A Fuzzy Ontology Based Semantic Data Integration System

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 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. Intelligent transportation vehicles brings the latest advances and developments in intelligent vehicles to readers on the basis of their significance and quality. Wider dissemination of research developments will stimulate more exchanges and collaborations among the research community and contribute to further advancement of this rapidly growing field. This Ebook series includes key contributions presented by different researchers. These contributions represent a wide coverage of the state-of-the-art and the emerging research directions in intelligent transportation vehicles. (A cura dell'editore).

This volume of Advances in Intelligent Systems and Computing contains papers presented in the main track of IITI 2016, the First International Conference on Intelligent Information Technologies for Industry held in May 16-21 in Sochi, Russia. The conference was jointly co-organized by Rostov State Transport University (Russia) and VŠB – Technical University of Ostrava (Czech Republic) with the participation of Russian Association for Artificial Intelligence (RAAI) and Russian Association for Fuzzy Systems and Soft Computing (RAFSSC). The volume is devoted to practical models and industrial applications related to intelligent information systems. The conference has been a meeting point for researchers and practitioners to enable the implementation of advanced information technologies into various industries. Nevertheless, some theoretical talks concerning the-state-of-the-art in intelligent systems and soft computing are included in the proceedings as well.

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.

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 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 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.

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 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).

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.

This volume contains the proceedings of the International Conference on Inf-mation 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 c- plexity 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, infor- tion computing has become the third approach of science research. Information computing and applications is the ?eld of study concerned with constructing - telligent computing, mathematical models, numerical solution techniques and using computers to analyze and solve natural scienti?c, social scienti?c and engineering problems. In practical use, it is typically the application of c- puter simulation, intelligent computing, internet computing, pervasive comp- ing, scalable computing, trusted computing, autonomy-oriented computing, evolutionary computing, mobile computing, computational statistics, engine- ing computing, multimedia networking and computing, applications and other forms of computation problems in various scienti?c disciplines and engine- ing. 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.

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.

The emerging idea of the semantic web is based on the maximum automation of the complete knowledge lifecycle processes: knowledge representation, acquisition, adaptation, reasoning, sharing and use. Text-based based browsers involve a costly information-retrieval process: descriptions are inherently subjective and usage is often confined to the specific application domain for

which the descriptions were created. Automatic extracted audiovisual features are, in general, more objective, domain-independent and can be native to the audiovisual content. This book seeks to draw together in one concise volume the findings of leading researchers from around the globe. The focus, in particular, is on the MPEG-7 and MPEG-21 standards that seek to consolidate and render effective the infrastructure for the delivery and management of multimedia content. Provides thorough coverage of all relevant topics, including structure identification in audiovisual documents, object-based video indexing, multimedia indexing and retrieval using natural language, speech and image processing methods Contains detailed advice on ontology representation and querying for realizing semantics-driven applications Includes cutting-edge information on multimedia content description in MPEG-7 and MPEG-21 Illustrates all theory with real-world case studies gleaned from state-of-the-art worldwide research. The contributors are pioneers in the fields of multimedia analysis and knowledge technologies This unified, comprehensive up-to-date resource will appeal to integrators, systems suppliers, managers and consultants in the area of knowledge management and information retrieval; particularly those concerned with the automation of the semantic web. The detailed, theory-based practical advice is also essential reading for postgraduates and researchers in these fields.

Granular ComputingAnalysis and Design of Intelligent SystemsCRC Press these are split between Asia (18) and Europe (17), with an additional 2 from the USA.

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.

"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.

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

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

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.

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 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. 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.

Online reputation management deals with monitoring and influencing the online record of a person, an organization or a product. The Social Web offers increasingly simple ways to publish and disseminate personal or opinionated information, which can rapidly have a disastrous influence on the online reputation of some of the entities. The author focuses on the Social Web and possibilities of its integration with the Semantic Web as resource for a semi-automated tracking of online reputations using imprecise natural language terms. The inherent structure of natural language supports humans not only in communication but also in the perception of the world. Thereby fuzziness is a promising tool for transforming those human perceptions into computer artifacts. Through fuzzy grassroots ontologies, the Social Semantic Web becomes more naturally and thus can streamline online reputation management. For readers interested in the cross-over field of computer science, information systems, and social sciences, this book is an ideal source for becoming acquainted with the evolving field of fuzzy online

reputation management in the Social Semantic Web area. ?

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 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 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.

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.

This two-volume set (CCIS 1229 and CCIS 1230) constitutes the refereed proceedings of the 5th International Conference on Recent Developments in Science, Engineering and Technology, REDSET 2019, held in Gurugram, India, in November 2019. The 74 revised full papers presented were carefully reviewed and selected from total 353 submissions. The papers are organized in topical sections on data centric programming; next generation computing; social and web analytics; security in data

science analytics; big data analytics.

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 Improvising 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.

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

The six volume set LNCS 10634, LNCS 10635, LNCS 10636, LNCS 10637, LNCS 10638, and LNCS 10639 constitues 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.

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.

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.

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

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 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.

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.

This book includes a set of selected papers from the first "International Conference on Enterprise Information Systems," (ICEIS'99) held in SeÜtbal, Portugal, from 27 to 30 March 1999. ICEIS focuses on real world applications and aims at becoming a major point of contact between research scientists, engineers and practitioners in the area of business applications of information systems. This year four simultaneous tracks were held, covering different aspects related to enterprise computing, including: Systems Analysis and Specijication, Database Technology and its Applications, Artijicial Intelligence and Decision Support Systems, and Internet and Intranet Computing. Although ICEIS'99 received more than 200 submissions, only 96 papers were accepted for oral presentation and only 24 were selected for inclusion in this book. These numbers demonstrate stringent quality criteria and the intention of maintaining a high quality forum for future editions ofthis conference. A number of additional keynote lectures, case studies and technical tutorials were also held. These presentations, by specialists in different knowledge areas made an important contribution to increase the overall quality of the Conference, and are partially expressed in the first two papers of the book.