Intelligent Environments 2009 Proceedings Of The 5th International Conference On Intelligent Environments Volume 2 Ambient Intelligence And Smart Environments

Bioinspired Applications in Artificial and Natural ComputationAdvances in BiometricsSmart Spaces and Next Generation Wired/Wireless NetworkingAdvances in Computation and IntelligenceInterdisciplinary Research in Engineering: Steps towards Breakthrough Innovation for Sustainable DevelopmentUbiquitous Intelligence and ComputingAmbient IntelligenceRefining Current Practices in Mobile and Blended LearningWorkshop Proceedings of the 6th International Conference on Intelligent EnvironmentsIntelligent Interactive Assistance and Mobile Multimedia ComputingIntelligent Distributed Computing IIIUniversal Access in Human-Computer Interaction. Applications and ServicesHuman-Computer Interaction. Ambient, Ubiquitous and Intelligent InteractionLogic Programming and Nonmonotonic ReasoningIntelligent Environments 2009E-Technologies: Innovation in an Open WorldHandbook of Mobile Systems Applications and ServicesInternational Conference on Transportation Engineering, 2009Internet of Things Based on Smart ObjectsKI 2009: Advances in Artificial IntelligenceHuman Interface and the Management of Information. Information and InteractionAmbient Intelligence and Future Trends -Workshop Proceedings of the 8th International Conference on Intelligent EnvironmentsDistributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted LivingMultimedia Services in Intelligent EnvironmentsMining, Modeling, and Recommending 'Things' in Social MediaIntelligent Virtual AgentsArtificial Intelligence and Computational IntelligenceHybrid Artificial Intelligence SystemsComputational Collective Intelligence. Semantic Web, Social Networks and Multiagent SystemsWorkshops Proceedings of the 5th International Conference on Intelligent EnvironmentsUbiquitous Intelligence and ComputingWorkshop Proceedings of the 9th International Conference on Intelligent EnvironmentsNext-Generation Applied IntelligenceMICAI 2009: Advances in Artificial IntelligenceComputer Vision SystemsBio-Inspired Systems: Computational and Ambient IntelligenceECEL2013- Proceedings for the 12th European Conference on eLearningIntelligent Robotics and ApplicationsHandbook of Ambient Intelligence and Smart Environments

Bioinspired Applications in Artificial and Natural Computation

This book constitutes the refereed proceedings of the Third International Conference on Biometrics, ICB 2009, held in Alghero, Italy, June 2-5, 2009. The 36 revised full papers and 93 revised poster papers presented were carefully reviewed and selected from 250 submissions. Biometric criteria covered by the papers are assigned to face, speech, fingerprint and palmprint, multibiometrics and security, gait, iris, and other biometrics. In addition there are 4 papers on challenges and competitions that currently are under way, thus presenting an overview on the evaluation of biometrics.

Advances in Biometrics

This volume contains the proceedings of UIC 2009, the 6th International C- ference on Ubiquitous Intelligence and Computing: Building Smart Worlds in Real and Cyber Spaces. The UIC 2009 conference was technically co-sponsored by the IEEE and the IEEE Computer Society Technical Committee on Scalable Computing. The conference was also sponsored by the Australian Centre of - cellence in Information and Communication Technologies (NICTA). UIC 2009 was accompanied by six workshops on a variety of research challenges within the area of ubiquitous intelligence and computing. The conference was held in Brisbane, Australia, July 7–9, 2009. The event was the sixth meeting of this conference series. USW 2005 (First International Workshop on Ubiquitous Smart World), held in March 2005 in Taiwan, was the ?rst event in the series. This event was followed by UISW 2005 (Second International Symposium on Ubiquitous Intelligence and Smart Worlds) held in December 2005 in Japan. Since 2006, the conference has been held annually under the name UIC (International Conference on Ubiquitous Intelligence and Computing). UIC 2006 was held in September 2006 in Wuhan andThreeGorges,China,followedbyUIC2007heldinJuly2007inHongKong, and UIC 2008 held in June 2008 in Oslo, Norway. Ubiquitous sensors,computers, networksand informationare paving the way towardasmartworldinwhichcomputationalintelligenceisdistributedthrou- out the physical environment to provide reliable and relevant services to people.

Smart Spaces and Next Generation Wired/Wireless Networking

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

Advances in Computation and Intelligence

Volumes CCIS 51 and LNCS 5812 constitute the proceedings of the Fourth Interational Symposium on Intelligence Computation and Applications, ISICA 2009,

held in Huangshi, China, during October 23-25. ISICA 2009 attracted over 300 submissions. Through rigorous reviews, 58 papers were included in LNCS 5821,and 54 papers were collected in CCIS 51. ISICA conferences are one of the first series of international conferences on computational intelligence that combine elements of learning, adaptation, evolution and fuzzy logic to create programs as alternative solutions to artificial intelligence.

Interdisciplinary Research in Engineering: Steps towards Breakthrough Innovation for Sustainable Development

This book represents the peer-reviewed proceedings of the Third International Symposium on Intelligent Distributed Computing – IDC 2009 held in Ayia Napa, Cyprus during October 13-14, 2009. The 36 contributions in this book address many topics related to theory and applications of intelligent distributed computing, including: actor-agent systems, agentbased simulation, autonomic computing, computational service economies, defeasible reasoning, distributed data mining, distributed logic programming, e-learning, emergent properties in complex systems, formal methods of intelligent distributed systems, genetic and evolutionary algorithms, information retrieval, knowledge fusion, multi-sensor networks, mobile ad hoc networks, mobile computing, ontologies and metadata, peer-to-peer networks, process modeling and integration, remote sensing distributed systems, secure e-payment systems, social networks, surveillance and disaster management applications, swarm computing, Web services and systems.

Ubiquitous Intelligence and Computing

The 5th International Conference on Intelligent Environments (IE 09), held at the Polytechnic University of Catalonia, Castelldefels, Barcelona, Spain, provides a multidisciplinary forum for researchers and engineers from across the world to present their latest research and to discuss future directions in the area of intelligent environments. This volume forms the combined proceedings of five workshops held at the IE 09. Included are the proceedings of the: Workshop on Digital Object Memories (DOMe 09); Workshop on RFID Technology: Concepts, Practices and Solutions (RFID 09);

Ambient Intelligence

We welcomeyouto the joint proceedingsofthe 9th NEW2AN(Next-Generation Teletra?c and Wired/Wireless Advanced Networking) and the Second ruS-MARTconferencesheld inSt. Petersburg, Russiaduring September 15-17,2009. This year NEW2AN featured signi?cant contributions to various aspects of networking. Presented topics encompassed several layers of communication n- works: from physical layers to transport protocols. In particular, issues of QoS in wireless and IP-based multi-service networks were dealt with. Cross-layer - timization, tra?c characterization were also addressed within the program. It is also worth mentioning the emphasis placed on wireless networks, including, but not limited to, cellular networks, wireless local area networks, personal area networks, mobile ad hoc networks, and sensor networks. The Second Conference on Smart Spaces, ruSMART 2009, was targeted at attracting the attention of academic and industrial

researchers to an emerging area of smart spaces that creates completely new opportunities for making fully customized applications and services for the users. The conference is a meeting placeforleadingexpertsfromtopa?liationsaroundtheworld, withparticularly activeparticipationandstronginterestfromRussianattendeesthathaveagood reputation for high-quality research and business in innovative service creation and applications development. The NEW2AN/ruSMART 2009 call for papers attracted 82 papers from 22 countries, resulting in an acceptance rate of 39%. With the help of the excellent TechnicalProgramCommittee andanumberofassociatedreviewers, thebest32 high-quality papers were selected for publication. The conference was organized in seven single track sessions. We wish to thank the Technical Program Committee members of both c- ferences and the associated reviewers for their hard work and important cont- bution to the conference.

Refining Current Practices in Mobile and Blended Learning

This volume constitutes the proceedings of the 4th International Conference on E-Technologies, MCETECH 2009, held in Ottawa, Canada, during May 4-6, 2009. The 23 full and 4 short papers included in this volume were carefully reviewed and selected from a total of 42 submissions. They cover topics such as inter-organzational processes, service-oriented architectures, security and trust, middleware infrastructures, open source and open environments, and applications including eGovernment, eEducation, and eHealth.

Workshop Proceedings of the 6th International Conference on Intelligent Environments

KES International (KES) is a worldwide organisation that provides a professional community and association for researchers, originally in the discipline of Knowledge Based and Intelligent Engineering Systems, but now extending into other related areas. Through this, KES provides its members with opportunities for publication and beneficial interaction. The focus of KES is research and technology transfer in the area of Intelligent S- tems, i.e. computer-based software systems that operate in a manner analogous to the human brain, in order to perform advanced tasks. Recently KES has started to extend its area of interest to encompass the contribution that intelligent systems can make to sustainability and renewable energy, and also the knowledge transfer, innovation and enterprise agenda. Involving several thousand researchers, managers and engineers drawn from u- versities and companies world-wide, KES is in an excellent position to facilitate - ternational research co-operation and generate synergy in the area of artificial intel- gence applied to real-world 'Smart' systems and the underlying related theory. The KES annual conference covers a broad spectrum of intelligent systems topics and attracts several hundred delegates from a range of countries round the world. KES also organises symposia on specific technical topics, for example, Agent and Multi Agent Systems, Intelligent Decision Technologies, Intelligent Interactive M- timedia Systems and Services, Sustainability in Energy and Buildings and Innovations through Knowledge Transfer. KES is responsible for two peer-reviewed journals, the International Journal of Knowledge based and

Intelligent Engineering Systems, and Intelligent Decision Technologies: an International Journal.

Intelligent Interactive Assistance and Mobile Multimedia Computing

This volume constitutes the refereed proceedings of the 4th International Workshop on Hybrid Artificial Intelligence Systems, HAIS 2009, held in Salamanca, Spain, in June 2009. The 85 papers presented, were carefully reviewed and selected from 206 submissions. The topics covered are agents and multi agents systems, HAIS applications, cluster analysis, data mining and knowledge discovery, evolutionary computation, learning algorithms, real world HAIS applications and data uncertainty, hybrid artificial intelligence in bioinformatics, evolutionary multiobjective machine learning, hybrid reasoning and coordination methods on multi-agent systems, methods of classifiers fusion, knowledge extraction based on evolutionary learning, hybrid systems based on bioinspired algorithms and argumentation methods, hybrid evolutionry intelligence in financial engineering.

Intelligent Distributed Computing III

The 13th International Conference on Human–Computer Interaction, HCI Inter- tional 2009, was held in San Diego, California, USA, July 19–24, 2009, jointly with the Symposium on Human Interface (Japan) 2009, the 8th International Conference on Engineering Psychology and Cognitive Ergonomics, the 5th International Conference on Universal Access in Human–Computer Interaction, the Third International Conf- ence on Virtual and Mixed Reality, the Third International Conference on Internati- alization, Design and Global Development, the Third International Conference on Online Communities and Social Computing, the 5th International Conference on Augmented Cognition, the Second International Conference on Digital Human Mod- ing, and the First International Conference on Human Centered Design. A total of 4,348 individuals from academia, research institutes, industry and g- ernmental agencies from 73 countries submitted contributions, and 1,397 papers that were judged to be of high scientific quality were included in the program. These papers address the latest research and development efforts and highlight the human aspects of the design and use of computing systems. The papers accepted for presen- tion thoroughly cover the entire field of human–computer interaction, addressing major advances in the knowledge and effective use of computers in a variety of app- cation areas.

Universal Access in Human-Computer Interaction. Applications and Services

The market demands for skills, knowledge and personalities have positioned robotics as an important field in both engineering and science. To meet these challenging - mands, robotics has already seen its success in automating many industrial tasks in factories. And, a new era will come for us to see a greater success of robotics in n- industrial environments. In anticipating a wider deployment of intelligent and auto- mous robots for tasks such as manufacturing, eldercare, homecare, edutainment, search and rescue, de-mining, surveillance,

exploration, and security missions, it is necessary for us to push the frontier of robotics into a new dimension, in which motion and intelligence play equally important roles. After the success of the inaugural conference, the purpose of the Second Inter- tional Conference on Intelligent Robotics and Applications was to provide a venue where researchers, scientists, engineers and practitioners throughout the world could come together to present and discuss the latest achievement, future challenges and exciting applications of intelligent and autonomous robots. In particular, the emphasis of this year's conference was on "robot intelligence for achieving digital manufact- ing and intelligent automations. " This volume of Springer's Lecture Notes in Artificial Intelligence and Lecture Notes in Computer Science contains accepted papers presented at ICIRA 2009, held in Singapore, December 16–18, 2009. On the basis of the reviews and recommendations by the international Program Committee members, we decided to accept 128 papers having technical novelty, out of 173 submissions received from different parts of the world.

Human-Computer Interaction. Ambient, Ubiquitous and Intelligent Interaction

Computational collective intelligence (CCI) is most often understood as a subfield of artificial intelligence (AI) dealing with soft computing methods that enable group decisions to be made or knowledge to be processed among autonomous units acting in distributed environments. The needs for CCI techniques and tools have grown signi- cantly recently as many information systems work in distributed environments and use distributed resources. Web-based systems, social networks and multi-agent systems very often need these tools for working out consistent knowledge states, resolving conflicts and making decisions. Therefore, CCI is of great importance for today's and future distributed systems. Methodological, theoretical and practical aspects of computational collective int- ligence, such as group decision making, collective action coordination, and knowledge integration, are considered as the form of intelligence that emerges from the collabo- tion and competition of many individuals (artificial and/or natural). The application of multiple computational intelligence technologies such as fuzzy systems, evolutionary computation, neural systems, consensus theory, etc. , can support human and other collective intelligence and create new forms of CCI in natural and/or artificial s- tems.

Logic Programming and Nonmonotonic Reasoning

ISAmI is the International Symposium on Ambient Intelligence, aiming to bring together researchers from various disciplines that constitute the scientific field of Ambient Intelligence to present and discuss the latest results, new ideas, projects and lessons obtained from recent experiences in building AmI systems. This volume presents the papers that have been accepted in this first edition. These papers reports on innovative results and advances achieved recently in this area.

Intelligent Environments 2009

Welcome to the proceedings of the 9th International Conference on Intelligent

Virtual Agents, held September 14–16, 2009 in Amsterdam, The Netherlands. Intelligent virtual agents (IVAs) are interactive characters that exhibit hum- like qualities and communicate with humans or with each other using natural human modalities such as speech and gesture. They are capable of real-time perception, cognition and action, allowing them to participate in a dynamic physical and social environment. IVA is an interdisciplinary annual conference and the main forum for p- senting research on modeling, developing and evaluating IVAs with a focus on communicative abilities and social behavior. The development of IVAs requires expertise in multimodal interaction and several AI ?elds such as cognitive m- eling, planning, vision and natural language processing. Computational models are typically based on experimental studies and theories of human–human and human–robot interaction; conversely, IVA technology may provide interesting lessons for these ?elds. The realization of engaging IVAs is a challenging task, so reusable modules and tools are of great value. The ?elds of application range from robot assistants, social simulation and tutoring to games and artistic - ploration.

E-Technologies: Innovation in an Open World

This book constitutes the refereed proceedings of the 10th International Work-Conference on Artificial Neural Networks, IWANN 2009, held in Salamanca, Spain in June 2009. The 167 revised full papers presented together with 3 invited lectures were carefully reviewed and selected from over 230 submissions. The papers are organized in thematic sections on theoretical foundations and models; learning and adaptation; self-organizing networks, methods and applications; fuzzy systems; evolutionary computation and genetic algoritms; pattern recognition; formal languages in linguistics; agents and multi-agent on intelligent systems; brain-computer interfaces (bci); multiobjetive optimization; robotics; bioinformatics; biomedical applications; ambient assisted living (aal) and ambient intelligence (ai); other applications.

Handbook of Mobile Systems Applications and Services

This book presents the combined proceedings of three workshops which make up part of the 6th International Conference on Intelligent Environments. The remarkable advances in computer sciences throughout the last few decades are already making an impact

International Conference on Transportation Engineering, 2009

From fundamental concepts and theories to implementation protocols and cutting-edge applications, the Handbook of Mobile Systems Applications and Services supplies a complete examination of the evolution of mobile services technologies. It examines service-oriented architecture (SOA) and explains why SOA and service oriented computing (SOC) will pl

Internet of Things Based on Smart Objects

This book constitutes the refereed proceedings of the 8th Mexican International Conference on Artificial Intelligence, MICAI 2009, held in Guanajuato, Mexico, in

November 2009. The 63 revised full papers presented together with one invited talk were carefully reviewed and selected from 215 submissions. The papers are organized in topical sections on logic and reasoning, ontologies, knowledge management and knowledge-based systems, uncertainty and probabilistic reasoning, natural language processing, data mining, machine learning, pattern recognition, computer vision and image processing, robotics, planning and scheduling, fuzzy logic, neural networks, intelligent tutoring systems, bioinformatics and medical applications, hybrid intelligent systems and evolutionary algorithms.

KI 2009: Advances in Artificial Intelligence

This book constitutes the refereed proceedings of the 7th International Conference on Computer Vision Systems, ICVS 2009, held in Liege, Belgium, October 13-15, 2009. The 21 papers for oral presentation presented together with 24 poster presentations and 2 invited papers were carefully reviewed and selected from 96 submissions. The papers are organized in topical sections on human-machine-interaction, sensors, features and representations, stereo, 3D and optical flow, calibration and registration, mobile and autonomous systems, evaluation, studies and applications, learning, recognition and adaption.

Human Interface and the Management of Information. Information and Interaction

This book constitutes the thoroughly refereed proceedings of the 32nd Annual German Conference on Artificial Intelligence, KI 2009, held in Paderborn, Germany, in September 2009. The 76 revised full papers presented together with 15 posters were carefully reviewed and selected from 126 submissions. The papers are divided in topical sections on planning and scheduling; vision and perception; machine learning and data mining; evolutionary computing; natural language processing; knowledge representation and reasoning; cognition; history and philosophical foundations; AI and engineering; automated reasoning; spatial and temporal reasoning; agents and intelligent virtual environments; experience adn knowledge management; and robotics.

Ambient Intelligence and Future Trends -

The International Conference on Industrial, Engineering and Other Applications of Applied Intelligent Systems (IEA/AIE), always sponsored by the International So- ety of Applied Intelligence (ISAI), emphasizes applications of applied intelligent systems to solve real-life problems in all areas. It is held every year and has become one of the biggest and most important academic activities concerning the theory and applications of intelligent systems in the world. The IEA/AIE 2009 conference was hosted by the National University of Tainan and National University of Kaohsiung in Taiwan. This was the first time that the IEA/AIE conference was held in Taiwan. We received 286 papers from all parts of the world. Only 84 papers were selected for publication in this volume of LNAI proceedings. Each paper was reviewed by at least two anonymous referees to assure the high quality. We would like to express our sincere thanks to the Program Committee members and all the

reviewers for their hard work, which helped us to select the highest quality papers for the conference. These papers highlight opportunities and challenges for the next generation of applied int- ligence and reveal technological innovations in real applications.

Workshop Proceedings of the 8th International Conference on Intelligent Environments

This book constitutes the thoroughly refereed joint post-workshop proceedings of the 4th International Workshop on Mining Ubiquitous and Social Environments, MUSE 2013, held in Prague, Czech Republic, in September 2013, and the 4th International Workshop on Modeling Social Media, MSM 2013, held in Paris, France, in May 2013. The 8 full papers included in the book are revised and significantly extended versions of papers submitted to the workshops. The focus is on collective intelligence in ubiquitous and social environments. Issues tackled include personalization in social streams, recommendations exploiting social and ubiquitous data, and efficient information processing in social systems. Furthermore, this book presents work dealing with the problem of mining patterns from ubiquitous social data, including mobility mining and exploratory methods for ubiquitous data analysis.

Distributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted Living

This volume contains the proceedings of the 10th International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2009), held during September 14–18, 2009 in Potsdam, Germany. LPNMR is a forum for exchanging ideas on declarative logic programming, nonmonotonic reasoning and knowledge representation. The aim of the c- ference is to facilitate interaction between researchers interested in the design and implementation of logic-based programming languages and database s- tems, and researchers who work in the areas of knowledge representation and nonmonotonic reasoning. LPNMR strives to encompass theoretical and expe- mental studies that have led or will lead to the construction of practical systems for declarative programming and knowledge representation. The special theme of LPNMR 2009 was "Applications of Logic Progr- ming and Nonmonotonic Reasoning" in general and "Answer Set Programming (ASP)" in particular. LPNMR 2009 aimed at providing a comprehensive survey of the state of the art of ASP/LPNMR applications. The special theme was re?ected by dedicating an entire dayof the conference to applications. Apart from special sessions devoted to original and signi?cant ASP/LPNMR applications, we solicited contributions providing an overview of existing successful applications of ASP/LPNMR systems. The presentations on applications were accompanied by two panels, one on existing and another on future applications of ASP/LPNMR.

Multimedia Services in Intelligent Environments

This book constitutes the refereed proceedings of the 10th International Work-Conference on Artificial Neural Networks, IWANN 2009, held in Salamanca, Spain in June 2009. The 167 revised full papers presented together with 3 invited lectures

were carefully reviewed and selected from over 230 submissions. The papers are organized in thematic sections on theoretical foundations and models; learning and adaptation; self-organizing networks, methods and applications; fuzzy systems; evolutionary computation and genetic algoritms; pattern recognition; formal languages in linguistics; agents and multi-agent on intelligent systems; brain-computer interfaces (bci); multiobjetive optimization; robotics; bioinformatics; biomedical applications; ambient assisted living (aal) and ambient intelligence (ai); other applications.

Mining, Modeling, and Recommending 'Things' in Social Media

Interdisciplinary field of engineering and applied sciences forms the base of a sustainable development philosophy for all economic and social fields. Design, development and innovation of processes, technologies and products that meet the needs and requirements of customers and society in a sustainable framework, constitute the focus of this book. Results of over 69 postdoctoral researcher papers of engineering related to information society technologies, sustainable development, energy and environment, as well as innovative products, processes and materials are included. Volume is indexed by Thomson Reuters CPCI-S (WoS).

Intelligent Virtual Agents

The Internet of Things (IoT) usually refers to a world-wide network of interconnected heterogeneous objects (sensors, actuators, smart devices, smart objects, RFID, embedded computers, etc) uniquely addressable, based on standard communication protocols. Beyond such a definition, it is emerging a new definition of IoT seen as a loosely coupled, decentralized system of cooperating smart objects (SOs). A SO is an autonomous, physical digital object augmented with sensing/actuating, processing, storing, and networking capabilities. SOs are able to sense/actuate, store, and interpret information created within themselves and around the neighbouring external world where they are situated, act on their own, cooperate with each other, and exchange information with other kinds of electronic devices and human users. However, such SO-oriented IoT raises many in-the-small and in-the-large issues involving SO programming, IoT system architecture/middleware and methods/methodologies for the development of SO-based applications. This Book will specifically focus on exploring recent advances in architectures, algorithms, and applications for an Internet of Things based on Smart Objects. Topics appropriate for this Book include, but are not necessarily limited to: - Methods for SO development - IoT Networking - Middleware for SOs - Data Management for SOs - Service-oriented SOs - Agent-oriented SOs - Applications of SOs in Smart Environments: Smart Cities, Smart Health, Smart Buildings, etc. Advanced IoT Projects.

Artificial Intelligence and Computational Intelligence

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. The result is a pervasive transparent infrastructure capable of recognizing, responding and adapting to individuals in a seamless and unobtrusive way. The realization of Intelligent Environments requires the convergence of different disciplines such as information and computer science, building architecture, material engineering, artificial intelligence, sociology, art and design. The 5th International Conference on Intelligent Environments (IE'09), held at the Polytechnic University of Catalonia, Castelldefels, Barcelona, Spain, provides a multidisciplinary forum for researchers and engineers from across the world to present their latest research and to discuss future directions in the area of Intelligent Environments. The IE'09 proceedings contain the complete conference program including full papers presented at special sessions and short papers from the doctoral colloquium and poster session. In addition, three thought provoking invited lectures on topics of current and future IE research are included.

Hybrid Artificial Intelligence Systems

The 13th International Conference on Human–Computer Interaction, HCI Inter-tional 2009, was held in San Diego, California, USA, July 19–24, 2009, jointly with the Symposium on Human Interface (Japan) 2009, the 8th International Conference on Engineering Psychology and Cognitive Ergonomics, the 5th International Conference on Universal Access in Human-Computer Interaction, the Third International Conf- ence on Virtual and Mixed Reality, the Third International Conference on Internati- alization, Design and Global Development, the Third International Conference on Online Communities and Social Computing, the 5th International Conference on Augmented Cognition, the Second International Conference on Digital Human Mod- ing, and the First International Conference on Human Centered Design. A total of 4,348 individuals from academia, research institutes, industry and gove- mental agencies from 73 countries submitted contributions, and 1,397 papers that were judged to be of high scientific quality were included in the program. These papers - dress the latest research and development efforts and highlight the human aspects of the design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of human–computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas.

Computational Collective Intelligence. Semantic Web, Social Networks and Multiagent Systems

Intelligent environments (IE) play an increasingly important role in many areas of our lives, including education, healthcare and the domestic environment. The term refers to physical spaces incorporating pervasive computing technology used to achieve specific goals for the user, the environment or both. This book presents the proceedings of the workshops of the 8th International Conference on Intelligent Environments (IE '12), held in Guanajuato, Mexico, in June 2012. The workshops which make up the conference range from regular lectures to practical sessions. They provide a forum for scientists, researchers and engineers from both industry

and academia to engage in discussions on newly emerging or rapidly evolving topics in the field. Topics covered in the workshops include intelligent environments supporting healthcare and well-being; artificial intelligence techniques for ambient intelligence; large-scale intelligent environments; intelligent domestic robots; intelligent environment technology in education; multimodal interfaces applied in skills transfer, healthcare and rehabilitation; the reliability of intelligent environments and improving industrial automation using intelligent environments. IE can enrich user experience, better manage the environment's resources, and increase user awareness of that environment. This book will be of interest to all those whose work involves the application of intelligent environments.

Workshops Proceedings of the 5th International Conference on Intelligent Environments

The 13th International Conference on Human–Computer Interaction, HCI International 2009, was held in San Diego, California, USA, July 19–24, 2009, jointly with the Symposium on Human Interface (Japan) 2009, the 8th International Conference on Engineering Psychology and Cognitive Ergonomics, the 5th International Conference on Universal Access in Human–Computer Interaction, the Third International Conf- ence on Virtual and Mixed Reality, the Third International Conference on Internati- alization, Design and Global Development, the Third International Conference on Online Communities and Social Computing, the 5th International Conference on Augmented Cognition, the Second International Conference on Digital Human Mod- ing, and the First International Conference on Human-Centered Design. A total of 4,348 individuals from academia, research institutes, industry and gove- mental agencies from 73 countries submitted contributions, and 1,425 papers that were judged to be of high scientific quality were included in the program. These papers - dress the latest research and development efforts and highlight the human aspects of the design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of human–computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas.

Ubiquitous Intelligence and Computing

Workshop Proceedings of the 9th International Conference on Intelligent Environments

This book constitutes the refereed papers of the International Conference on Intelligent Interactive Assistance and Mobile Multimedia Computing, IMC 2009, which was held in Rostock-Warnemünde, Germany, in November 2009. The 26 revised full papers presented together with 5 short papers and 3 invited talks were carefully reviewed and selected from 50 submissions. The papers are organized in topical sections on Innovative User Interfaces, Assistive Systems, Mobile Communication, Context Awareness, Semantics, System Development, Intelligence, and Security and Privacy.

Next-Generation Applied Intelligence

th Celebrating its 10 anniversary, the vision of Ambient Intelligence has been widely adopted as a human-centric approach to application and technology - velopment. While the Ambient Intelligence vision was initially conceptualized as a reply to technological developments that enabled the embedding of int- ligence in electronic environments with a focus on information, communication and entertainment applications, the vision has not been agnostic to the rising needs in society. Today,the Ambient Intelligence vision represents also a holistic approach to technology-supported health and wellbeing systems. Going back to 2003, the annual Ambient Intelligence conference has est- lished a well-recognized academic and industrial community. The ?rst Ambient Intelligenceconferencepresentedaprogrambuiltaroundfourthemes:ubiquitous computing,contextawareness,intelligence andnaturalinteraction.Re?ectingthe evolution of the Ambient Intelligence vision, this year's conference included - ditional themes such as assisted living, methods and tools,and applications and studies. These AmI 09 proceedings include the latest research into technologies and applications that enable and validate the deployment of the Ambient Intel- gence vision. With 21 full papers and 10 short papers, these proceedings provide a good insight into the state-of-the art of Ambient Intelligence research and development. Organizingan eventsuch as the AmI 09 conferencewould not havebeen p- sible without the support of a highly quali?ed Program and Review Committee as well as an e?cient Organizing Committee. We greatly appreciate the e?ort of all authors submitting their contribution to AmI 09 and express our gratitude to all people who supported us in this event.

MICAI 2009: Advances in Artificial Intelligence

Continuing Professor Mira's Scienti?c Navigation Professor Jos´ e Mira passed away during the preparation of this edition of the International Work-Conference on the Interplay Between Natural and Arti?cial Computation. As a pioneer in the ?eld of cybernetics, he enthusiastically p- moted interdisciplinary research. The term cybernetics stems from the Greek K?? ???? ´ ?? (kybernetes), which means steersman, governor,or pilot, the same root as government. Cybernetics is a broad ?eld of study, but the essential goal ofcybernetics is to understandandde?ne the functions andprocessesofsystems that have goals, and promote circular, causal chains that move from action to sensing to comparison with a desired goal, and again to action. These de?- tions can be applied to Prof. Mira. He was a leader, a pilot, with a visionary and extraordinary capacity to guide his students and colleagues to the desired objective. In this way he promoted the study and understanding of biological functions for creating new computational paradigms able to solve known pr- lems in a more e?cient way than classical approaches. But he also impressed his magni?cent and generous character on all the researchers and friends that workedwith him, imprinting in all ofus high requirementsof excellence not only as scientists, but also as human beings. Weallrememberhisenthusiasticexplanationaboutthedomainsandlevelsin the computational paradigm(CP).

Computer Vision Systems

Bio-Inspired Systems: Computational and Ambient Intelligence

Ubiquitous sensors, devices, networks and information are paving the way toward a smart world in which computational intelligence is distributed throughout the physical environment to provide reliable and relevant services to people. This ubiquitous intelligence will change the computing landscape because it will enable new breeds of applications and systems to be developed, and the realm of computing possibilities will be significantly extended. By enhancing everyday objects with intelligence, many tasks and processes could be simplified, the physical spaces where people interact, like workplaces and homes, could become more efficient, safer and more enjoyable. Ubiquitous computing, or pervasive computing, uses these many "smart things" or "u-things" to create smart environments, services and applications. A smart thing can be endowed with different levels of intelligence, and may be c- text-aware, active, interactive, reactive, proactive, assistive, adaptive, automated, sentient, perceptual, cognitive, autonomic and/or thinking. Research on ubiquitous intelligence is an emerging research field covering many disciplines. A series of grand challenges exists to move from the current level of computing services to the smart world of adaptive and intelligent services. Started in 2005, the series of UIC conferences has been held in Taipei, Nagasaki, Three Gorges (China), Hong Kong, Oslo and Brisbane. The proceedings contain the papers presented at the 7th International Conference on Ubiquitous Intelligence and Computing (UIC 2010), held in Xi'an, China, October 26–29, 2010. The conference was accompanied by six vibrant workshops on a variety of research challenges within the area of ubiquitous intelligence and computing.

ECEL2013- Proceedings for the 12th European Conference on eLearning

This book constitutes the refereed proceedings of the International Conference on Artificial Intelligence and Computational Intelligence, AICI 2009, held in Shanghai, China, on November 7-8, 2009. The 79 revised full papers presented in this volume were carefully reviewed and selected from 1203 submissions. The papers are organized in topical sections on support vector machine, rough set theory, particle swarm optimization, neural computation, intelligent agents and systems, information security, immune computation, genetic algorithms, fuzzy computation, biological computing, applications of computational intelligence, ant colony algorithm, robotics, pattern recognition, neural networks, natural language processing, machine vision, machine learning, logic reasoning and theorem-proving, knowledge representation and acquisition, intelligent signal processing, intelligent scheduling, intelligent information retrieval, intelligent information fusion, intelligent image processing, heuristic searching methods, fuzzy logic and soft computing, distributed AI and agents, data mining and knowledge discovering, applications of artificial intelligence, and others.

Intelligent Robotics and Applications

Our homes anticipate when we want to wake up. Our computers predict what

music we want to buy. Our cars adapt to the way we drive. In today's world, even washing machines, rice cookers and toys have the capability of autonomous decision-making. As we grow accustomed to computing power embedded in our surroundings, it becomes clear that these 'smart environments', with a number of devices controlled by a coordinating system capable of 'ambient intelligence', will play an ever larger role in our lives. This handbook provides readers with comprehensive, up-to-date coverage in what is a key technological field. . Systematically dealing with each aspect of ambient intelligence and smart environments, the text covers everything, from visual information capture and human/computer interaction to multi-agent systems, network use of sensor data, and building more rationality into artificial systems. The book also details a wide range of applications, examines case studies of recent major projects from around the world, and analyzes both the likely impact of the technology on our lives, and its ethical implications. With a wide variety of separate disciplines all conducting research relevant to this field, this handbook encourages collaboration between disparate researchers by setting out the fundamental concepts from each area that are relevant to ambient intelligence and smart environments, providing a fertile soil in which ground-breaking new work candevelop.

Handbook of Ambient Intelligence and Smart Environments

"This book provides perspectives on new approaches to learning theory and practice in increasingly mobile, immersive environments, offering both theory and practice"--Provided by publisher.

ROMANCE ACTION & ADVENTURE MYSTERY & THRILLER BIOGRAPHIES & HISTORY CHILDREN'S YOUNG ADULT FANTASY HISTORICAL FICTION HORROR LITERARY FICTION NON-FICTION SCIENCE FICTION