

Computer Engineering Comsats Institute Of Information Technology

Many aspects of modern life have become personalized, yet healthcare practices have been lagging behind in this trend. It is now becoming more common to use big data analysis to improve current healthcare and medicinal systems, and offer better health services to all citizens. Applying Big Data Analytics in Bioinformatics and Medicine is a comprehensive reference source that overviews the current state of medical treatments and systems and offers emerging solutions for a more personalized approach to the healthcare field. Featuring coverage on relevant topics that include smart data, proteomics, medical data storage, and drug design, this publication is an ideal resource for medical professionals, healthcare practitioners, academicians, and researchers interested in the latest trends and techniques in personalized medicine.

Advancements in technology have allowed the creation of new tools and innovations that can improve different aspects of life. Mobile technologies are an ever-expanding area of research that can benefit users. Mobile Applications and Solutions for Social Inclusion provides emerging research on the use of mobile technology to assist in improving social inclusion in several domains and for users in their daily lives. While highlighting topics such as alert systems, indoor navigation, and tracking and monitoring, this publication explores the various applications and techniques of mobile solutions in assistive technology. This book is an important resource for researchers, academics, professionals, and students seeking current research on the benefits and uses of mobile devices for end users and community acceptance.

"This book provides insight into the latest findings concerning data warehousing, data mining, and their applications in everyday human activities"--Provided by publisher.

This book constitutes the refereed proceedings of the Third International Conference on Future Data and Security Engineering, FDSE 2016, held in Can Tho City, Vietnam, in November 2016. The 28 revised full papers and 7 short papers presented were carefully reviewed and selected from 128 submissions. The accepted papers were grouped into the following sessions: Advances in query processing and optimization Big data analytics and applications Blockchains and emerging authentication techniques Data engineering tools in software development Data protection, data hiding, and access control Internet of Things and applications Security and privacy engineering Social network data analytics and recommendation systems

As mobile technology becomes much more prominent in the world, its effect on the social, political, and economic realms cannot be ignored. Interdisciplinary approaches towards re-examining the prevalence of communication technologies are essential for industry professionals' development. Interdisciplinary Mobile Media and Communications: Social, Political, and Economic Implications sheds

light on emerging disciplines in multimedia technologies and discusses the changes, chances, and challenges in the mobile world. Areas such as mobile governance, mobile healthcare, and mobile identity are examined, along with their social, political, and economic implications. Serving as a reconnection between academia and industry, this book will be useful for students, professors, researchers, and policy-makers of mobile media and communications.

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

Today's smartphones utilize a rapidly developing range of sophisticated applications, pushing the limits of mobile processing power. The increased demand for cell phone applications has necessitated the rise of mobile cloud computing, a technological research arena which combines cloud computing, mobile computing, and wireless networks to maximize the computational and data storage capabilities of mobile devices. *Enabling Real-Time Mobile Cloud Computing through Emerging Technologies* is an authoritative and accessible resource that incorporates surveys, tutorials, and the latest scholarly research on cellular technologies to explore the latest developments in mobile and wireless computing technologies. With its exhaustive coverage of emerging techniques, protocols, and computational structures, this reference work is an ideal tool for students, instructors, and researchers in the field of telecommunications. This reference work features astute articles on a wide range of current research topics including, but not limited to, architectural communication components (cloudlets), infrastructural components, secure mobile cloud computing, medical cloud computing, network latency, and emerging open source structures that optimize and accelerate smartphones.

For decades, optimization methods such as Fuzzy Logic, Artificial Neural Networks, Firefly, Simulated annealing, and Tabu search, have been capable of handling and tackling a wide range of real-world application problems in society and nature. Analysts have turned to these problem-solving techniques in the event during natural disasters and chaotic systems research. *The Handbook of Research on Artificial Intelligence Techniques and Algorithms* highlights the cutting edge developments in this promising research area. This premier reference work applies Meta-heuristics Optimization (MO) Techniques to real world problems in a variety of fields including business, logistics, computer

science, engineering, and government. This work is particularly relevant to researchers, scientists, decision-makers, managers, and practitioners.

Technological innovation and evolution continues to improve personal and professional lifestyles, as well as general organizational and business practices; however, these advancements also create potential issues in the security and privacy of the user's information. Innovative Solutions for Access Control Management features a comprehensive discussion on the trending topics and emergent research in IT security and governance. Highlighting theoretical frameworks and best practices, as well as challenges and solutions within the topic of access control and management, this publication is a pivotal reference source for researchers, practitioners, students, database vendors, and organizations within the information technology and computer science fields.

Smart Cities and Homes: Key Enabling Technologies explores the fundamental principles and concepts of the key enabling technologies for smart cities and homes, disseminating the latest research and development efforts in the field through the use of numerous case studies and examples. Smart cities use digital technologies embedded across all their functions to enhance the wellbeing of citizens. Cities that utilize these technologies report enhancements in power efficiency, water use, traffic congestion, environmental protection, pollution reduction, senior citizens care, public safety and security, literacy rates, and more. This book brings together the most important breakthroughs and advances in a coherent fashion, highlighting the interconnections between the works in different areas of computing, exploring both new and emerging computer networking systems and other computing technologies, such as wireless sensor networks, vehicle ad hoc networks, smart grids, cloud computing, and data analytics and their roles in creating environmentally friendly, secure, and prosperous cities and homes. Intended for researchers and practitioners, the book discusses the pervasive and cooperative computing technologies that will perform a central role for handling the challenges of urbanization and demographic change. Includes case studies and contributions from prominent researchers and practitioners from around the globe Explores the latest methodologies, theories, tools, applications, trends, challenges, and strategies needed to build smart cities and homes from the bottom up Provides a pedagogy that includes PowerPoint slides, key terms, and a comprehensive bibliography

High-performance computing (HPC) describes the use of connected computing units to perform complex tasks. It relies on parallelization techniques and algorithms to synchronize these disparate units in order to perform faster than a single processor could, alone. Used in industries from medicine and research to military and higher education, this method of computing allows for users to complete complex data-intensive tasks. This field has undergone many changes over the past decade, and will continue to grow in popularity in the coming years. Innovative Research Applications in Next-Generation High Performance Computing aims to address the future challenges, advances, and applications of HPC and related technologies. As the need for such processors increases, so does the importance of developing new ways to optimize the performance of these supercomputers. This timely publication provides comprehensive information for researchers, students in ICT, program developers, military and government organizations, and business professionals.

Industrial electronics systems govern so many different functions that vary in complexity- from the operation of relatively simple applications, such as electric motors, to that of more complicated machines and systems, including robots and entire fabrication processes. The Industrial Electronics Handbook, Second Edition combines traditional and new

Ambient Assisted Living and Enhanced Living Environments: Principles, Technologies and Control separates the theoretical concepts concerning the design of such systems from their real-world implementations. For each important topic, the book bridges theory and practice, introducing the instruments needed by professionals in their activities. To this aim, topics are presented in a logical sequence, with the introduction of each topic motivated by the need to respond to claims and requirements from a wide range of AAL/ELE applications. The advantages and limitations of each model or technology are presented through concrete case studies for AAL/ELE systems. The book also presents up-to-date technological solutions to the main aspects regarding AAL/ELE systems and applications, a highly dynamic scientific domain that has gained much interest in the world of IT in the last decade. In addition, readers will find discussions on recent AAL/ELE technologies that were designed to solve some of the thorniest business problems that affect applications in areas such as health and medical supply, smart city and smart housing, Big Data and Internet of Things, and many more. Introduces readers to technologies supporting the development of Ambient Assisted Living applications Explains state-of-the-art technological solutions for the main issues regarding AAL and Enhanced Living Environments Reports the development process of scientific and commercial applications and platforms that support AAL and ELE Identifies the advanced solutions in the context of Enhanced Living Environments Optimization techniques have developed into a significant area concerning industrial, economics, business, and financial systems. With the development of engineering and financial systems, modern optimization has played an important role in service-centered operations and as such has attracted more attention to this field. Meta-heuristic hybrid optimization is a newly development mathematical framework based optimization technique. Designed by logicians, engineers, analysts, and many more, this technique aims to study the complexity of algorithms and problems. Meta-Heuristics Optimization Algorithms in Engineering, Business, Economics, and Finance explores the emerging study of meta-heuristics optimization algorithms and methods and their role in innovated real world practical applications. This book is a collection of research on the areas of meta-heuristics optimization algorithms in engineering, business, economics, and finance and aims to be a comprehensive reference for decision makers, managers, engineers, researchers, scientists, financiers, and economists as well as industrialists. The popularity of an increasing number of mobile devices, such as PDAs, laptops, smart phones, and tablet computers, has made the mobile device the central method of communication in many societies. These devices may be used as electronic wallets, social networking tools, or may serve as a person's main access point to the World Wide Web. The Handbook of Research on Mobile Software Engineering: Design, Implementation, and Emergent Applications highlights state-of-the-art research concerning the key issues surrounding current and future challenges associated with the software engineering of mobile systems and related emergent applications. This handbook addresses gaps in the literature within the area of software engineering and

the mobile computing world.

Trends in Intelligent Systems and Computer Engineering Springer Science & Business Media

The Encyclopedia of Cloud Computing comprehensively cover all aspects of cloud computing. It provides IT professionals, educators, researchers and students a compendium of cloud computing knowledge – concepts, principles, architecture, technology, security, privacy and regulatory compliance, applications, adoption, business, and social and legal aspects. Containing contributions from a spectrum of subject matter experts in industry and academia, this unique publication also addresses questions related to technological trends and developments, research opportunities, best practices, standards, and cloud adoption that stakeholders might have in the context of development, operation, management, and use of clouds, providing multiple perspectives. Furthermore, it examines cloud computing's impact now and in the future. The encyclopedia is logically organised into 10 sections and each section into a maximum of 12 chapters, each covering a major topic/area with cross-references as required. The chapters consist of tables, illustrations, side-bars as appropriate. In addition, it also includes highlights at the beginning of each chapter, as well as backend material references and additional resources for further information (including relevant websites, videos and software tools). The encyclopedia also contains illustrations and case studies. A list of acronyms are provided in the beginning and a comprehensive and informative glossary at the end.

The energy consumption issue in distributed computing systems raises various monetary, environmental and system performance concerns. Electricity consumption in the US doubled from 2000 to 2005. From a financial and environmental standpoint, reducing the consumption of electricity is important, yet these reforms must not lead to performance degradation of the computing systems. These contradicting constraints create a suite of complex problems that need to be resolved in order to lead to 'greener' distributed computing systems. This book brings together a group of outstanding researchers that investigate the different facets of green and energy efficient distributed computing. Key features: One of the first books of its kind Features latest research findings on emerging topics by well-known scientists Valuable research for grad students, postdocs, and researchers Research will greatly feed into other technologies and application domains

Collecting and processing data is a necessary aspect of living in a technologically advanced society. Whether it's monitoring events, controlling different variables, or using decision-making applications, it is important to have a system that is both inexpensive and capable of coping with high amounts of data. Technological Breakthroughs in Modern Wireless Sensor Applications brings together new ways to process and monitor data, and to put it to work in everything from intelligent transportation systems to healthcare to multimedia applications. This

book is an essential reference source for research and development engineers, graduate students, academics, and researchers interested in intelligent engineering, internetworking, routing, and network planning algorithms. The use of cyber-physical systems in recent computing, communication, and control methods to design and operate intelligent and autonomous systems using cutting-edge technologies has led to many advances. By studying emerging trends in these systems, programming techniques can be optimized and strengthened to create a higher level of effectiveness. *Cyber-Physical Systems for Next-Generation Networks* provides emerging research on using cyber-physical systems (CPS) as a method to control design and operation of intelligent systems through next-generation networks. While highlighting issues such as increasing CPS complexity due to components within physical and industrial systems, this publication explores information on real-time sensing, reasoning, and adaptation for cyber-physical systems while gaining an understanding of evolutionary computing for it. This book is a valuable resource for engineers, academicians, researchers, and graduate-level students seeking current research on CPS in cutting-edge technologies.

The popularity of smart phones and other mobile devices has brought about major expansion in the realm of wireless communications. With this growth comes the need to improve upon network capacity and overall user experience, and game-based methods can offer further enhancements in this area. *Game Theory Framework Applied to Wireless Communication Networks* is a pivotal reference source for the latest scholarly research on the application of game-theoretic approaches to enhance wireless networking. Featuring prevailing coverage on a range of topics relating to the advanced game model, mechanism designs, and effective equilibrium concepts, this publication is an essential reference source for researchers, students, technology developers, and engineers. This publication features extensive, research-based chapters across a broad scope of relevant topics, including potential games, coalition formation game, heterogeneous networks, radio resource allocation, coverage optimization, distributed dynamic resource allocation, dynamic spectrum access, physical layer security, and cooperative video transmission.

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.

Anyone who has ever shopped for a new smart phone, laptop, or other tech gadget knows that staying connected is crucial. There is a lot of discussion over which service provider offers the best coverage—enabling devices to work anywhere and at any time—with 4G and LTE becoming a pervasive part of our everyday language. The Handbook of Research on Next Generation Mobile Communication Systems offers solutions for optimal connection of mobile devices. From satellite signals to cloud technologies, this handbook focuses on the ways communication is being revolutionized, providing a crucial reference source for consumers, researchers, and business professionals who want to be on the frontline of the next big development in wireless technologies. This publication features a wide variety of research-based articles that discuss the future of topics such as bandwidth, energy-efficient power, device-to-device communication, network security and privacy, predictions for 5G communication systems, spectrum sharing and connectivity, and many other relevant issues that will influence our everyday use of technology.

Welcome to the Proceedings of the 2010 International Conference on Advanced Software Engineering and Its Applications (ASEA 2010) – one of the partnering events of the Second International Mega-Conference on Future Generation Information Technology (FGIT 2010). ASEA brings together researchers from academia and industry as well as practitioners to share ideas, problems and solutions relating to the multifaceted aspects of software engineering, including its links to computational sciences, mathematics and information technology. In total, 1,630 papers were submitted to FGIT 2010 from 30 countries, which includes 175 papers submitted to ASEA 2010. The submitted papers went through a rigorous reviewing process: 395 of the 1,630 papers were accepted for FGIT 2010, while 40 papers were accepted for ASEA 2010. Of the 640 papers were selected for the special FGIT 2010 volume published by Springer in the LNCS series. 32 papers are published in this volume, and 2 papers were withdrawn due to technical reasons. We would like to acknowledge the great effort of the ASEA 2010 International Advisory Board and members of the

International Program Committee, as well as all the organizations and individuals who supported the idea of publishing this volume of proceedings, including SERSC and Springer. Also, the success of the conference would not have been possible without the huge support from our sponsors and the work of the Chairs and Organizing Committee.

"This book examines how wireless sensor nodes with cognitive radio capabilities can address these network challenges and improve the spectrum utilization, presenting a broader picture on the applications, architecture, challenges, and open research directions in the area of WSN research"--Provided by publisher.

The 4th FTRA International Conference on Computer Science and its Applications (CSA-12) will be held in Jeju, Korea on November 22~25, 2012. CSA-12 will be the most comprehensive conference focused on the various aspects of advances in computer science and its applications. CSA-12 will provide an opportunity for academic and industry professionals to discuss the latest issues and progress in the area of CSA. In addition, the conference will publish high quality papers which are closely related to the various theories and practical applications in CSA. Furthermore, we expect that the conference and its publications will be a trigger for further related research and technology improvements in this important subject. CSA-12 is the next event in a series of highly successful International Conference on Computer Science and its Applications, previously held as CSA-11 (3rd Edition: Jeju, December, 2011), CSA-09 (2nd Edition: Jeju, December, 2009), and CSA-08 (1st Edition: Australia, October, 2008).

As lifestyles in personal and public spheres become more fast-paced and hectic, the need for reliable mobile technologies becomes increasingly important. Insights into the various impacts of mobile applications pave the way for future advances and developments in communication and interaction. Critical Socio-Technical Issues Surrounding Mobile Computing is a pivotal reference source for research-based perspectives on the use and application of mobile technology in modern society. Featuring extensive research on a variety of topics relating to the social, technical, and behavioral perspectives of mobile applications, this book is an essential reference source for mobile application developers, instructors, practitioners, and students interested in current research on the impact of mobile devices on individuals and society as a whole.

The Industrial Electronics Handbook, Second Edition, Industrial Communications Systems combines traditional and newer, more specialized knowledge that helps industrial electronics engineers develop practical solutions for the design and implementation of high-power applications. Embracing the broad technological scope of the field, this collection explores fundamental areas, including analog and digital circuits, electronics, electromagnetic machines, signal processing, and industrial control and communications systems. It also facilitates the use of intelligent systems—such as neural networks, fuzzy systems, and evolutionary methods—in terms of a hierarchical structure that makes factory control and supervision more efficient by addressing the needs of all production components. Enhancing its value, this fully updated collection presents research and global trends as published in the IEEE Transactions on Industrial Electronics Journal, one of the largest and most respected publications in the field. Modern communication systems in factories use many different—and increasingly

sophisticated—systems to send and receive information. Industrial Communication Systems spans the full gamut of concepts that engineers require to maintain a well-designed, reliable communications system that can ensure successful operation of any production process. Delving into the subject, this volume covers: Technical principles Application-specific areas Technologies Internet programming Outlook, including trends and expected challenges Other volumes in the set: Fundamentals of Industrial Electronics Power Electronics and Motor Drives Control and Mechatronics Intelligent Systems

This book features selected research papers presented at the International Conference on Advances in Information Communication Technology and Computing (AICTC 2019), held at the Government Engineering College Bikaner, Bikaner, India, on 8–9 November 2019. It covers ICT-based approaches in the areas ICT for energy efficiency, life cycle assessment of ICT, green IT, green information systems, environmental informatics, energy informatics, sustainable HCI and computational sustainability.

Wireless sensor networks (WSNs) utilize fast, cheap, and effective applications to imitate the human intelligence capability of sensing on a wider distributed scale. But acquiring data from the deployment area of a WSN is not always easy and multiple issues arise, including the limited resources of sensor devices run with one-time batteries. Additi

Biomedical Information Technology, Second Edition, contains practical, integrated clinical applications for disease detection, diagnosis, surgery, therapy and biomedical knowledge discovery, including the latest advances in the field, such as biomedical sensors, machine intelligence, artificial intelligence, deep learning in medical imaging, neural networks, natural language processing, large-scale histopathological image analysis, virtual, augmented and mixed reality, neural interfaces, and data analytics and behavioral informatics in modern medicine. The enormous growth in the field of biotechnology necessitates the utilization of information technology for the management, flow and organization of data. All biomedical professionals can benefit from a greater understanding of how data can be efficiently managed and utilized through data compression, modeling, processing, registration, visualization, communication and large-scale biological computing. Presents the world's most recognized authorities who give their "best practices" Provides professionals with the most up-to-date and mission critical tools to evaluate the latest advances in the field Gives new staff the technological fundamentals and updates experienced professionals with the latest practical integrated clinical applications

This book gathers high-quality papers presented at the International Conference on Smart Trends for Information Technology and Computer Communications (SmartCom 2019), organized by the Global Knowledge Research Foundation (GR Foundation) from 24 to 25 January 2019. It covers the state-of-the-art and emerging topics pertaining to information, computer communications, and effective strategies for their use in engineering and managerial applications. It also explores and discusses the latest technological advances in, and future directions for, information and knowledge computing and its applications.

A cognitive network makes use of the information gathered from the network in order to sense the environment, plan actions according to the input, and make appropriate decisions using a reasoning engine. The ability of cognitive networks

to learn from the past and use that knowledge to improve future decisions makes them a key area of interest for anyone whose work involves wireless networks and communications. *Cognitive Networks: Applications and Deployments* examines recent developments in cognitive networks from the perspective of cutting-edge applications and deployments. Presenting the contributions of internationally renowned experts, it supplies complete and balanced treatment of the fundamentals of both cognitive radio communications and cognitive networks—together with implementation details. The book includes case studies and detailed descriptions of cognitive radio platforms and testbeds that demonstrate how to build real-world cognitive radio systems and network architectures. It begins with an introduction to efficient spectrum management and presents a survey on joint routing and dynamic spectrum access in cognitive radio networks. Next, it examines radio spectrum sensing and network coding and design. It explores intelligent routing in graded cognitive networks and presents an energy-efficient routing protocol for cognitive radio ad hoc networks. The book concludes by considering dynamic radio spectrum access and examining vehicular cognitive networks and applications. Presenting the latest standards and spectrum policy developments, the book's strong practical orientation provides you with the understanding you will need to participate in the development of compliant cognitive systems.

Internet of Things: Challenges, Advances, and Applications provides a comprehensive introduction to IoT, related technologies, and common issues in the adoption of IoT on a large scale. It surveys recent technological advances and novel solutions for challenges in the IoT environment. Moreover, it provides detailed discussion of the utilization of IoT and its underlying technologies in critical application areas, such as smart grids, healthcare, insurance, and the automotive industry. The chapters of this book are authored by several international researchers and industry experts. This book is composed of 18 self-contained chapters that can be read, based on interest. Features: Introduces IoT, including its history, common definitions, underlying technologies, and challenges Discusses technological advances in IoT and implementation considerations Proposes novel solutions for common implementation issues Explores critical application domains, including large-scale electric power distribution networks, smart water and gas grids, healthcare and e-Health applications, and the insurance and automotive industries The book is an excellent reference for researchers and post-graduate students working in the area of IoT, or related areas. It also targets IT professionals interested in gaining deeper knowledge of IoT, its challenges, and application areas.

Human-computer interaction is a growing field of study in which researchers and professionals aim to understand and evaluate the impact of new technologies on human behavior. With the integration of smart phones, tablets, and other portable devices into everyday life, there is a greater need to understand the influence of such technology on the human experience. *Emerging Perspectives on the*

Design, Use, and Evaluation of Mobile and Handheld Devices is an authoritative reference source consisting of the latest scholarly research and theories from international experts and professionals on the topic of human-computer interaction with mobile devices. Featuring a comprehensive collection of chapters on critical topics in this dynamic field, this publication is an essential reference source for researchers, educators, students, and practitioners interested in the use of mobile and handheld devices and their impact on individuals and society as a whole. This publication features timely, research-based chapters pertaining to topics in the design and evaluation of smart devices including, but not limited to, app stores, category-based interfaces, gamified mobility applications, mobile interaction, mobile learning, pervasive multimodal applications, smartphone interaction, and social media use.

This is a monumental reference for the theory and practice of computer security. Comprehensive in scope, this text covers applied and practical elements, theory, and the reasons for the design of applications and security techniques. It covers both the management and the engineering issues of computer security. It provides excellent examples of ideas and mechanisms that demonstrate how disparate techniques and principles are combined in widely-used systems. This book is acclaimed for its scope, clear and lucid writing, and its combination of formal and theoretical aspects with real systems, technologies, techniques, and policies.

One of the most challenging issues for the intelligent decision systems is to effectively manage the large-scale complex distributed environments such as computational clouds, grids, ad hoc and P2P networks, under the different types of users, their relations, and real-world uncertainties. In this context the IT resources and services usually belong to different owners (institutions, enterprises, or individuals) and are managed by different administrators. These administrators conform to different sets of rules and configuration directives, and can impose different usage policies on the system users. Additionally, uncertainties are presented in various types of information that are incomplete, imprecise, fragmentary or overloading, which hinders the full and precise determination of the evaluation criteria, their subsequent and selection, the assignment scores, and eventually the final integrated decision result. This book presents new ideas, analysis, implementations and evaluation of the next generation intelligent techniques for solving complex decision problems in large-scale distributed systems. In 15 chapters several important formulations of the decision problems in heterogeneous environments are identified and a review of the recent approaches, from game theoretical models and computational intelligent techniques, such as genetic, memetic and evolutionary algorithms, to intelligent multi-agent systems and networking are presented. We believe that this volume will serve as a reference for the students, researchers and industry practitioners working in or are interested in joining interdisciplinary works in the areas of intelligent decision systems using emergent distributed computing

paradigms. It will also allow newcomers to grasp key concerns and potential solutions on the selected topics.

"This reference is a broad, multi-volume collection of the best recent works published under the umbrella of computer engineering, including perspectives on the fundamental aspects, tools and technologies, methods and design, applications, managerial impact, social/behavioral perspectives, critical issues, and emerging trends in the field"--Provided by publisher.

"This book assists its readers in recommending formulation of ICT strategies for e-government implementation and maintenance from the perspective of acknowledging the importance of e-Governance for building institutions to achieve transparency and accountability, and eventually democratic governance"--Provided by publisher.

This volume contains contributions from participants in the 2007 International Multiconference of Engineers and Computer Scientists. It covers a variety of subjects in the frontiers of intelligent systems and computer engineering and their industrial applications. The book offers up-to-date information on advances in intelligent systems and computer engineering and also serves as an excellent reference work for researchers and graduate students working in the field.

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