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Dive into the transformative fields of mobile computing, wireless technology, and pervasive computing with this comprehensive resource. Published by Wiley, it offers essential insights into ubiquitous computing environments, exploring the challenges and innovations shaping our interconnected digital world. Ideal for researchers, students, and professionals seeking foundational knowledge and advanced topics in modern communication and intelligent systems.

This collection represents the pinnacle of academic dedication and achievement.

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Pervasive Computing and Networking

This book presents state-of-the-art research on architectures, algorithms, protocols and applications in pervasive computing and networks. With the widespread availability of wireless and mobile networking technologies and the expected convergence of ubiquitous computing with these emerging technologies in the near future, pervasive computing and networking research and applications are among the hot topics on the agenda of researchers working on the next generation of mobile communications and networks. This book provides a comprehensive guide to selected topics, both ongoing and emerging, in pervasive computing and networking. It contains contributions from high profile researchers and is edited by leading experts in this field. The main topics covered in the book include pervasive computing and systems, pervasive networking security, and pervasive networking and communication. Key Features: Discusses existing and emerging communications and computing models, design architectures, mobile and pervasive wireless applications, technology and research challenges in pervasive computing systems, networking and communications. Provides detailed discussions of key research challenges and open research issues in the field of autonomic computing and networking. Offers information on existing experimental studies including case studies, implementation test-beds in industry and academia. Includes a set of PowerPoint slides for each chapter for instructors adopting it as a textbook. Pervasive Computing and Networking will be an ideal reference for practitioners and researchers working in the areas of communication networking and pervasive computing and networking. It also serves as an excellent textbook for graduate and senior undergraduate courses in computer science, computer engineering, electrical engineering, software engineering, and information engineering and science.

Handbook on Mobile and Ubiquitous Computing

Consolidating recent research in the area, the Handbook on Mobile and Ubiquitous Computing: Status and Perspective illustrates the design, implementation, and deployment of mobile and ubiquitous

systems, particularly in mobile and ubiquitous environments, modeling, database components, and wireless infrastructures. Supplying an overarching perspective

Ubiquitous Computing

This book provides an introduction to the complex field of ubiquitous computing. Ubiquitous Computing (also commonly referred to as Pervasive Computing) describes the ways in which current technological models, based upon three base designs: smart (mobile, wireless, service) devices, smart environments (of embedded system devices) and smart interaction (between devices), relate to and support a computing vision for a greater range of computer devices, used in a greater range of (human, ICT and physical) environments and activities. The author details the rich potential of ubiquitous computing, the challenges involved in making it a reality, and the prerequisite technological infrastructure. Additionally, the book discusses the application and convergence of several current major and future computing trends. Key Features: Provides an introduction to the complex field of ubiquitous computing Describes how current technology models based upon six different technology form factors which have varying degrees of mobility, wireless connectivity and service volatility: tabs, pads, boards, dust, skins and clay, enable the vision of ubiquitous computing Describes and explores how the three core designs (smart devices, environments and interaction) based upon current technology models can be applied to, and can evolve to, support a vision of ubiquitous computing and computing for the future Covers the principles of the following current technology models, including mobile wireless networks, service-oriented computing, human computer interaction, artificial intelligence, context-awareness, autonomous systems, micro-electromechanical systems, sensors, embedded controllers and robots Covers a range of interactions, between two or more UbiCom devices, between devices and people (HCI), between devices and the physical world. Includes an accompanying website with PowerPoint slides, problems and solutions, exercises, bibliography and further reading Graduate students in computer science, electrical engineering and telecommunications courses will find this a fascinating and useful introduction to the subject. It will also be of interest to ICT professionals, software and network developers and others interested in future trends and models of computing and interaction over the next decades.

Handbook of Wireless Networks and Mobile Computing

The huge and growing demand for wireless communication systems has spurred a massive effort on the parts of the computer science and electrical engineering communities to formulate ever-more efficient protocols and algorithms. Written by a respected figure in the field, Handbook of Wireless Networks and Mobile Computing is the first book to cover the subject from a computer scientist's perspective. It provides detailed practical coverage of an array of key topics, including cellular networks, channel assignment, queuing, routing, power optimization, and much more.

Wireless Internet and Mobile Computing

This book describes the technologies involved in all aspects of a large networking system and how the various devices can interact and communicate with each other. Using a bottom up approach the authors demonstrate how it is feasible, for instance, for a cellular device user to communicate, via the all-purpose TCP/IP protocols, with a wireless notebook computer user, traversing all the way through a base station in a cellular wireless network (e.g., GSM, CDMA), a public switched network (PSTN), the Internet, an intranet, a local area network (LAN), and a wireless LAN access point. The information bits, in travelling through this long path, are processed by numerous disparate communication technologies. The authors also describe the technologies involved in infrastructure less wireless networks.

Smart Phone and Next Generation Mobile Computing

This in-depth technical guide is an essential resource for anyone involved in the development of "smart mobile wireless technology, including devices, infrastructure, and applications. Written by researchers active in both academic and industry settings, it offers both a big-picture introduction to the topic and detailed insights into the technical details underlying all of the key trends. Smart Phone and Next-Generation Mobile Computing shows you how the field has evolved, its real and potential current capabilities, and the issues affecting its future direction. It lays a solid foundation for the decisions you face in your work, whether you're a manager, engineer, designer, or entrepreneur. Covers the convergence of phone and PDA functionality on the terminal side, and the integration of different network types on the infrastructure side Compares existing and anticipated wireless technologies, focusing

on 3G cellular networks and wireless LANs Evaluates terminal-side operating systems/programming environments, including Microsoft Windows Mobile, Palm OS, Symbian, J2ME, and Linux Considers the limitations of existing terminal designs and several pressing application design issues Explores challenges and possible solutions relating to the next phase of smart phone development, as it relates to services, devices, and networks Surveys a collection of promising applications, in areas ranging from gaming to law enforcement to financial processing

Fundamentals of Pervasive Information Management Systems

A comprehensive new edition on mobile computing—covering both mobile and sensor data The new paradigm of pervasive computing was born from the need of highly mobile workers to access and transfer data while on the go. Significant advances in the technology have lent and will continue to lend prevalence to its use—especially in m-commerce. Covering both mobile data and sensor data, this comprehensive text offers updated research on sensor technology, data stream processing, mobile database security, and contextual processing. Packed with cases studies, exercises, and examples, *Fundamentals of Pervasive Information Management Systems* covers essential aspects of wireless communication and provides a thorough discussion about managing information on mobile databases systems (MDS). It addresses the integration of web and workflow with mobile computing and looks at the current state of research. *Fundamentals of Pervasive Information Management Systems* presents chapters on: Mobile Database System Mobile and Wireless Communication Location and Handoff Management Fundamentals of Database Processing Introduction to Concurrency Control Mechanisms Effect of Mobility on Data Processing Transaction Management in Mobile Database Systems Mobile Database Recovery Wireless Information Dissemination Introduction to Sensor Technology Sensor Technology and Data Streams Management Sensor Network Deployment: Case Studies *Fundamentals of Pervasive Information Management Systems* is an ideal book for researchers, teachers, and graduate students of mobile computing. The book may also be used as a reference text for researchers or managers.

Ubiquitous Computing and Ambient Intelligence

This book constitutes the refereed proceedings of the 6th International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2012, held in Vitoria-Gasteiz, Spain, in December 2012. The 70 research papers were carefully reviewed and selected from various submissions. The main focus of this book has been to explore how Ambient Intelligence can contribute towards smarter but still more sustainable environments. Beyond sustainable computing the proceedings also include research work describing progress on other key research topics for AmI such as human environment mobile-mediated (through NFC or AR) interaction, artificial intelligence techniques to foster user- and context-aware environment adaptation, future internet trends such as social networks analysis, linked data or crowd-sourcing applied to AmI, internet-connected object ecosystems collaborating to give place to smarter environments.

Fundamentals of Mobile and Pervasive Computing

The authoritative, general reference that has been sorely missing in the field of mobile computing This book teaches all the main topics via the hottest applications in a rapidly growing field. "Big picture" explanations of ad hoc networks and service discovery Exercises, projects, and solutions to illustrate core concepts Extensive wireless security methodologies

Pervasive Computing

This book describes a new class of computing devices which are becoming omnipresent in every day life. They make information access and processing easily available for everyone from anywhere at any time. Mobility, wireless connectivity, diversity, and ease-of-use are the magic keywords of Pervasive and Ubiquitous Computing. The book covers these front-end devices as well as their operating systems and the back-end infrastructure which integrate these pervasive components into a seamless IT world. A strong emphasis is placed on the underlying technologies and standards applied when building up pervasive solutions. These fundamental topics include commonly used terms such as XML, WAP, UMTS, GPRS, Bluetooth, Jini, transcoding, and cryptography, to mention just a few. Voice, Web Application Servers, Portals, Web Services, and Synchronized and Device Management are new in the second edition. Besides a comprehensive state-of-the-art description of the Pervasive Computing technology itself, this book gives an overview of today's real-life applications and accompanying service

offerings. M-Commerce, e-Business, networked home, travel, and finance are exciting examples of applied Ubiquitous Computing.

Mobile Opportunistic Networks

The widespread availability of mobile devices coupled with recent advancements in networking capabilities make opportunistic networks one of the most promising technologies for next-generation mobile applications. Are you ready to make your mark? Featuring the contributions of prominent researchers from academia and industry, *Mobile Opportunistic Networks: Architectures, Protocols and Applications* introduces state-of-the-art research findings, technologies, tools, and innovations. From fundamentals to advanced concepts, the book provides the comprehensive technical coverage of this rapidly emerging communications technology you need to make contributions in this area. The first section focuses on modeling, networking architecture, and routing problems. The second section examines opportunistic networking technologies and applications. Presenting the latest in modeling opportunistic network connection structures and pairwise contacts, the text discusses the fundamentals of opportunistic routing. It reviews the most-popular routing protocols and introduces a routing protocol for delivering data with load balancing and reliable transmission capabilities. Details an approach to analyzing user behavior based on realistic data in opportunistic networks Presents analytical approaches for mobility and heterogeneous connections management in mobile opportunistic networks Compares credit-based incentive schemes for mobile wireless ad hoc networks and challenged networks Discusses the combined strengths of cache-based approaches and Infostation-based approaches Addressing key research challenges and open issues, this complete technical guide reports on the latest advancements in the deployment of stationary relay nodes on vehicular opportunistic networks. It also illustrates the use of the service location and planning (SLP) technique for resource utilization with quality of service (QoS) constraints in opportunistic capability utilization networks. The book introduces a novel prediction-based routing protocol, and supplies authoritative coverage of communication architectures, network algorithms and protocols, emerging applications, industrial and professional standards, and experimental studies—including simulation tools and implementation test beds.

Mobile Computing

The rapid development of wireless digital communication technology has created capabilities that software systems are only beginning to exploit. The falling cost of both communication and of mobile computing devices (laptop computers, hand-held computers, etc.) is making wireless computing affordable not only to business users but also to consumers. Mobile computing is not a "scaled-down" version of the established and well-studied field of distributed computing. The nature of wireless communication media and the mobility of computers combine to create fundamentally new problems in networking, operating systems, and information systems. Furthermore, many of the applications envisioned for mobile computing place novel demands on software systems. Although mobile computing is still in its infancy, some basic concepts have been identified and several seminal experimental systems developed. This book includes a set of contributed papers that describe these concepts and systems. Other papers describe applications that are currently being deployed and tested. The first chapter offers an introduction to the field of mobile computing, a survey of technical issues, and a summary of the papers that comprise subsequent chapters. We have chosen to reprint several key papers that appeared previously in conference proceedings. Many of the papers in this book are being published here for the first time. Of these new papers, some are expanded versions of papers first presented at the NSF-sponsored Mobidata Workshop on Mobile and Wireless Information Systems, held at Rutgers University on Oct 31 and Nov 1, 1994.

Designing Solutions-Based Ubiquitous and Pervasive Computing: New Issues and Trends

"This book provides a general overview about research on ubiquitous and pervasive computing and its applications, discussing the recent progress in this area and pointing out to scholars what they should do (best practices) and should not do (bad practices)"--Provided by publisher.

Innovative Mobile and Internet Services in Ubiquitous Computing

This book provides latest research findings, methods and development techniques, challenges and solutions from both theoretical and practical perspectives related to Ubiquitous and Pervasive Computing (UPC) with an emphasis on innovative, mobile and internet services. With the proliferation of wireless technologies and electronic devices, there is a fast-growing interest in UPC, which enables to create

a human-oriented computing environment where computer chips are embedded in everyday objects and interact with the physical world. Through UPC, people can be online even while moving around, thus having almost permanent access to their preferred services. With a great potential to revolutionize our lives, UPC also poses new research challenges.

Intelligent Pervasive Computing Systems for Smarter Healthcare

A guide to intelligent decision and pervasive computing paradigms for healthcare analytics systems with a focus on the use of bio-sensors Intelligent Pervasive Computing Systems for Smarter Healthcare describes the innovations in healthcare made possible by computing through bio-sensors. The pervasive computing paradigm offers tremendous advantages in diversified areas of healthcare research and technology. The authors—noted experts in the field—provide the state-of-the-art intelligence paradigm that enables optimization of medical assessment for a healthy, authentic, safer, and more productive environment. Today's computers are integrated through bio-sensors and generate a huge amount of information that can enhance our ability to process enormous bio-informatics data that can be transformed into meaningful medical knowledge and help with diagnosis, monitoring and tracking health issues, clinical decision making, early detection of infectious disease prevention, and rapid analysis of health hazards. The text examines a wealth of topics such as the design and development of pervasive healthcare technologies, data modeling and information management, wearable biosensors and their systems, and more. This important resource: Explores the recent trends and developments in computing through bio-sensors and its technological applications Contains a review of biosensors and sensor systems and networks for mobile health monitoring Offers an opportunity for readers to examine the concepts and future outlook of intelligence on healthcare systems incorporating biosensor applications Includes information on privacy and security issues on wireless body area network for remote healthcare monitoring Written for scientists and application developers and professionals in related fields, Intelligent Pervasive Computing Systems for Smarter Healthcare is a guide to the most recent developments in intelligent computer systems that are applicable to the healthcare industry.

Ubiquitous Computing and Ambient Intelligence

This LNCS double volume LNCS 10069-10070 constitutes the refereed proceedings of the 10th International Conference on Ubiquitous Computing and Ambient Intelligence, UCAmI 2016, which includes the International Work Conference on Ambient Assisted Living (IWAAL), and the International Conference on Ambient Intelligence for Health (AmIHEALTH), held in Las Palmas de Gran Canaria, Spain, in November/December 2016. The 69 full papers presented together with 40 short papers and 5 doctoral consortium papers were carefully reviewed and selected from 145 submissions. UCAmI 2016 is focused on research topics related to ambient assisted living, internet of things, smart cities, ambient intelligence for health, human-computer interaction, ad-hoc and sensor networks, and security./div

Next Generation Mobile Networks and Ubiquitous Computing

"This book provides a comprehensive and unified view of the latest and most innovative research findings on the many existing interactions between mobile networking, wireless communications, and ubiquitous computing"--Provided by publisher.

Pervasive Systems and Ubiquitous Computing

Pervasive systems, due to inexpensive wireless technology can now be implemented easily and local and network advanced applications can be joined anytime simply by using a mobile terminal (cell phone, PDA, smartphone etc.) Pervasive systems free people from conventional interaction with desktop and laptop computers thereby allowing a new human-environment interaction to take place on the basis of wireless multimedia communication. Addressing the theoretical fundamentals of pervasive systems as they are studied and developed in the major research laboratories, Pervasive Systems and Ubiquitous Computing is aimed at MSc and PhD engineering students

Innovative Mobile and Internet Services in Ubiquitous Computing

This book highlights the latest research advances, new methods and development techniques, challenges and solutions from both theoretical and practical perspectives related to Ubiquitous and Pervasive Computing (UPC), with an emphasis on innovative, mobile and internet services. With the proliferation of wireless technologies and electronic devices, there is a rapidly growing interest in UPC,

which makes it possible to create human-oriented computing environments in which computer chips are embedded in everyday objects and interact with the physical world. With UPC, people can go online even while moving around, thus enjoying nearly permanent access to their preferred services. Though it holds the potential to revolutionize our lives, UPC also poses a number of new research challenges. The book gathers the proceedings of the 11th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing (IMIS-2017), held on June 28–June 30, 2017 in Torino, Italy.

Innovative Mobile and Internet Services in Ubiquitous Computing

This book presents the latest research findings, methods and development techniques related to Ubiquitous and Pervasive Computing (UPC) as well as challenges and solutions from both theoretical and practical perspectives with an emphasis on innovative, mobile and internet services. With the proliferation of wireless technologies and electronic devices, there is a rapidly growing interest in Ubiquitous and Pervasive Computing (UPC). UPC makes it possible to create a human-oriented computing environment where computer chips are embedded in everyday objects and interact with physical world. It also allows users to be online even while moving around, providing them with almost permanent access to their preferred services. Along with a great potential to revolutionize our lives, UPC also poses new research challenges.

Connected Services

"Connected Services is a must-read for telco strategists who need to get up to speed on how the world of software and the web 2.0 works." Andreas Constantinou, Research Director, VisionMobile
"This book is a must read for those charged with leading innovation in a world of connected services where telco and Internet collide." - Jason Goecke, VP of Innovation, Voxeo Labs
This book explains the common underlying technological themes that underpin the new era of connected services in a post Web 2.0 epoch. In this book, the author explores the underlying technological themes that underpin the new era of connected services. Furthermore, it explains how the technologies work and what makes each of them significant, for example, the potential for finding new meaning in data in the world of BIG DATA platforms, often referred to as "No-SQL" databases. In addition, it tackles the newest areas of technology such as HTML5, Android, iOS, open source, mash-ups, cloud computing, real-time Web, augmented reality, and more. Finally, the book discusses the opportunities and challenges of a connected world where both machines and people communicate in a pervasive fashion, looking beyond the hype and promise of emerging categories of communication such as the "Internet of Things" and "Real-time Web" to show managers how to understand the potential of the enabling technologies and apply them for meaningful applications in their own world.
Key Features:
Explores the common and emergent underlying technological themes that underpin the new era of connected services
Addresses the newest areas of Internet technology such as web and mobile 2.0, open source, mash-ups, cloud computing, web 3.0, augmented reality, and more
Shows the reader how to understand the potential of the enabling technologies and apply them for meaningful applications in their own world
Discusses new developments in the technological landscape such as Smartphone proliferation, maturation of Web 2.0, increased convergence between mobile networks and the Internet, and so forth
Examines modern software paradigms like Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS) and Network-as-a-Service (NaaS)
Explores in detail how Web start-ups really work and what telcos can do to adopt lean and agile methods
This book will be an invaluable guide for technical designers and managers, project managers, product managers, CEOs etc. at mobile operators (O2, Vodafone, Orange, T-Mobile, BT), fixed operators, converged operators and their contributory supplier networks (e.g. infrastructure providers). Internet providers (Google, Yahoo, Amazon, eBay, Apple, Facebook), analysts, product managers, developers, architects, consultants, technology investors, analysts, marketing directors, business development directors will also find this book of interest.

The Landscape of Pervasive Computing Standards

This lecture presents a first compendium of established and emerging standards in pervasive computing systems. The lecture explains the role of each of the covered standards and explains the relationship and interplay among them. Hopefully, the lecture will help piece together the various standards into a sensible and clear landscape. The lecture is a digest, reorganization, and a compilation of several short articles that have been published in the "Standards and Emerging Technologies" department of the IEEE Pervasive Computing magazine. The articles have been edited and shortened or expanded to provide the necessary focus and uniform coverage depth. There are more standards and

common practices in pervasive systems than the lecture could cover. However, systems perspective and programmability of pervasive spaces, which are the main foci of the lecture, set the scope and determined which standards should be included. The lecture explains what it means to program a pervasive space and introduces the new requirements brought about by pervasive computing. Among the standards the lecture covers are sensors and device standards, service-oriented device standards, service discovery and delivery standards, service gateway standards, and standards for universal interactions with pervasive spaces. In addition, the emerging sensor platform and domestic robots technologies are covered and their essential new roles explained. The lecture also briefly covers a set of standards that represents an ecosystem for the emerging pervasive healthcare industry. Audiences who may benefit from this lecture include (1) academic and industrial researchers working on sensor-based, pervasive, or ubiquitous computing R&D; (2) system integrator consultants and firms, especially those concerned with integrating sensors, actuators, and devices to their enterprise and business systems; (3) device, smart chips, and sensor manufacturers; (4) government agencies; (5) the healthcare IT and pervasive health industries; and (6) other industries such as logistics, manufacturing, and the emerging smart grid and environment sustainability industries. Table of Contents: Preface / Acknowledgments / Introduction / Sensor and Device Standards / Service-Oriented Device Architecture (SODA) / Sensor Platforms / Service Discovery and Delivery Standards / The Open Services Gateway Initiative (OSGi) / Universal Interactions / Domestic Robots for Smart Space Interactions / Continua: An Interoperable Personal Health Ecosystem / References / Author Biography

Mobile Wireless Middleware, Operating Systems and Applications - Workshops

Software systems for wireless and mobile communications are a key component in pervasive computing and are crucial for the materialization of easy-to-use and intelligent services that people can use ubiquitously. As indicated by its acronym (MOBILE Wireless MiddleWARE, Operating Systems, and Applications), these are the type of systems that form the topic of the MOBILWARE conferencing series. In particular, the goal of MOBILWARE is to provide a forum for researchers and practitioners to disseminate and discuss recent advances in software systems for wireless and mobile communications, ranging from work on communication middleware and operating systems to networking protocols and applications. For its second edition, held in Berlin in April 2009, the MOBILWARE Organizing Committee decided to add a full day of workshops on topics related to the main conference. Our goals were threefold: 1. Put together a high-quality workshop program consisting of a few focused workshops that would provide ample time for discussion, thus enabling presenters to quickly advance their work and workshop attendees to quickly get an idea of ongoing work in selected research areas. 2. Provide a more complete picture of ongoing work by not only including technical workshops, but also workshops on business and user aspects. We expected that this multi-viewpoint approach would be an added value as technology, business models, and user experiences are usually interrelated. 3. Create a breeding ground for submissions for MOBILWARE 2010 and beyond.

The Internet of Things

Internet of Things: Connecting Objects puts forward the technologies and the networking architectures which make it possible to support the Internet of Things. Amongst these technologies, RFID, sensor and PLC technologies are described and a clear view on how they enable the Internet of Things is given. This book also provides a good overview of the main issues facing the Internet of Things such as the issues of privacy and security, application and usage, and standardization.

Smart Spaces and Next Generation Wired/Wireless Networking

This book constitutes the refereed proceedings of the 10th International Conference on Next Generation Teletraffic and Wired/Wireless Advanced Networking, NEW2AN 2010, held in conjunction with the Third Conference on Smart Spaces, ruSMART 2009 in St. Petersburg, Russia, in August 2010. The 27 revised NEW2AN full papers are organized in topical sections on performance evaluation; performance modeling; delay-/disruption-tolerant networking and overlay systems; integrated wireless networks; resource management; and multimedia communications. The 14 revised ruSMART full papers are about smart spaces use cases; smart-M3 platform; and smart spaces solutions.

Handbook of Research on Ubiquitous Computing Technology for Real Time Enterprises

"This book combines the fundamental methods, algorithms, and concepts of pervasive computing with current innovations and solutions to emerging challenges. It systemically covers such topics as network

and application scalability, wireless network connectivity, adaptability and "context-aware" computing, information technology security and liability, and human-computer interaction"--Provided by publisher.

Knowledge Discovery from Sensor Data

As sensors become ubiquitous, a set of broad requirements is beginning to emerge across high-priority applications including disaster preparedness and management, adaptability to climate change, national or homeland security, and the management of critical infrastructures. This book presents innovative solutions in offline data mining and real-time analysis of sensor or geographically distributed data. It discusses the challenges and requirements for sensor data based knowledge discovery solutions in high-priority application illustrated with case studies. It explores the fusion between heterogeneous data streams from multiple sensor types and applications in science, engineering, and security.

Intelligent Interactive Systems in Knowledge-Based Environments

The main aim of this research book is to report a sample of the most recent advances in the field of intelligent interactive systems in knowledge-based environment. The contents of this book include: Introduction to intelligent interactive systems Affective bi-modal intelligent tutoring system Estimation of development costs in intelligent systems Narrative interactive learning Knowledge acquisition for configurable products and services Interaction modalities in mobile contexts Face images classification for human-computer interactions Users modelling for distance learning Group adaptation and group modelling A personalized news aggregator on the web. This book would prove useful to the researchers, professors, research students and practitioners as it reports novel research work on innovative topics in the area of intelligent interactive systems.

Pervasive Information Systems

Written for both scholars and practitioners, this book provides an in-depth review of the state-of-the-art practices and research opportunities in a new era where information technology resides in everyday objects from cars to clothes to shipping containers.

Pattern Recognition and Machine Intelligence

This book constitutes the refereed proceedings of the First International Conference on Pattern Recognition and Machine Intelligence, PReMI 2005, held in Kolkata, India in December 2005. The 108 revised papers presented together with 6 keynote talks and 14 invited papers were carefully reviewed and selected from 250 submissions. The papers are organized in topical sections on clustering, feature selection and learning, classification, neural networks and applications, fuzzy logic and applications, optimization and representation, image processing and analysis, video processing and computer vision, image retrieval and data mining, bioinformatics application, Web intelligence and genetic algorithms, as well as rough sets, case-based reasoning and knowledge discovery.

Advances in Computing and Communications, Part I

This volume is the first part of a four-volume set (CCIS 190, CCIS 191, CCIS 192, CCIS 193), which constitutes the refereed proceedings of the First International Conference on Computing and Communications, ACC 2011, held in Kochi, India, in July 2011. The 68 revised full papers presented in this volume were carefully reviewed and selected from a large number of submissions. The papers are organized in topical sections on ad hoc networks; advanced micro architecture techniques; autonomic and context-aware computing; bioinformatics and bio-computing; cloud, cluster, grid and P2P computing; cognitive radio and cognitive networks; cyber forensics; database and information systems.

Dynamic Spectrum Access and Management in Cognitive Radio Networks

An all-inclusive introduction to this revolutionary technology, presenting the key research issues and state-of-the-art design, analysis, and optimization techniques.

Algorithms and Protocols for Wireless and Mobile Ad Hoc Networks

Focuses on several aspects of wireless ad hoc networks, particularly algorithmic methods and distributed computing with mobility and computation capability. This book provides the crucial building foundation for the design and construction of the future generation of ad hoc networks.

Innovative Mobile and Internet Services in Ubiquitous Computing

This book presents the latest research findings, methods and development techniques, challenges and solutions concerning UPC from both theoretical and practical perspectives, with an emphasis on innovative, mobile and Internet services. With the proliferation of wireless technologies and electronic devices, there is a rapidly growing interest in Ubiquitous and Pervasive Computing (UPC), which makes it possible to create a human-oriented computing environment in which computer chips are embedded in everyday objects and interact with the physical world. Through UPC, people can go online even while moving around, thus enjoying nearly permanent access to their preferred services. Though it has the potential to revolutionize our lives, UPC also poses a number of new research challenges. .

Grid and Pervasive Computing Workshops

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.

Integration of Cloud Computing with Internet of Things

The book aims to integrate the aspects of IoT, Cloud computing and data analytics from diversified perspectives. The book also plans to discuss the recent research trends and advanced topics in the field which will be of interest to academicians and researchers working in this area. Thus, the book intends to help its readers to understand and explore the spectrum of applications of IoT, cloud computing and data analytics. Here, it is also worth mentioning that the book is believed to draw attention on the applications of said technology in various disciplines in order to obtain enhanced understanding of the readers. Also, this book focuses on the researches and challenges in the domain of IoT, Cloud computing and Data analytics from perspectives of various stakeholders.

Information Technology for Management

Taking a practical, managerial-oriented approach, this text stresses how information technology provides solutions to organisational problems and challenges, and emphasises the innovative use of information technology.

Principles Of Mobile Computing, 2Nd Ed

This book describes a new class of mobile computing devices which are becoming omnipresent in every day life. Handhelds, phones and manifold embedded systems make information access easily available for everyone from anywhere at anytime. But Pervasive Computing is far more than just fancy devices: A powerful wire less communication infrastructure extends the reach of enterprise networks to mobile clients. Web services and portal servers offer flexible gateways to the back-end server systems and their data. And finally, a variety of new mobile solutions and services take advantage of the possibilities and feature mobility, connectivity and ease-of-use. Part 1 - Devices Part II - Software Part III - Conencting the World Part IV - Back-End Server Infrastructure Part V - New Services

Ubiquitous and Pervasive Computing: Concepts, Methodologies, Tools, and Applications

"This publication covers the latest innovative research findings involved with the incorporation of technologies into everyday aspects of life"--Provided by publisher.

Pervasive Computing

This book offers a complete introduction to pervasive computing (also known as mobile computing, ubiquitous computing, anywhere/anywhen computing etc etc) The book features case studies of applications and gives a broad overview of pervasive computing (devices, standards, protocols, architectures). The book also covers and includes analysis and categorisation of existing technologies and solid information to help integrate pervasive computing applications into existing e-business applications.

