

Expert Systems With Applications International Journal

This two volume set LNCS 10438 and LNCS 10439 constitutes the refereed proceedings of the 28th International Conference on Database and Expert Systems Applications, DEXA 2017, held in Lyon, France, August 2017. The 37 revised full papers presented together with 40 short papers were carefully reviewed and selected from 166 submissions. The papers discuss a range of topics including: Semantic Web and Semantics; Graph Matching; Data Modeling, Data Abstraction, and Uncertainty; Preferences and Query Optimization; Data Integration and RDF Matching; Security and Privacy; Web Search; Data Clustering; Top-K and Skyline Queries; Data Mining and Big Data; Service Computing; Continuous and Temporal Data, and Continuous Query Language; Text Processing and Semantic Search; Indexing and Concurrency Control Methods; Data Warehouse and Data Stream Warehouse; Data Mining and Machine Learning; Recommender Systems and Query Recommendation; Graph Algorithms; Semantic Clustering and Data Classification. In the two decades since its inception by L. Zadeh, the theory of fuzzy sets has matured into a wide-ranging collection of concepts, models, and techniques for dealing with complex phenomena which do not lend themselves to analysis by classical methods based on probability theory and bivalent logic. Nevertheless, a question which is frequently raised by the skeptics is: Are there, in fact, any significant problem areas in which the use of the theory of fuzzy sets leads to results which could not be obtained by classical methods? The approximately 5000 publications in this area, which are scattered over many areas such as artificial intelligence, computer science, control engineering, decision making, logic, operations research, pattern recognition, robotics and others, provide an affirmative answer to this question. In spite of the large number of publications, good and comprehensive textbooks which could facilitate the access of newcomers to this area and support teaching were missing until recently. To help to close this gap and to provide a textbook for courses in fuzzy set theory which can also be used as an introduction to this field, the first volume of this book was published in 1985 [Zimmermann 1985 b]. This volume tried to cover fuzzy set theory and its applications as extensively as possible. Applications could, therefore, only be described to a limited extent and not very detailed.

The Database and Expert Systems Applications (DEXA) conferences bring together researchers and practitioners from all over the world to exchange ideas, experiences and opinions in a friendly and stimulating environment. The papers are at once a record of what has been achieved and the first steps towards shaping the future of information systems. DEXA covers a broad field, and all aspects of database, knowledge base and related technologies and their applications are represented. Once again there were a good number of submissions: 241 papers were submitted and of these the programme committee selected 103 to be presented. DEXA'99 took place in Florence and was the tenth conference in the series, following events in Vienna, Berlin, Valencia, Prague, Athens, London, Zurich, Toulouse and Vienna. The decade has seen many developments in the areas covered by DEXA, developments in which DEXA has played its part. I would like to express thanks to all the institutions which have actively supported and made possible this conference, namely: • University of Florence, Italy • IDG CNR, Italy • FAW - University of Linz, Austria • Austrian Computer Society • DEXA Association In addition, we must thank all the people who have contributed their time and effort to make the conference possible. Special thanks go to Maria Schweikert (Technical University of Vienna), M. Neubauer and G. Wagner (FAW, University of Linz). We must also thank all the members of the programme committee, whose careful reviews are important to the quality of the conference.

Frontiers of Expert Systems
Database and Expert Systems Applications, International Workshop on Principles of Expert Systems
Time Series Clustering and Classification
29th International Conference, DEXA 2018, Regensburg, Germany, September 3–6, 2018, Proceedings, Part I
This two volume set LNCS 9261 and LNCS 9262 constitutes the refereed proceedings of the 26th International Conference on Database and Expert Systems Applications, DEXA 2015, held in Valencia, Spain, September 1–4, 2015. The 40 revised full papers presented together with 32 short papers, and 2 keynote talks, were carefully reviewed and selected from 125 submissions. The papers discuss a range of topics including: temporal, spatial and high dimensional databases; semantic Web and ontologies; modeling, linked open data; NoSQL/ NewSQL, data integration; uncertain data and inconsistency tolerance; database system architecture; data mining, query processing and optimization; indexing and decision support systems; modeling, extraction, social networks; knowledge management and consistency; mobility, privacy and security; data streams, Web services, distributed, parallel and cloud databases; information retrieval; XML and semi-structured data; data partitioning, indexing; data mining, applications; WWW and databases; data management algorithms. These volumes also include accepted papers of the 8th International Conference on Data Management in Cloud, Grid and P2P Systems, Globe 2015, held in Valencia, Spain, September 2, 2015. The 8 full papers presented were carefully reviewed and selected from 13 submissions. The papers discuss a range of topics including: MapReduce framework: load balancing, optimization and classification; security, data privacy and consistency; query rewriting and streaming.

The Handbook of Applied Expert Systems is a landmark work dedicated solely to this rapidly advancing area of study. Edited by Jay Liebowitz, a professor, author, and consultant known around the world for his work in the field, this authoritative source covers the latest expert system technologies, applications, methodologies, and practices. The book features contributions from more than 40 of the world's foremost expert systems authorities in industry, government, and academia. The Handbook is organized into two major sections. The first section explains expert systems technologies while the second section focuses on applied examples in a wide variety of industries. Key topics covered include fuzzy systems, genetic algorithm development, machine learning, knowledge representation, and much more.

The development of modern knowledge-based systems, for applications ranging from medicine to finance, necessitates going well beyond traditional rule-based programming. Frontiers of Expert Systems: Reasoning with Limited Knowledge attempts to satisfy such a need, introducing exciting and recent advances at the frontiers of the field of expert systems. Beginning with the central topics of logic, uncertainty and rule-based reasoning, each chapter in the book presents a different perspective on how we may solve problems that arise due to limitations in the knowledge of an expert system's reasoner. Successive chapters address (i) the fundamentals of knowledge-based systems, (ii) formal inference, and reasoning about models of a changing and partially known world, (iii) uncertainty and probabilistic methods, (iv) the expression of knowledge in rule-based systems, (v) evolving representations of knowledge as a system interacts with the environment, (vi) applying connectionist learning algorithms to improve on knowledge acquired from experts, (vii) reasoning with cases organized in indexed hierarchies, (viii) the process of acquiring and inductively learning knowledge, (ix) extraction of knowledge nuggets from very large data sets, and (x) interactions between multiple specialized reasoners with specialized knowledge bases. Each chapter takes the reader on a journey from elementary concepts to topics of active research, providing a concise description of several topics within and related to the field of expert systems, with pointers to practical applications and other relevant literature. Frontiers of Expert Systems: Reasoning with Limited Knowledge is suitable as a secondary text for a graduate-level course, and as a reference for researchers and practitioners in industry.

The Handbook of Applied Expert Systems
10th International Conference, DEXA'99, Florence, Italy, August 30 - September 3, 1999, Proceedings

21st international conference ; proceedings
PROCEEDINGS: ... INTERNATIONAL WORKSHOP ON DATABASE AND EXPERT SYSTEMS APPLICATIONS.

Industrial and Engineering Applications of Artificial Intelligence and Expert Systems

This two-volume set, LNCS 12923 and 12924, constitutes the thoroughly refereed proceedings of the 5th International Conference on Database and Expert Systems Applications, DEXA 2011. Due to COVID-19 pandemic, the conference was held virtually. The 37 full papers presented together with 31 short papers in these volumes were carefully reviewed and selected from a total of 149 submissions. The papers are organized around the following topics: big data; data analysis and data modeling; data mining; databases and data management; information retrieval; prediction and decision support.

This two volume set of LNCS 11029 and LNCS 11030 constitutes the refereed proceedings of the 29th International Conference on Database and Expert Systems Applications, DEXA 2018, held in Regensburg, Germany, in September 2018. The 35 revised full papers presented together with 40 short papers were carefully reviewed and selected from 160 submissions. The papers of the first volume discuss a range of topics including: Big data analytics; data integrity and privacy; decision support systems; data semantics; cloud data processing; time series data; social networks; temporal and spatial databases; and graph data and road networks. The papers of the second volume discuss a range of the following topics: Information retrieval; uncertain information; data warehouses and recommender systems; data streams; information networks and algorithms; database system architecture and performance; novel database solutions; graph querying and databases; learning; emerging applications; data mining; privacy; and text processing.

This two volume set LNCS 9827 and LNCS 9828 constitutes the refereed proceedings of the 27th International Conference on Database and Expert Systems Applications, DEXA 2016, held in Porto, Portugal, September 2016. The 39 revised full papers presented together with 29 short papers were carefully reviewed and selected from 137 submissions. The papers discuss a range of topics including: Temporal, Spatial, and High Dimensional Databases; Data Mining; Authenticity, Privacy, Security, and Trust; Data Clustering; Distributed and Big Data Processing; Decision Support Systems, and Learning; Data Streams; Data Integration, and Interoperability; Semantic Web, and Data Semantics; Social Networks, and Network Analysis; Linked Data; Data Analysis; NoSQL, NewSQL; Multimedia Data; Personal Information Management; Semantic Web and Ontologies; Database and Information System Architectures; Query Answering and Optimization; Information Retrieval, and Keyword Search; Data Modelling, and Uncertainty.

**Industrial and Engineering Applications of Artificial Intelligence and Expert Systems
Proceedings of the Tenth International Conference
Database and Expert Systems Applications
29th International Conference, DEXA 2018, Regensburg, Germany, September 3–6, 2018, Proceedings, Part II
33rd International Conference, DEXA 2022, Vienna, Austria, August 22–24, 2022, Proceedings, Part II**

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 query processing; database semantics; skyline queries; security and privacy; spatial and temporal data; semantic web search; storage and search; web search; data integration, transactions and optimization; and web applications.

This volume constitutes the refereed proceedings of the workshops held at the 32nd International Conference on Database and Expert Systems Applications, DEXA 2021, held in a virtual format in September 2021: The 12th International Workshop on Biological Knowledge Discovery from Data (BIOKDD 2021), the 5th International Workshop on Cyber-Security and Functional Safety in Cyber-Physical Systems (IWCFSS 2021), the 3rd International Workshop on Machine Learning and Knowledge Graphs (MLKgraphs 2021), the 1st International Workshop on Artificial Intelligence for Clean, Affordable and Reliable Energy Supply (AI-CARES 2021), the 1st International Workshop on Time Ordered Data (ProTime2021), and the 1st International Workshop on AI System Engineering: Math, Modelling and Software (AISys2021). Due to the COVID-19 pandemic the conference and workshops were held virtually. The 23 papers were thoroughly reviewed and selected from 50 submissions, and discuss a range of topics including: knowledge discovery, biological data, cyber security, cyber-physical system, machine learning, knowledge graphs, information retriever, data base, and artificial intelligence.

Use and development of database and expert systems can be found in all fields of computer science. The aim of this book is to present a large spectrum of already implemented or just being developed database and expert systems. Contributions cover new requirements, concepts for implementations (e.g. languages, models, storage structures), management of meta data, system architectures, and experiences gained by using traditional databases in as many areas of applications as possible (at least in the fields listed). The aim of the book is to inspire a fruitful dialogue between development in practice, users of database and expert systems, and scientists working in the field.

Fuzzy Expert Systems and Applications in Agricultural Diagnosis

Reasoning with Limited Knowledge
Database and Expert Systems Applications - DEXA 2021 Workshops
Intelligent Systems: Concepts, Methodologies, Tools, and Applications
Proceedings of the International Conference, Valencia, Spain, 1992

A boy & his grandparents live near a cursed wood. The boy longs for a dog - but the ungainly creature found by his grandfather hardly fits his image of the perfect pet. But then the dog starts to grow human ears!

This two-volume set, LNCS 13426 and 13427, constitutes the thoroughly refereed proceedings of the 33rd International Conference on Database and Expert Systems Applications, DEXA 2022, held in Vienna in August 2022. The 43 full papers presented together with 20 short papers in these volumes were carefully reviewed and selected from a total of 120 submissions. The papers are organized around the following topics: Big Data Management and Analytics, Consistency, Integrity, Quality of Data, Constraint Modelling and Processing, Database Federation and Integration, Interoperability, Multi-Databases, Data and Information Semantics, Data Integration, Metadata Management, and Interoperability, Data Structures and much more.

Proceedings. 13th International Workshop on Database and Expert Systems Applications

Expert Clouds and Applications
Proceedings of Second International Conference on Sustainable Expert Systems
Proceedings of International Conference on Sustainable Expert Systems
Proceedings. Tenth International Workshop on Database and Expert Systems Applications, DEXA 99

This book includes papers on intelligent expert systems and sustainability applications in the areas of data science, image processing, wireless communication, risk assessment, healthcare, intelligent social network mining, and energy. The recent growth of sustainability leads to a progressively new era of computing, where its design and deployment leverages significant impact on the intelligent systems research. Moreover, the sustainability technologies can be effectively used in the progressive deployment of various network-enabled technologies like intelligent sensors, smart cities, wearable technologies, robotics, web applications and other such Internet technologies. The thrust of this book is to publish the state-of-the-art research articles that deals with the design, development, implementation and testing of the intelligent expert systems and also to provide an overview of the sustainable management of these systems.

This two volume set LNCS 10438 and LNCS 10439 constitutes the refereed proceedings of the 28th International Conference on Database and Expert Systems Applications, DEXA 2017, held in Lyon, France, August 2017. The 37 revised full papers presented together with 40 short papers were carefully reviewed and selected from 166 submissions. The papers discuss a range of topics including: Semantic Web and Semantics; Graph Matching; Data Modeling, Data Abstraction, and Uncertainty; Preferences and Query Optimization; Data Integration and RDF Matching; Security and Privacy; Web Search; Data Clustering; Top-K and Skyline Queries; Data Mining and Big Data; Service Computing; Continuous and Temporal Data, and Continuous Query Language; Text Processing and Semantic Search; Indexing and Concurrency Control Methods; Data Warehouse and Data Stream Warehouse; Data Mining and Machine Learning; Recommender Systems and Query Recommendation; Graph Algorithms; Semantic Clustering and Data Classification.

The beginning of the age of artificial intelligence and machine learning has created new challenges and opportunities for data analysts, statisticians, mathematicians, econometricians, computer scientists and many others. At the root of these techniques are algorithms and methods for clustering and classifying different types of large datasets, including time series data. Time Series Clustering and Classification includes relevant developments on observation-based, feature-based and model-based traditional and fuzzy clustering methods, feature-based and model-based classification methods, and machine learning methods. It presents a broad and self-contained overview of techniques for both researchers and students. Features Provides an overview of the methods and applications of pattern recognition of time series Covers a wide range of techniques, including unsupervised and supervised approaches Includes a range of real examples from medicine, finance, environmental science, and more R and MATLAB code, and relevant data sets are available on a supplementary website

Proceedings 11th International Workshop on Database and Expert Systems Applications

Fuzzy Sets, Decision Making, and Expert Systems
17th International Conference, DEXA 2006, Krakow, Poland, September 4-8, 2006, Proceedings

Proceedings of the International Conference in Vienna, Austria, 1990

Database and expert systems applications

This book features high quality research papers presented at the 2nd International Conference on Sustainable Expert Systems (ICSES 2021), held in Nepal during September 17-18, 2021. The book focusses on the research information related to artificial intelligence, sustainability, and expert systems applied in almost all the areas of industries, government sectors, and educational institutions worldwide. The conference papers that deal with the design, implementation, development, testing, and management of intelligent and sustainable expert systems and also to provide both theoretical and practical guidelines for the deployment of these systems.

This book features original papers from International Conference on Expert Clouds and Applications (ICOECA 2021), organized by GITAM School of Technology, Bangalore, India during February 18-19, 2021. It covers new research insights on artificial intelligence, big data, cloud computing, sustainability, and knowledge-based expert systems. The book discusses innovative research from all aspects of experimental domains that pertain to the expert systems, sustainable clouds, and artificial intelligence technologies.

"This book examines the use of fuzzy expert systems in the agricultural field"--Provided by publisher.

6th International Conference, UAHCI 2011, Held as Part of HCI International 2011, Orlando, FL, USA, July 9-14, 2011, Proceedings

Universal Access in Human-Computer Interaction. Design for All and Inclusion

28th International Conference, DEXA 2017, Lyon, France, August 28-31, 2017, Proceedings, Part II

Proceedings of ICOECA 2021

Probabilistic Networks and Expert Systems

The field of artificial intelligence has been maturing for a number of years and has inspired many researchers to produce innovative intelligent systems to demonstrate the capability of intelligent machines and their success in solving human problems. Only recently, however, have intelligent systems shown progress in demonstrating success in real-life applications, particularly in industrial environments. Many organizations have successfully used at least some limited aspects of intelligent research in their day-to-day operations. The objectives of this volume are to focus on these real-life applications and report a comprehensive view of the theoretical and applied aspects of intelligent systems technology. The most recent work in industrial, commercial, military, and academic environments is summarized, including 61 state-of-the-art reports on active research applied to real world problems.

This work represents a broad spectrum of new ideas in the field of applied artificial intelligence and expert systems, and serves to disseminate information regarding intelligent methodologies and their implementation in solving various problems in industry and engineering. Many innovative artificial intelligence (AI) systems have emerged as the result of engineering machines to think like humans and perform intelligent functions. However, only recently have intelligent systems been applied to solve real life problems.

Ongoing advancements in modern technology have led to significant developments in intelligent systems. With the numerous applications available, it becomes imperative to conduct research and make further progress in this field. Intelligent Systems: Concepts, Methodologies, Tools, and Applications contains a compendium of the latest academic material on the latest breakthroughs and recent progress in intelligent systems. Including innovative studies on information retrieval, artificial intelligence, and software engineering, this multi-volume book is an ideal source for researchers, professionals, academics, upper-level students, and practitioners interested in emerging perspectives in the field of intelligent systems.

BIOKDD, IWCFSS, MLKgraphs, AI-CARES, ProTime, AISys 2021, Virtual Event, September 27-30, 2021, Proceedings

Exact Computational Methods for Bayesian Networks

ICSES 2020

22nd International Conference, DEXA 2011, Toulouse, France, August 29 - September 2, 2011, Proceedings

26th International Conference, DEXA 2015, Valencia, Spain, September 1-4, 2015, Proceedings

The work reviewed in this book represents the synthesis of two important developments in modelling of complex stochastic phenomena. The book gives a thorough and rigorous mathematical treatment of the underlying ideas, structures, and algorithms.

Concepts, Methodologies, Tools, and Applications

ICSES 2021

... International Conference, DEXA ... : Proceedings

28th International Conference, DEXA 2017, Lyon, France, August 28-31, 2017, Proceedings, Part I

27th International Conference, DEXA 2016, Porto, Portugal, September 5-8, 2016, Proceedings