

## A Fuzzy Ontology Based Semantic Data Integration System

This book constitutes the refereed proceedings of the First International Conference on Intelligent Cloud Computing, ICC 2019, held in Riyadh, Saudi Arabia, in December 2019. The two-volume set presents 53 full papers, which were carefully reviewed and selected from 174 submissions. The papers are organized in topical sections on Cyber Security; Data Science; Information Technology and Applications; Network and IoT.

This volume contains the proceedings of the International Conference on Information Computing and Applications (ICICA 2010), which was held in Tangshan, China, October 15-18, 2010. As future-generation information technology, information computing and applications become specialized, information computing and applications - cluding hardware, software, communications and networks are growing with ever-increasing scale and heterogeneity and becoming overly complex. The complexity is getting more critical along with the growing applications. To cope with the growing and computing complexity, information computing and applications focus on intelligent, selfmanageable, scalable computing systems and applications to the maximum extent possible without human intervention or guidance. With the rapid development of information science and technology, information computing has become the third approach of science research. Information computing and applications is the field of study concerned with constructing - telligent computing, mathematical models, numerical solution techniques and using computers to analyze and solve natural scientific, social scientific and engineering problems. In practical use, it is typically the application of computer simulation, intelligent computing, internet computing, pervasive computing, scalable computing, trusted computing, autonomy-oriented computing, evolutionary computing, mobile computing, computational statistics, engineering computing, multimedia networking and computing, applications and other forms of computation problems in various scientific disciplines and engineering. Information computing and applications is an important underpinning for techniques used in information and computational science and there are many unresolved problems that address worth studying.

This volume contains some lecture notes of the 12th Reasoning Web Summer School (RW 2016), held in Aberdeen, UK, in September 2016. In 2016, the theme of the school was “Logical Foundation of Knowledge Graph Construction and Query Answering”. The notion of knowledge graph has become popular since Google started to use it to improve its search engine in 2012. Inspired by the success of Google, knowledge graphs are gaining momentum in the World Wide Web arena. Recent years have witnessed increasing industrial take-ups by other Internet giants, including Facebook's Open Graph and Microsoft's Satori. The aim of the lecture note is to provide a logical foundation for constructing and querying knowledge graphs. Our journey starts from the introduction of Knowledge Graph as well as its history, and the construction of knowledge graphs by considering both explicit and implicit author intentions. The book will then cover various topics, including how to revise and reuse ontologies (schema of knowledge graphs) in a safe way, how to combine navigational queries with basic pattern matching queries for knowledge graph, how to setup a environment to do experiments on knowledge graphs, how to deal with inconsistencies and fuzziness in ontologies and knowledge graphs, and how to combine machine learning and machine reasoning for knowledge graphs. Technology is currently playing a vital role in revolutionizing education systems and progressing academia into the digital age. Technological methods including data mining and machine learning are assisting with the discovery of new techniques for improving learning environments in regions across the world. As the educational landscape continues to rapidly transform, researchers and administrators need to stay up to

date on the latest advancements in order to elevate the quality of teaching in their specific institutions. Machine Learning Approaches for Improving Modern Learning Systems provides emerging research exploring the theoretical and practical aspects of technological enhancements in educational environments and the popularization of contemporary learning methods in developing countries. Featuring coverage on a broad range of topics such as game-based learning, intelligent tutoring systems, and course modelling, this book is ideally designed for researchers, scholars, administrators, policymakers, students, practitioners, and educators seeking current research on the digital transformation of educational institutions.

U-Healthcare Monitoring Systems: Volume One: Design and Applications focuses on designing efficient U-healthcare systems which require the integration and development of information technology service/facilities, wireless sensors technology, wireless communication tools, and localization techniques, along with health management monitoring, including increased commercialized service or trial services. These u-healthcare systems allow users to check and remotely manage the health conditions of their parents. Furthermore, context-aware service in u-healthcare systems includes a computer which provides an intelligent service based on the user's different conditions by outlining appropriate information relevant to the user's situation. This volume will help engineers design sensors, wireless systems and wireless communication embedded systems to provide an integrated u-healthcare monitoring system. This volume provides readers with a solid basis in the design and applications of u-healthcare monitoring systems. Provides a solid basis in the design and applications of the u-healthcare monitoring systems Illustrates the concept of the u-healthcare monitoring system and its requirements, with a specific focus on the medical sensors and wireless sensors communication Presents a multidisciplinary volume that includes different applications of the monitoring system which highlight the main features for biomedical sensor devices

This book constitutes the refereed proceedings of the 8th International Conference on Brain Inspired Cognitive Systems, BICS 2016, held in Beijing, China, in November 2016. The 32 full papers presented were carefully reviewed and selected from 43 submissions. They discuss the emerging areas and challenges, present the state of the art of brain-inspired cognitive systems research and applications in diverse fields by covering many topics in brain inspired cognitive systems related research including biologically inspired systems, cognitive neuroscience, models consciousness, and neural computation.

This three volume set (CCIS 853-855) constitutes the proceedings of the 17th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2017, held in Cádiz, Spain, in June 2018. The 193 revised full papers were carefully reviewed and selected from 383 submissions. The papers are organized in topical sections on advances on explainable artificial intelligence; aggregation operators, fuzzy metrics and applications; belief function theory and its applications; current techniques to model, process and describe time series; discrete models and computational intelligence; formal concept analysis and uncertainty; fuzzy implication functions; fuzzy logic and artificial intelligence problems; fuzzy mathematical analysis and applications; fuzzy methods in data mining and knowledge discovery; fuzzy transforms: theory and applications to data analysis and image processing; imprecise probabilities: foundations and applications; mathematical fuzzy logic, mathematical morphology; measures of comparison and entropies for fuzzy sets and their extensions; new trends in data aggregation; pre-aggregation functions and generalized forms of monotonicity; rough and fuzzy similarity modelling tools; soft computing for decision making in uncertainty; soft computing in information retrieval and sentiment analysis; tri-partitions and uncertainty; decision making modeling and applications; logical methods in mining knowledge from big data; metaheuristics and machine learning; optimization models for modern analytics; uncertainty in medicine; uncertainty in Video/Image Processing (UVIP).

these are split between Asia (18) and Europe (17), with an additional 2 from the USA.

This book constitutes the thoroughly refereed short papers, workshops and doctoral consortium papers of the 23rd European Conference on Advances in Databases and Information Systems, ADBIS 2019, held in Bled, Slovenia, in September 2019. The 19 short research papers and the 5 doctoral consortium papers were carefully reviewed and selected from 103 submissions, and the 31 workshop papers were selected out of 67 submitted papers. The papers are organized in the following sections: Short Papers; Workshops Papers; Doctoral Consortium Papers; and cover a wide spectrum of topics related to database and information systems technologies for advanced applications.

Knowledge is power: In today's era of knowledge-based economies, constantly changing business environments, severe competition, and globalization, gaining the knowledge edge will greatly empower an organization to stay on the cutting edge. Intelligence Methods and Systems Advancements for Knowledge-Based Business examines state-of-the-art research in decision sciences and business intelligence, and the applications of knowledge-based business with information systems. This comprehensive volume will provide researchers, academics, and business professionals with the research and inspiration they need to strengthen and empower their businesses in today's world.

This edited volume provides the reader with a fully updated, in-depth treatise on the emerging principles, conceptual underpinnings, algorithms and practice of Computational Intelligence in the realization of concepts and implementation of models of sentiment analysis and ontology –oriented engineering. The volume involves studies devoted to key issues of sentiment analysis, sentiment models, and ontology engineering. The book is structured into three main parts. The first part offers a comprehensive and prudently structured exposure to the fundamentals of sentiment analysis and natural language processing. The second part consists of studies devoted to the concepts, methodologies, and algorithmic developments elaborating on fuzzy linguistic aggregation to emotion analysis, carrying out interpretability of computational sentiment models, emotion classification, sentiment-oriented information retrieval, a methodology of adaptive dynamics in knowledge acquisition. The third part includes a plethora of applications showing how sentiment analysis and ontologies becomes successfully applied to investment strategies, customer experience management, disaster relief, monitoring in social media, customer review rating prediction, and ontology learning. This book is aimed at a broad audience of researchers and practitioners. Readers involved in intelligent systems, data analysis, Internet engineering, Computational Intelligence, and knowledge-based systems will benefit from the exposure to the subject matter. The book may also serve as a highly useful reference material for graduate students and senior undergraduate students.

Managing vagueness/fuzziness is starting to play an important role in Semantic Web research, with a large number of research efforts underway. Foundations of Fuzzy Logic and Semantic Web Languages provides a rigorous and succinct account of the mathematical methods and tools used for representing and reasoning with fuzzy information within Semantic

Information granules, as encountered in natural language, are implicit in nature. To make them fully operational so they can be effectively used to analyze and design intelligent systems, information granules need to be made explicit. An emerging discipline, granular computing focuses on formalizing information granules and unifying them to create a coherent methodological and developmental environment for intelligent system design and analysis. Granular Computing: Analysis and Design of Intelligent Systems presents the unified principles of granular computing along with its comprehensive algorithmic framework and design practices. Introduces the concepts of information

granules, information granularity, and granular computing Presents the key formalisms of information granules Builds on the concepts of information granules with discussion of higher-order and higher-type information granules Discusses the operational concept of information granulation and degranulation by highlighting the essence of this tandem and its quantification in terms of the associated reconstruction error Examines the principle of justifiable granularity Stresses the need to look at information granularity as an important design asset that helps construct more realistic models of real-world systems or facilitate collaborative pursuits of system modeling Highlights the concepts, architectures, and design algorithms of granular models Explores application domains where granular computing and granular models play a visible role, including pattern recognition, time series, and decision making Written by an internationally renowned authority in the field, this innovative book introduces readers to granular computing as a new paradigm for the analysis and synthesis of intelligent systems. It is a valuable resource for those engaged in research and practical developments in computer, electrical, industrial, manufacturing, and biomedical engineering. Building from fundamentals, the book is also suitable for readers from nontechnical disciplines where information granules assume a visible position.

This book explores recent developments in the theoretical foundations and novel applications of general and interval type-2 fuzzy sets and systems, including: algebraic properties of type-2 fuzzy sets, geometric-based definition of type-2 fuzzy set operators, generalizations of the continuous KM algorithm, adaptiveness and novelty of interval type-2 fuzzy logic controllers, relations between conceptual spaces and type-2 fuzzy sets, type-2 fuzzy logic systems versus perceptual computers; modeling human perception of real world concepts with type-2 fuzzy sets, different methods for generating membership functions of interval and general type-2 fuzzy sets, and applications of interval type-2 fuzzy sets to control, machine tooling, image processing and diet. The applications demonstrate the appropriateness of using type-2 fuzzy sets and systems in real world problems that are characterized by different degrees of uncertainty.

The two-volume set LNAI 7802 and LNAI 7803 constitutes the refereed proceedings of the 5th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2013, held in Kuala Lumpur, Malaysia in March 2013. The 108 revised papers presented were carefully reviewed and selected from numerous submissions. The papers included are grouped into topical sections on: innovations in intelligent computation and applications; intelligent database systems; intelligent information systems; tools and applications; intelligent recommender systems; multiple modal approach to machine learning; engineering knowledge and semantic systems; computational biology and bioinformatics; computational intelligence; modeling and optimization techniques in information systems, database systems and industrial systems; intelligent supply chains; applied data mining for semantic Web; semantic Web and ontology; integration of information systems; and conceptual modeling in advanced database systems.

Technology has dramatically changed the way in which knowledge is shared within and outside of traditional classroom settings. The application of fuzzy logic to new forms of technology-centered education has presented new opportunities for analyzing and modeling learner behavior. Fuzzy Logic-Based Modeling in Collaborative and Blended Learning explores the application of the fuzzy set theory to educational settings in order to analyze the learning process, gauge student feedback, and enable quality learning outcomes. Focusing on educational data analysis and modeling in collaborative and blended learning environments, this publication is an essential reference source for educators, researchers, educational administrators and designers, and IT specialists. This premier reference monograph presents key research on educational data analysis and modeling through the integration of research on advanced modeling techniques, educational technologies, fuzzy concept maps, hybrid modeling, neuro-fuzzy learning management systems, and quality of interaction.

2012 International Conference on Affective Computing and Intelligent Interaction (ICACII 2012) was the most comprehensive conference focused on the various aspects of advances in Affective Computing and Intelligent Interaction. The conference provided a rare opportunity to bring together worldwide academic researchers and practitioners for exchanging the latest developments and applications in this field such as Intelligent Computing, Affective Computing, Machine Learning, Business Intelligence and HCI. This volume is a collection of 119 papers selected from 410 submissions from universities and industries all over the world, based on their quality and relevancy to the conference. All of the papers have been peer-reviewed by selected experts.

Knowledge existing in modern information systems usually comes from many sources and is mapped in many ways. There is a real need for representing “knowledge pieces” as rather universal objects that should fit to multi-purpose a- ing systems. According to great number of information system’s tasks, knowledge representation is more or less detailed (e.g. some level of its granularity is - sumed). The main goal of this paper is to present chosen aspects of expressing granularity of knowledge implemented in intelligent systems. One of the main r- sons of granularity phenomena is diversification of knowledge sources, therefore the next section is devoted to this issue. 2. Heterogeneous Knowledge as a Source for Intelligent Systems Knowledge, the main element of so-called intelligent applications and systems, is very often heterogeneous. This heterogeneity concerns the origin of knowledge, its sources as well as its final forms of presentation. In this section the selected c- teria of knowledge differentiation will be presented, in the context of potential sources of knowledge acquisition. In Fig. 1 an environment of intelligent systems is shown, divided into different knowledge sources for the system. Fig. 1. Potential knowledge sources for intelligent information/reasoning system. Source: own elaboration based on (Mach, 2007) p. 24.

The six volume set LNCS 10634, LNCS 10635, LNCS 10636, LNCS 10637, LNCS 10638, and LNCS 10639 constitutes the proceedings of the 24rd International Conference on Neural Information Processing, ICONIP 2017, held in Guangzhou, China, in November 2017. The 563 full papers presented were carefully reviewed and selected from 856 submissions. The 6 volumes are organized in topical sections on Machine Learning, Reinforcement Learning, Big Data Analysis, Deep Learning, Brain-Computer Interface, Computational Finance, Computer Vision, Neurodynamics, Sensory Perception and Decision Making, Computational Intelligence, Neural Data Analysis, Biomedical Engineering, Emotion and Bayesian Networks, Data Mining, Time-Series Analysis, Social Networks, Bioinformatics, Information Security and Social Cognition, Robotics and Control, Pattern Recognition, Neuromorphic Hardware and Speech Processing.

One of the most successful methodology that arose from the worldwide diffusion of Fuzzy Logic is Fuzzy Control. After the first attempts dated in the seventies, this methodology has been widely exploited for controlling many industrial components and systems. At the same time, and very independently from Fuzzy Logic or Fuzzy Control, the birth of the Web has impacted upon almost all aspects of computing discipline. Evolution of Web, Web2.0 and Web 3.0 has been making scenarios of ubiquitous computing much more feasible; consequently information technology has been thoroughly integrated into everyday objects and activities. What happens when Fuzzy Logic meets Web technology? Interesting results might come out, as you will discover in this book. Fuzzy Mark-up Language is a son of this synergistic view, where some technological issues of Web are re-interpreted taking into account the transparent notion of Fuzzy Control, as discussed here. The concept of a Fuzzy Control that is conceived and modeled in terms of a native web wisdom represents another step towards the last picture of Pervasive Web Intelligence.

This book presents innovative and high-quality research regarding advanced decision support systems (DSSs). It describes the foundations, methods, methodologies, models, tools, and techniques for designing, developing, implementing and evaluating advanced DSSs in different

fields, including finance, health, emergency management, industry and pollution control. Decision support systems employ artificial intelligence methods to heuristically address problems that are cannot be solved using formal techniques. In this context, technologies such as the Semantic Web, linked data, big data, and machine learning are being applied to provide integrated support for individuals and organizations to make more rational decisions. The book is organized into two parts. The first part covers decision support systems for industry, while the second part presents case studies related to clinical emergency management and pollution control.

Recently, the Semantic Web has gained huge popularity to address these challenges. Semantic web technologies have the opportunity to transform the way healthcare providers utilize technology to gain insights and knowledge from their data and make decisions. Both big data and semantic web technologies can complement each other to address the challenges and add intelligence to healthcare management systems. The aim of this book is to analyze the current status on how Semantic Web is used to solve the health data integration and interoperability problem, how it provides advanced data linking capabilities that can improve search and retrieval of medical data. There are chapters in the book which analyze the tools and approaches to semantic health data analysis and knowledge discovery. The book discusses the role of semantic technologies in extracting and transforming healthcare data before storing it in repositories. It also discusses different approaches for integrating heterogeneous healthcare data. To summarize, the book will help readers understand key concepts in semantic web applications for biomedical engineering and healthcare.

This book goes to great depth concerning the fast growing topic of technologies and approaches of fuzzy logic in the Semantic Web. The topics of this book include fuzzy description logics and fuzzy ontologies, queries of fuzzy description logics and fuzzy ontology knowledge bases, extraction of fuzzy description logics and ontologies from fuzzy data models, storage of fuzzy ontology knowledge bases in fuzzy databases, fuzzy Semantic Web ontology mapping, and fuzzy rules and their interchange in the Semantic Web. The book aims to provide a single record of current research in the fuzzy knowledge representation and reasoning for the Semantic Web. The objective of the book is to provide the state of the art information to researchers, practitioners and graduate students of the Web intelligence and at the same time serve the knowledge and data engineering professional faced with non-traditional applications that make the application of conventional approaches difficult or impossible.

This book constitutes the proceedings of the 4th Joint International Semantic Technology Conference, JIST 2014, held in Chiang Mai, Thailand, in November 2014. The theme of the JIST 2014 conference was "Open Data and Semantic Technology". JIST 2014 conference consisted of main technical tracks including regular paper track (full and short papers), in-use track and special track, poster and demo session, two workshops and four tutorials. The 32 papers in this volume were carefully reviewed and selected from 71 submissions. The paper topics are divided into eight categories: ontology and reasoning, linked data, learning and discovery, rdf and sparql, ontological engineering, semantic social Web, search and querying and applications of semantic technology.

Granular Computing Analysis and Design of Intelligent Systems CRC Press

Provides a single record of technologies and practices of the Semantic approach to the management, organization, interpretation, retrieval, and use of Web-based data.

These are exciting times in the fields of Fuzzy Logic and the Semantic Web, and this book will add to the excitement, as it is the first volume to focus on the growing connections between these two fields. This book is expected to be a valuable aid to anyone considering the application of Fuzzy Logic to the Semantic Web, because it contains a number of detailed accounts of these combined fields, written by

leading authors in several countries. The Fuzzy Logic field has been maturing for forty years. These years have witnessed a tremendous growth in the number and variety of applications, with a real-world impact across a wide variety of domains with humanlike behavior and reasoning. And we believe that in the coming years, the Semantic Web will be major field of applications of Fuzzy Logic. This book, the first in the new series Capturing Intelligence, shows the positive role Fuzzy Logic, and more generally Soft Computing, can play in the development of the Semantic Web, filling a gap and facing a new challenge. It covers concepts, tools, techniques and applications exhibiting the usefulness, and the necessity, for using Fuzzy Logic in the Semantic Web. It finally opens the road to new systems with a high Web IQ. Most of today's Web content is suitable for human consumption. The Semantic Web is presented as an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation. For example, within the Semantic Web, computers will understand the meaning of semantic data on a web page by following links to specified ontologies. But while the Semantic Web vision and research attracts attention, as long as it will be used two-valued-based logical methods no progress will be expected in handling ill-structured, uncertain or imprecise information encountered in real world knowledge. Fuzzy Logic and associated concepts and techniques (more generally, Soft Computing), has certainly a positive role to play in the development of the Semantic Web. Fuzzy Logic will not supposed to be the basis for the Semantic Web but its related concepts and techniques will certainly reinforce the systems classically developed within W3C. In fact, Fuzzy Logic cannot be ignored in order to bridge the gap between human-understandable soft logic and machine-readable hard logic. None of the usual logical requirements can be guaranteed: there is no centrally defined format for data, no guarantee of truth for assertions made, no guarantee of consistency. To support these arguments, this book shows how components of the Semantic Web (like XML, RDF, Description Logics, Conceptual Graphs, Ontologies) can be covered, with in each case a Fuzzy Logic focus. First volume to focus on the growing connections between Fuzzy Logic and the Semantic Web Keynote chapter by Lotfi Zadeh The Semantic Web is presently expected to be a major field of applications of Fuzzy Logic It fills a gap and faces a new challenge in the development of the Semantic Web It opens the road to new systems with a high Web IQ Contributed chapters by Fuzzy Logic leading experts This volume contains the lecture notes of the 11th Reasoning Web Summer School 2015, held in Berlin, Germany, in July/August 2015. In 2015, the theme of the school was Web Logic Rules. This Summer School is devoted to this perspective, and provides insight into the semantic Web, linked data, ontologies, rules, and logic.

The book is a collection of high-quality peer-reviewed research papers presented in International Conference on Soft Computing Systems (ICSCS 2015) held at Noorul Islam Centre for Higher Education, Chennai, India. These research papers provide the latest developments in the emerging areas of Soft Computing in Engineering and Technology. The book is organized in two volumes and discusses a wide variety of industrial, engineering and scientific applications of the emerging techniques. It presents invited papers from the inventors/originators of new applications and advanced technologies.

This open access book constitutes the refereed proceedings of the 18th International Conference on String Processing and Information Retrieval, ICOST 2020, held in Hammamet, Tunisia, in June 2020.\* The 17 full papers and 23 short papers presented in this volume were carefully reviewed and selected from 49 submissions. They cover topics such as: IoT and AI solutions for e-health; biomedical and health informatics; behavior and activity monitoring; behavior and activity monitoring; and wellbeing

technology. \*This conference was held virtually due to the COVID-19 pandemic.

This book constitutes the refereed proceedings of the 22 International Conference on Database and Expert Systems Applications, DEXA 2011, held in Toulouse, France, August 29 - September 2, 2011. The 52 revised full papers and 40 short papers presented were carefully reviewed and selected from 207 submissions. The papers are organized in topical sections on XML querying and views; data mining; queries and search; semantic web; information retrieval; business applications; user support; indexing; queries, views and data warehouses; ontologies; physical aspects of databases; Design; distribution; miscellaneous topics. This book constitutes the refereed proceedings of the Second Conference on Creativity in Intelligent Technologies and Data Science, CIT&DS 2017, held in Volgograd, Russia, in September 2017. The 58 revised full papers and two keynote papers presented were carefully reviewed and selected from 194 submissions. The papers are organized in topical sections on Knowledge Discovery in Patent and Open Sources for Creative Tasks; Open Science Semantic Technologies; Computer Vision and Knowledge-Based Control; Pro-Active Modeling in Intelligent Decision Making Support; Data Science in Energy Management and Urban Computing; Design Creativity in CASE/CAI/CAD/PDM; Intelligent Internet of Services and Internet of Things; Data Science in Social Networks Analysis; Creativity and Game-Based Learning; Intelligent Assistive Technologies: Software Design and Application.

This carefully edited book comprises the papers from EUROFUSE 2011 Workshop on Fuzzy Methods for Knowledge-based Systems. EUROFUSE was established in 1998 as the EURO (the Association of European Operational Research Societies) Working Group on Fuzzy Sets, as a successor of the former European Chapter of IFSA (the International Fuzzy Systems Association). The present EUROFUSE 2011 workshop is held at Régua, Portugal, 21-23 September, in the World Heritage Site of the Douro Wine Region and is organised by Pedro Melo-Pinto and Pedro Couto. The workshop is devoted to Fuzzy Methods for Knowledge-based Systems. And has the goal to bring together researchers and practitioners developing and applying fuzzy techniques in preference modelling and decision making in an informal atmosphere. EUROFUSE 2011 has three distinguished invited speakers: Francisco Herrera (Granada, Spain), Radko Mesiar (Bratislava, Slovakia) and Jose Luis Garcia Lapresta (Valladolid, Spain). Next to the invited speakers, the three day program consists of 37 lectures. In total, there are 70 participants from 10 countries. This edited volume contains the final revised manuscripts on the basis of which the program was put together. The 7th International Workshop on Fuzzy Logic and Applications, held in Camogli, Italy in July 2007, presented the latest findings in the field. This volume features the refereed proceedings from that meeting. It includes 84 full papers as well as three keynote speeches. The papers are organized into topical sections covering fuzzy set theory, fuzzy information access and retrieval, fuzzy machine learning, and fuzzy architectures and systems.

This book constitutes the refereed proceedings of the First Asian Semantic Web Conference, ASWC 2006, held in Beijing, China, in September 2006. The 36 revised full papers and 36 revised short papers presented together with three invited contributions were carefully reviewed and selected from 208 full paper submissions. The papers are organized in topical sections.



"This book contains revised versions of most of the peer-reviewed papers presented at the Fifth Symposium for Artificial Intelligence Researchers (STAIRS), which took place in Lisbon, Portugal, in conjunction with the 19th European Conference on Artificial Intelligence (ECAI) and the Sixth Conference on Prestigious Applications of Intelligent Systems (PAIS) in August 2010. STAIRS is an international meeting which aims to support AI researchers from all countries at the beginning of their career, and PhD students or those who have held a PhD for less than one year. It offers doctoral students and young post-doctoral AI fellows a unique and valuable opportunity to gain experience in presenting their work in a supportive scientific environment, where they can obtain constructive feedback on the technical content of their work as well as advice on how to present it, and where they can also establish contacts with the broader European AI research community. The topics cover a broad spectrum of subjects in the field of AI: learning and classification, ontologies and the semantic web, agent programming and planning, logic and reasoning, economic approaches, games, dialogue systems, user preferences and recommender systems. Offering an opportunity to glimpse the current work of the AI researchers of the future, this book will be of interest to anyone whose work involves the use of artificial intelligence and intelligent systems."--Publisher description.

With the advancements of semantic web, ontology has become the crucial mechanism for representing concepts in various domains. For research and dispersal of customized healthcare services, a major challenge is to efficiently retrieve and analyze individual patient data from a large volume of heterogeneous data over a long time span. This requirement demands effective ontology-based information retrieval approaches for clinical information systems so that the pertinent information can be mined from large amount of distributed data. This unique and groundbreaking book highlights the key advances in ontology-based information retrieval techniques being applied in the healthcare domain and covers the following areas: Semantic data integration in e-health care systems Keyword-based medical information retrieval Ontology-based query retrieval support for e-health implementation Ontologies as a database management system technology for medical information retrieval Information integration using contextual knowledge and ontology merging Collaborative ontology-based information indexing and retrieval in health informatics An ontology-based text mining framework for vulnerability assessment in health and social care An ontology-based multi-agent system for matchmaking patient healthcare monitoring A multi-agent system for querying heterogeneous data sources with ontologies for reducing cost of customized healthcare systems A methodology for ontology based multi agent systems development Ontology based systems for clinical systems: validity, ethics and regulation

This book comprises of 74 contributions from the experts covering the following topics. " Information Communication Technologies " Network Technologies " Wireless And Sensor Networks " Soft Computing " Circuits and Systems " Software Engineering " Data Mining " Bioinformatics " Data and Network Security

This book constitutes the refereed proceedings of the 10th International Conference on Asian Digital Libraries, ICADL

2007, held in Hanoi, Vietnam, in December 2007. The 41 revised full papers, 15 revised short papers, and extended abstracts of 10 poster papers presented together with three keynote and three invited papers were carefully reviewed and selected from a total of 154 submissions. The papers are organized in topical sections.

One of the major limitations of the Ambient Intelligent Systems today is the lack of semantic models of those activities on the environment, so that the system can recognize the specific activity being performed by the user(s) and act accordingly. In this context, this thesis addresses the general problem of knowledge representation in Smart Spaces. The main objective is to develop knowledge-based models, equipped with semantics to learn, infer and monitor human behaviours in Smart Spaces. Moreover, it is easy to recognize that some aspects of this problem have a high degree of uncertainty, and therefore, the developed models must be equipped with mechanisms to manage this type of information. As an added value, this system should be sufficiently simple and flexible to be managed by non-expert users, and thus, facilitate the transfer of research to industry. To do this, we develop graphical models to represent human behaviour in Smart Spaces, in order to provide them with more usability in the final application. As a result, human behaviour recognition can help assisting people with special needs such as independent elders, in remote rehabilitation monitoring, industrial process guidelines, and many other cases.

This open access book reports on cutting-edge electrical engineering and microelectronics solutions to foster and support digitalization in the semiconductor industry. Based on the outcomes of the European project iDev40, which were presented at the two first conference editions of the European Advances in Digital Transformation Conference (EADCT 2018 and EADTC 2019), the book covers different, multidisciplinary aspects related to digital transformation, including technological and industrial developments, as well as human factors research and applications. Topics include modeling and simulation methods in semiconductor operations, supply chain management issues, employee training methods and workplaces optimization, as well as smart software and hardware solutions for semiconductor manufacturing. By highlighting industrially relevant developments and discussing open issues related to digital transformation, the book offers a timely, practice-oriented guide to graduate students, researchers and professionals interested in the digital transformation of manufacturing domains and work environments.

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