, some of which have been included in this book through dedicated chapters. The book looks at various sensors, such as for biosensing, electrochemical sensing, gas sensing, photoelectrochemical sensing, and colorimetric sensing, all of which have shown vast potential.

Ubiquitous Computing and Ambient Intelligence. Sensing, Processing, and Using Environmental Information discussions underlined the great - terestinhistoricandinparticularledtoadeeperunderstandingoftherelationsbetweenthevariousaspectsofqualityofcontext.

Sensor Network Methodologies for Smart Applications Learn all you need to know about wireless sensor networks! Protocols and Architectures for Wireless Sensor Networks provides a thorough description of the nuts and bolts of wireless sensor networks. The authors give an overview of the state-of-the-art, putting all the individual solutions into perspective with one and other. Numerous practical examples, case studies and illustrations demonstrate the theory, techniques and results presented. The clear chapter structure, listing learning objectives, outline and summarizing key points, help guide the reader expertly through the material. Protocols and Architectures for Wireless Sensor Networks: Covers architecture and communications protocols in detail.
with practical implementation examples and case studies. Provides an understanding of mutual relationships and dependencies between different protocols and architectural decisions. Offers an in-depth investigation of relevant protocol mechanisms. Shows which protocols are suitable for which tasks within a wireless sensor network and in which circumstances they perform efficiently. Features an extensive website with the bibliography, PowerPoint slides, additional exercises and worked solutions. This text provides academic researchers, graduate students in computer science, computer engineering, and electrical engineering, as well as practitioners, an industry and research community with an understanding of the specific design challenges in solutions for wireless sensor networks. Check out www.wiley.com/go/wnsn for accompanying course material! "I am deeply impressed by the book of Karl & Willig. It is by far the most complete source for wireless sensor networksThe book covers almost all topics related to sensor networks, gives an amazing number of references, and, thus, is the perfect source for students, teachers, and researchers. Throughout the book the reader will find high quality text, figures, formulas, comparisons etc. - all you need for a sound basis to start sensor network research." Prof. Jochen Schiller, Institute of Computer Science, Freie Universität Berlin

Sensor Networks for Sustainable Development RFID and Wireless Sensors using Ultra-Wideband Technology explores how RFID-based technologies are becoming the first choice to realize the last (wireless) link in the chain between each element and the Internet due to their low cost and simplicity. Each day, more and more elements are being connected to the Internet of Things. In this book, ultra-wideband radio technology (in time domain) is exploited to realize this wireless link. Chipless, semi-passive and active RFID systems and wireless sensors and prototypes are proposed in terms of reader (setup and signal processing techniques) and tags (design, integration of sensors and performance). The authors include comprehensive theories, proposals of advanced techniques, and their implementation to help readers develop time-domain ultra-wideband radio technology for a variety of applications. This book is suitable for post-doctoral candidates, experienced researchers, and engineers developing RFID, tag antenna designs, chipless RFID, and sensor integration. Includes comprehensive theories, advanced techniques, and guidelines for their implementation to help readers develop time-domain ultra-wideband radio technology for a variety of applications. Discusses ultra-wideband (UWB) technology in time-domain that is used to develop RFID systems and wireless sensors. Explores the development of hipless, semi-passive, and active identification platforms in terms of low-cost readers and tags Integrates wireless sensors in the proposed chipless and semi-passive platforms.

Street Computing Recent advances in technology and manufacturing have made it possible to create small, powerful, energy-efficient, cost-effective sensor nodes for specialized telecommunication applications—nodes "smart" enough to be capable of adaptation, self-awareness, and self-organization. Sensor Networks for Sustainable Development examines sensor network technologies that increase the quality of human life and encourage societal progress with minimal effect on the earth's natural resources and environment. Organized as a collection of articles authored by leading experts in the field, this valuable resource is adaptable and relevant state-of-the-art material for all disciplines used for sustainable development. It benefits agriculture, environment, energy, healthcare, transportation, disaster management, and_kelas. Beneficial to designers and planners of emerging telecommunication networks, researchers in related industries, and students and academia seeking to learn about the impact of sensor networks on sustainable development, Sensor Networks for Sustainable Development provides scientific tutorials and technical information about smart sensor networks and their use in everything from remote patient monitoring to improving safety on the roadways and beyond.

Protocols and Architectures for Wireless Sensor Networks This second book by the author on WSNs focuses on the concepts of energy, and energy harvesting and management techniques. Definitions and terminologies are made clear without leaning on the relaxing assumption that they are already known or easily reachable, the reader is not to be diverted from the main course. Neatly drawn figures assist in viewing and imagining the offered topics. To make energy related topics felt and seen, the adopted technologies as well as their manufacturers are presented in details. With such a depth, this book is intended for a wide audience, it is meant to be helper and motivator, for the senior undergraduates, postgraduates, researchers, and practitioners; concepts and energy related applications are laid out, research and practical issues are backed by appropriate literature, and new trends are put under focus. For senior undergraduate students, it familiarizes with conceptual foundations and practical projects implementations. Also, it is intended for graduate students working on their thesis and in need of specific knowledge on WSNs and the related energy harvesting and management techniques. Moreover, it is targeting researchers and practitioners interested in features and applications of WSNs, and on the available energy harvesting and management projects and testbeds. Exercises at the end of each chapter are not just questions and answers; they are not limited to recapitulate ideas. Their design objective is not bound to be a methodical review of the provided concepts, but rather as a motivator for lot more of searching, finding, and comparing beyond what has been presented in the book.

Intelligent Environments 2009 Technologies in today's society are rapidly developing at a pace that is challenging to stay up to date with. As an increasing number of global regions are implementing smart methods and strategies for sustainable development, they are continually searching for modern advancements within computer science, sensor networks, software engineering, and smart technologies. A compilation of research is needed that displays current applications of computing methodologies in the progression of global cities and how smart technologies are being utilized. Sensor Network Methodologies for Smart Applications is a collection of innovative research on the methods of intelligent systems and technologies and their various
applications within sustainable development practices. While highlighting topics including machine learning, network security, and optimization algorithms, this book is ideally designed for researchers, scientists, developers, programmers, engineers, educators, policymakers, geographers, planners, and students seeking current research on smart technologies and sensor networks.

Handbook on Securing Cyber-physical Critical Infrastructure Elaborating on the concept of context awareness, this book presents up-to-date research and novel framework designs for context-aware mobile sensing. Generic and Energy-Efficient Context-Aware Mobile Sensing proposes novel context-inferring algorithms and generic framework designs that can help readers enhance existing tradeoffs in mobile sensing.

Emerging Technologies in Wireless Ad-hoc Networks: Applications and Future Development This book constitutes the refereed proceedings of the 11th International Conference on Mobile Web and Information Systems, MobiWIS 2014, held in Barcelona, Spain, in August 2014. The 24 papers presented were carefully reviewed and selected from 75 submissions and cover topics such as: mobile software systems, middleware/SA for mobile systems, context- and location-aware services, data management in the mobile web, mobile cloud services, mobile web of things, mobile web security, trust and privacy, mobile networks, protocols and applications, mobile commerce and business services, HCI in mobile applications, social media, and adaptive approaches for mobile computing.

Knowledge Management and Acquisition for Intelligent Systems Energy Management in Wireless Sensor Networks discusses this unavoidable issue in the application of Wireless Sensor Networks (WSN). To guarantee efficiency and durability in a network, the science must go beyond hardware solutions and seek alternative software solutions that allow for better data control from the source to delivery. Data transfer must obey different routing protocols, depending on the application type and network architecture. The correct protocol should allow for fluid information flow, as well as optimizing power consumption and resources – a challenge faced by dense networks. The topics covered in this book provide answers to these needs by introducing and exploring computer-based tools and protocol strategies for low power consumption and the implementation of routing mechanisms which include several levels of intervention, ranging from deployment to network operation. Explores ways to manage energy consumption during the design and implementation of WSN Helps users implement an increase in network longevity Presents intrinsic characteristics of wireless sensor networks.

Implantable Sensor Systems for Medical Applications In the last decade, wireless or wired sensor networks have attracted much attention. However, most designs target general sensor network issues including protocol stack (routing, MAC, etc.) and security issues. This book focuses on the close integration of sensing, networking, and smart signal processing via machine learning. Based on their world-class research, the authors present the fundamentals of intelligent sensor networks. They cover sensing and sampling, distributed signal processing, and intelligent signal learning. In addition, they present cutting-edge research results from leading experts.

ECCWS 2020 28th European Conference on Cyber Warfare and Security For decades, people have searched for ways to harvest energy from natural sources. Lately, a desire to address the issue of global warming and climate change has popularized solar or photovoltaic technology, while piezoelectric technology is being developed to power handheld devices without batteries, and thermoelectric technology is being explored to convert wasted heat, such as in automobile engine combustion, into electricity. Featuring contributions from international researchers in both academics and industry, Energy Harvesting with Functional Materials and Microsystems explains the growing field of energy harvesting from a materials and device perspective, with resulting technologies capable of enabling low-power implantable sensors or a large-scale electrical grid. In addition to the design, implementation, and components of energy-efficient electronics, the book covers current advances in energy-harvesting materials and technology, including: High-efficiency solar technologies with lower cost than existing silicon-based photovoltaics Novel piezoelectric technologies utilizing mechanical energy from vibrations and pressure The ability to harness thermal energy and temperature profiles with thermoelectric materials Whether you’re a practicing engineer, academician, graduate student, or entrepreneur looking to invest in energy-harvesting devices, this book is your complete guide to fundamental materials and applied Microsystems for energy harvesting.

Advanced Mechatronics and MEMS Devices II This year marks the third edition of EuroSSC. It builds on the success of the past editions, held in Enschede, The Netherlands in 2006, and in Kendal, UK in 2007. On behalf of the Organizing Committee, we would like to welcome you to EuroSSC 2008, in Zurich, Switzerland. This volume contains the invited papers and technical peer-reviewed papers selected for presentation at the conference. At EuroSSC we aim to explore technologies, algorithms, architectures, p- tools, and user aspects underlying context-aware smart surroundings, coop- ating intelligent objects, and their applications. Since its inception, EuroSSC has taken a complementary technology-driven and user-driven view to discuss these aspects. It is one of the particularities of EuroSSC, and the 2008 edition made no exception. In addition we emphasized aspects related to quality of c- text and context-aware feedback by actuator systems. This reflects the growing importance that context processing in uncertain environments and sensor and actuator networks take in ambient intelligence environments. We received 70 paper submissions. They originate from 30 countries of - rope, the Middle East and Africa (66%), Asia (22%), North America (9%), and South America (3%). These numbers reflect the European origins of EuroSSC, but also show that EuroSSC is a recognized...
Mobile Web Information Systems This book provides a complete overview of novel and state of the art sensing technologies and geotechnologies relevant to support management and conservation of CH sites, monuments and works of art. The book is organized in an introduction stating the motivations and presenting the overall content of the volume and four parts. The first part focuses on remote sensing and geophysics for the study of human past and cultural heritage at site scale and as element of the surrounding territory. The second part presents an overview of non invasive technologies for investigating monuments and works of art. The third part presents the new opportunities of ICT for an improved and safe cultural heritage fruition, from the virtual and augmented reality of historical context to artifact tracking. Finally, the forth part presents a significant worldwide set of success cases of the exploitation of the integration of geotechnologies in archeology and architectural heritage management. This book is of interest to researchers, experts of heritage science, archaeologists, students, conservators and other professionals of cultural heritage.

Advances in Pervasive Computing

Mobile Ad-hoc and Sensor Networks This book constitutes the refereed proceedings of the 9th International Conference on Ubiquitous Computing and Ambient Intelligence, UCAMI 2015, held in Puerto Varas, Chile, in December 2015. The 36 full papers presented together with 11 short papers were carefully reviewed and selected from 62 submissions. The papers are grouped in topical sections on adding intelligence for environment adaption; ambient intelligence for transport; human interaction and ambient intelligence; and ambient intelligence for urban areas.

Smart Sensing and Context This book constitutes the refereed proceedings of the Second European Conference on Smart Sensing and Context, EuroSSC 2007, held in Kendal, England, October 2007. The 16 revised full papers and one invited paper were carefully reviewed and selected from over 51 submissions. The papers are organized in topical sections on spatial and motion context; human behavior as context; context frameworks and platforms and sensing technologies and case studies.

Human Behavior Understanding in Networked Sensing The implementation of wireless sensor networks has wide-ranging applications for monitoring various physical and environmental settings. However, certain limitations with these technologies must be addressed in order to effectively utilize them. The Handbook of Research on Advanced Wireless Sensor Network Applications, Protocols, and Architectures is a pivotal reference source for the latest research on recent innovations and developments in the field of wireless sensors. Examining the advantages and challenges presented by the application of these networks in various areas, this book is ideally designed for academics, researchers, students, and IT developers.

Handbook of Research on Advanced Wireless Sensor Network Applications, Protocols, and Architectures The worldwide reach of the Internet allows malicious cyber criminals to coordinate and launch attacks on both cyber and cyber-physical infrastructure from anywhere in the world. This purpose of this handbook is to introduce the theoretical foundations and practical solution techniques for securing critical cyber and physical infrastructures as well as their underlying computing and communication architectures and systems. Examples of such infrastructures include utility networks (e.g., electrical power grids), ground transportation systems (automotives, roads, bridges and tunnels), airports and air traffic control systems, wired and wireless communication and sensor networks, systems for storing and distributing water and food supplies, medical and healthcare delivery systems, as well as financial, banking and commercial transaction assets. The handbook focus mostly on the scientific foundations and engineering techniques - while also addressing the proper integration of policies and access control mechanisms, for example, how human-developed policies can be properly enforced by an automated system. Addresses the technical challenges facing design of secure infrastructures by providing examples of problems and solutions from a wide variety of internal and external attack scenarios Includes contributions from leading researchers and practitioners in relevant application areas such as smart power grid, intelligent transportation systems, healthcare industry and so on. Loaded with examples of real world problems and pathways to solutions utilizing specific tools and techniques described in detail throughout

Wireless Sensor Networks The book constitutes the refereed proceedings of the 4th International Conference on Distributed Computing in Sensor Systems, DCOSS 2008, held on Santorini Island, Greece, in June 2008. The 29 revised full papers and 12 revised short papers presented were carefully reviewed and selected from 116 submissions. The papers propose a multitude of novel algorithmic design and analysis techniques, systematic approaches and application development methodologies for distributed sensor networking. The papers cover aspects including energy management, communication, coverage and tracking, time synchronization and scheduling, key establishment and authentication, compression, medium access control, code update, and mobility.

Mobile, Wireless, and Sensor Networks As computers are increasingly embedded into our everyday environments, the objects therein become augmented with sensors, processing and communication capabilities and novel interfaces. The capability for objects to perceive the environment, store and process data, pursue goals, reason about their intentions and coordinate actions in a holistic manner gives rise to the so-called Intelligent Environment (IE). In such
environments, real space becomes augmented with digital content, thus transcending the limits of nature and of human perception.

Generic and Energy-Efficient Context-Aware Mobile Sensing This book develops tools and techniques that will help urban residents gain access to urban computing. Metaphorically speaking, it is taking computing to the street by giving the general public—rather than just researchers and professionals—the power to leverage available city infrastructure and create solutions tailored to their individual needs. It brings together five articles that are based on presentations given at the Street Computing Workshop held on 24 November 2009 in Melbourne in conjunction with the Australian Computer-Human Interaction conference (OZCHI 2009). This volume focuses on applying urban informatics, urban and community sensing and open application programming interfaces (APIs) to the public space through the delivery of online services, on demand and in real time. It then offers a case study of how the city of Singapore has harnessed the potential of an online infrastructure so that residents and visitors can access services electronically. This book was published as a special issue of the Journal of Urban Technology.

Sensing the Past This book introduces the state-of-the-art technologies in mechatronics, robotics, and MEMS devices in order to improve their methodologies. It provides a follow-up to "Advanced Mechatronics and MEMS Devices" (2013) with an exploration of the most up-to-date technologies and their applications, shown through examples that give readers insights and lessons learned from actual projects. Researchers on mechatronics, robotics, and MEMS as well as graduate students in mechanical engineering will find chapters on: Fundamental design and working principles on MEMS accelerometers Innovative mobile technologies Force/tactile sensors development Control schemes for reconfigurable robotic systems Inertial microfluidics Piezoelectric force sensors and dynamic calibration techniques And more. Authors explore applications in the areas of agriculture, biomedicine, advanced manufacturing, and space. Micro-assembly for current and future industries is also considered, as well as the design and development of micro and intelligent manufacturing.

Security and Trends in Wireless Identification and Sensing Platform Tags: Advancements in RFID The collaborative nature of industrial wireless sensor networks (IWSNs) brings several advantages over traditional wired industrial monitoring and control systems, including self-organization, rapid deployment, flexibility, and inherent intelligent processing. In this regard, IWSNs play a vital role in creating more reliable, efficient, and productive industrial systems, thus improving companies' competitiveness in the marketplace. Industrial Wireless Sensor Networks: Applications, Protocols, and Standards examines the current state of the art in industrial wireless sensor networks and outlines future directions for research. What Are the Main Challenges in Developing IWSN Systems? Featuring contributions by researchers around the world, this book explores the software and hardware platforms, protocols, and standards that are needed to address the unique challenges posed by IWSN systems. It offers an in-depth review of emerging and already deployed IWSN applications and technologies, and outlines technical issues and design objectives. In particular, the book covers radio technologies, energy harvesting techniques, and network and resource management. It also discusses issues critical to industrial applications, such as latency, fault tolerance, synchronization, real-time constraints, network security, and cross-layer design. A chapter on standards highlights the need for specific wireless communication standards for industrial applications. A Starting Point for Further Research Delving into wireless sensor networks from an industrial perspective, this comprehensive work provides readers with a better understanding of the potential advantages and research challenges of IWSN applications. A contemporary reference for anyone working at the cutting edge of industrial automation, communication systems, and networks, it will inspire further exploration in this promising research area.

Nanomaterials-Based Sensing Platforms These proceedings represent the work of contributors to the 19th European Conference on Cyber Warfare and Security (ECCWS 2020), supported by University of Chester, UK on 25-26 June 2020. The Conference Co-chairs are Dr Thaddeus Eze and Dr Lee Speakman, both from University of Chester and the Programme Chair is Dr Cyril Onwubiko from IEEE and Director, Cyber Security Intelligence at Research Series Limited. ECCWS is a well-established event on the academic research calendar and now in its 19th year the key aim remains the opportunity for participants to share ideas and meet. The conference was due to be held at University of Chester, UK, but due to the global Covid-19 pandemic it was moved online to be held as a virtual event. The scope of papers will ensure an interesting conference. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

Distributed Computing in Sensor Systems This book focuses on the distinct but tightly inter-related areas of development for distributed sensing systems. In this book, the authors discuss the technological developments lead by sensor technology, addressing viable new applications to inspire a technological evolution. Under the advanced and visionary approach of distributed intelligence, the authors focus on three distinct but tightly inter-related areas of developments for distributed sensing systems (DSS): firstly, the sensor technology embracing the conversion of the phenomena of interest into desirable form of signal such as electric, secondly, the interaction process between sensing points which requires immense intelligence loosely called networking, and finally, the adoption of useful maturing systems through potential applications for right impacts for a better life and a brighter economy. Furthermore, the book contains a number of case studies and typical applications illustrating the technical details, features and functions of the systems, as well as demonstrating their benefits and limitations. Key Features: Discusses the technological developments lead by sensor technology Addresses viable new applications Contains a number of case studies and typical applications illustrating the technical details, features and functions of the systems.
Distributed Sensor Systems This book offers a snapshot of cutting-edge applications of mobile sensing for digital phenotyping in the field of Psychoinformatics. The respective chapters, written by authoritative researchers, cover various aspects related to the use of these technologies in health, education, and cognitive science research. They share insights both into established applications of mobile sensing (such as predicting personality or mental and behavioral health on the basis of smartphone usage patterns) and emerging trends. Machine learning and deep learning approaches are discussed, and important considerations regarding privacy risks and ethical issues are assessed. In addition to essential background information on various technologies and theoretical methods, the book also presents relevant case studies and good scientific practices, thus addressing researchers and professionals alike. To cite Thomas R. Insel, who wrote the foreword to this book: “Patients will only use digital phenotyping if it solves a problem, perhaps a digital smoke alarm that can prevent a crisis. Providers will only use digital phenotyping if it fits seamlessly into their crowded workflow. If we can earn public trust, there is every reason to be excited about this new field. Suddenly, studying human behavior at scale, over months and years, is feasible.”

La casa in rete This publication represents the best thinking and solutions to myriad of contemporary issues in wireless networks. Coverage includes wireless LANs, multihop wireless networks, and sensor networks. Readers are provided with insightful guidance in tackling such issues as architecture, protocols, modeling, analysis, and solutions. The book also highlights economic issues, market trends, emerging, cutting-edge applications, and new paradigms, such as middleware for RFID, smart home design, and “on-demand business” in the context of pervasive computing. Mobile, Wireless, and Sensor Networks is divided into three distinct parts: * Recent Advances in Wireless LANs and Multihop Wireless Networks * Recent Advances and Research in Sensor Networks * Middleware, Applications, and New Paradigms In developing this collected work, the editors have emphasized two objectives: * Helping readers bridge the gap and understand the relationships between practice and theory * Helping readers bridge the gap and understand the relationships and common links among different types of wireless networks Chapters are written by an international team of researchers and practitioners who are experts and trendsetters in their fields. Contributions represent both industry and academia, including IBM, National University of Singapore, Panasonic, Intel, and Seoul National University. Students, researchers, and practitioners who need to stay abreast of new research and take advantage of the latest techniques in wireless communications will find this publication indispensable. Mobile, Wireless, and Sensor Networks provides a clear sense of where the industry is now, what challenges it faces, and where it is heading.
Recent Findings in Intelligent Computing Techniques Mobile crowdsensing is a technology that allows large scale, cost-effective sensing of the physical world. In mobile crowdsensing, mobile personal devices such as smart phones or smart watches come equipped with a variety of sensors that can be leveraged to collect data related to environment, transportation, healthcare, safety and so on. This book presents the first extensive coverage of mobile crowdsensing, with examples and insights drawn from the authors’ extensive research on this topic as well as from the research and development of a growing community of researchers and practitioners working in this emerging field. Throughout the text, the authors provide the reader with various examples of crowdsensing applications and the building blocks to creating the necessary infrastructure, explore the related concepts of mobile sensing and crowdsourcing, and examine security and privacy issues introduced by mobile crowdsensing platforms.

Energy Harvesting with Functional Materials and Microsystems This book provides a broad overview of both the technical challenges in sensor network development, and the real-world applications of distributed sensing. Important aspects of distributed computing in large-scale networked sensor systems are analyzed in the context of human behavior understanding, including topics on systems design tools and techniques. Additionally, the book examines a varied range of applications. Features: contains valuable contributions from an international selection of leading experts in the field; presents a high-level introduction to the aims and motivations underpinning distributed sensing; describes decision-making algorithms in the presence of complex sensor networks; provides a detailed analysis of the design, implementation, and development of a distributed network of homogeneous or heterogeneous sensors; reviews the application of distributed sensing to human behavior understanding and autonomous intelligent vehicles; includes a helpful glossary and a list of acronyms.

Quality of Context This book addresses the issues of the rapidly changing field of wireless wearable and implantable sensors. It also discusses the latest technological developments and clinical applications of body-sensor networks (BSN). BSN is a new area of research and the last decade has seen a rapid surge of interest. The book also provides a review of current wireless sensor development platforms and a guide to developing your own BSN applications.

Intelligent Techniques for Warehousing and Mining Sensor Network Data "This book highlights new research regarding wireless identification and sensing platform (WISP) tags, security, and applications, serving as a reference on WISP technology and presenting recent advances in this field"--Provided by publisher.

RFID and Wireless Sensors Using Ultra-Wideband Technology This book constitutes the refereed proceedings of the First International Conference on Mobile Ad-hoc and Sensor Networks, MSN 2005, held in Wuhan, China in December 2005. The volume also contains 12 papers of the MSN workshop on Modeling and the Security in the Next Generation Mobile Information Systems (MSNG 2005). The 112 revised full papers were carefully reviewed and selected from a total of 512 submissions. The papers address all current topical areas in mobile ad hoc and sensor networks such as network architecture and protocols, software platforms and development tools, self-organization and synchronization, routing and data dissemination, failure resilience and fault isolation, energy management, data, information, and signal processing, security and privacy, network planning, provisioning, and deployment, network modeling and performance evaluation, developments and applications, as well as integration with other systems.

Knowledge Discovery from Sensor Data "This book focuses on the relevant research theme of warehousing and mining sensor network data, specifically for the database, data warehousing and data mining research communities"--Provided by publisher.

Intelligent Sensor Networks This book constitutes the proceedings of the 14th International Workshop on Knowledge Management and Acquisition for Intelligent Systems, PKAW 2016, held in Phuket, Thailand, in August 2016. The 16 full papers and 5 short papers included in this volume were carefully reviewed and selected from 61 initial submissions. They deal with knowledge acquisition and machine learning; knowledge acquisition and natural language processing; knowledge acquisition from network and big data; and knowledge acquisition and applications.