

# A Belief Rule Based Expert System To Diagnose Measles

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Fuzzy Systems: Concepts, Methodologies, Tools, and Applications  
- Management Association, Information Resources 2017-02-22

There are a myriad of mathematical problems that cannot be solved using traditional methods. The development of fuzzy expert systems has provided new opportunities for problem-solving amidst uncertainties. Fuzzy Systems: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source on the latest scholarly research and developments in fuzzy rule-based methods and examines both theoretical foundations and real-world utilization of these logic sets. Featuring a range of extensive coverage across innovative topics, such as fuzzy logic, rule-based systems, and fuzzy analysis, this is an essential publication for scientists, doctors, engineers, physicians, and researchers interested in emerging perspectives and uses of fuzzy systems in various sectors.

Proceedings of the International Conference on Big Data, IoT, and Machine Learning - Mohammad Shamsul Arefin 2021-12-03

This book gathers a collection of high-quality peer-reviewed research papers presented at the International Conference on Big Data, IoT and Machine Learning (BIM 2021), held in Cox's Bazar, Bangladesh, during 23-25 September 2021. The book covers research papers in the field of big data, IoT and machine

learning. The book will be helpful for active researchers and practitioners in the field.

**Approximating Belief Functions in a Rule-Based System** - William F. Eddy 1987

Rule-based expert systems have moved from a research activity in a small number of academic computer science departments to a growing commercial activity. This transition clearly indicates that the structure of a complex computer program enforced by a rule-based system (namely, the clear separation of the decision-making process, the inference engine, from the data on which the decisions are based, the rule base is a useful step in the evolution of programming strategies. At the same time there has been a growing recognition that in most decision-making situations the data (namely, the rule base and the initial evidence used to start the decision-making process) are not known with certainty and consequently the inference procedures used in traditional rule-based systems are inappropriate. Over the last decade a number of inference procedures which use various numerical representations of uncertainty have been developed for use in rule-based systems. However, for a variety of reasons (including the fact that there is little logical basis for the representations) none of them has been widely successful. This paper describes

the current state of an ongoing research project which is attempting to use probability as the mechanism for representing uncertainty in a rule-based system.

*Advances in Artificial Intelligence, Computation, and Data Science* - Tuan D. Pham 2021-07-12

Artificial intelligence (AI) has become pervasive in most areas of research and applications. While computation can significantly reduce mental efforts for complex problem solving, effective computer algorithms allow continuous improvement of AI tools to handle complexity—in both time and memory requirements—for machine learning in large datasets. Meanwhile, data science is an evolving scientific discipline that strives to overcome the hindrance of traditional skills that are too limited to enable scientific discovery when leveraging research outcomes.

Solutions to many problems in medicine and life science, which cannot be answered by these conventional approaches, are urgently needed for society. This edited book attempts to report recent advances in the complementary domains of AI, computation, and data science with applications in medicine and life science. The benefits to the reader are manifold as researchers from similar or different fields can be aware of advanced developments and novel applications that can be useful for either immediate implementations or future scientific pursuit. Features: Considers recent advances in AI, computation, and data science for solving complex problems in medicine, physiology, biology, chemistry, and biochemistry Provides recent developments in three evolving key areas and their complementary combinations: AI, computation, and data science Reports on applications in medicine and physiology, including cancer, neuroscience, and digital pathology Examines applications in life science, including systems biology, biochemistry, and even food technology This unique book, representing research from a team of international contributors, has not only real utility in academia for those in the medical and

life sciences communities, but also a much wider readership from industry, science, and other areas of technology and education.

*Electronic Government and Electronic Participation* - M.F.W.H.A. Janssen 2014-08-19

Electronic media and ICT have become indispensable in the fields of public governance, policy-making and public service provision. E-government research demonstrates its relevance to practice, influencing and shaping government strategies and implementations. The way in which technology can enable and enhance public participation in government is of particular importance. This book presents the proceedings of the ongoing research of the IFIP EGOV and ePart conferences, jointly held at Trinity College Dublin, Ireland, in September 2014. Included are 24 ongoing research papers, case studies and posters from the EGOV conference, grouped into the sections: stakeholders and participation; open data and interoperability; ICT-enabled policy-making; services; design, architecture and processes; and evaluation and public values. From the ePart conference, 5 ongoing research papers are included. The book also includes workshops from both conferences. IFIP EGOV and ePart bring together the scientific research community in e-government from all over the world, and this book will be of interest to all those involved in public governance and service provision.

**Neural Information Processing** - Teddy Mantoro 2021-12-04

The four-volume proceedings LNCS 13108, 13109, 13110, and 13111 constitutes the proceedings of the 28th International Conference on Neural Information Processing, ICONIP 2021, which was held during December 8-12, 2021. The conference was planned to take place in Bali, Indonesia but changed to an online format due to the COVID-19 pandemic. The total of 226 full papers presented in these proceedings was carefully reviewed and selected from 1093 submissions. The papers were organized in topical sections as follows: Part I: Theory and algorithms; Part II: Theory and algorithms; human centred computing; AI and

cybersecurity; Part III: Cognitive neurosciences; reliable, robust, and secure machine learning algorithms; theory and applications of natural computing paradigms; advances in deep and shallow machine learning algorithms for biomedical data and imaging; applications; Part IV: Applications.

**Artificial Intelligence and Soft Computing** - Leszek Rutkowski 2013-06-04

The two-volume set LNAI 7894 and LNCS 7895 constitutes the refereed proceedings of the 12th International Conference on Artificial Intelligence and Soft Computing, ICAISC 2013, held in Zakopane, Poland in June 2013. The 112 revised full papers presented together with one invited paper were carefully reviewed and selected from 274 submissions. The 57 papers included in the first volume are organized in the following topical sections: neural networks and their applications; fuzzy systems and their applications; pattern classification; and computer vision, image and speech analysis.

**Soft Computing in Economics and Finance** - Ludmila Dymowa 2011-01-21

Currently the methods of Soft Computing are successfully used for risk analysis in: budgeting, e-commerce development, portfolio selection, Black-Scholes option pricing models, corporate acquisition systems, evaluating investments in advanced manufacturing technology, interactive fuzzy interval reasoning for smart web shopping, fuzzy scheduling and logistic. An essential feature of economic and financial problems is that there are always at least two criteria to be taken into account: profit maximization and risk minimization. Therefore, the economic and financial problems are multiple criteria ones. In this book, a new systematization of the problems of multiple criteria decision making is proposed which allows the author to reveal unsolved problems. The solutions of them are presented as well and implemented to deal with some important real-world problems such as investment project's evaluation, tool steel

material selection problem, stock screening and fuzzy logistic. It is well known that the best results in real-world applications can be obtained using the synthesis of modern methods of soft computing. Therefore, the developed by the author new approach to building effective stock trading systems, based on the synthesis of fuzzy logic and the Dempster-Shafer theory, seems to be a considerable contribution to the application of soft computing method in economics and finance. An important problem of capital budgeting is the fuzzy evaluation of the Internal Rate of Return. In this book, this problem is solved using a new method which makes it possible to solve linear and nonlinear interval and fuzzy equations and systems of them. The developed new method allows the author to obtain an effective solution of the Leontjev's input-output problem in the interval setting.

**Big Data** - Zongben Xu 2018-10-10

This volume constitutes the proceedings of the 6th CCF Conference, Big Data 2018, held in Xi'an, China, in October 2018. The 32 revised full papers presented in this volume were carefully reviewed and selected from 880 submissions. The papers are organized in topical sections on natural language processing and text mining; big data analytics and smart computing; big data applications; the application of big data in machine learning; social networks and recommendation systems; parallel computing and storage of big data; data quality control and data governance; big data system and management.

**Intelligent Decision Making Systems** - 2010

ISKE2009 is the fourth in a series of conferences on Intelligent Systems and Knowledge Engineering. The ISKE2009 proceedings covers state-of-the-art research and development in various areas of Intelligent Systems and Knowledge Engineering, particularly of Intelligent Decision Making Systems. Sample Chapter(s). Chapter 1: Applications of Intelligent Systems in Transportation Logistics (1,389 KB). Contents: Computational Intelligence and Expert Systems; Data Mining and Data Analysis; Intelligent Decision

Support Systems; Intelligent Information Processing; Knowledge Representation and Learning.

**Applications of Big Data Analytics** - Mohammed M. Alani  
2018-07-23

This timely text/reference reviews the state of the art of big data analytics, with a particular focus on practical applications. An authoritative selection of leading international researchers present detailed analyses of existing trends for storing and analyzing big data, together with valuable insights into the challenges inherent in current approaches and systems. This is further supported by real-world examples drawn from a broad range of application areas, including healthcare, education, and disaster management. The text also covers, typically from an application-oriented perspective, advances in data science in such areas as big data collection, searching, analysis, and knowledge discovery. Topics and features: Discusses a model for data traffic aggregation in 5G cellular networks, and a novel scheme for resource allocation in 5G networks with network slicing Explores methods that use big data in the assessment of flood risks, and apply neural networks techniques to monitor the safety of nuclear power plants Describes a system which leverages big data analytics and the Internet of Things in the application of drones to aid victims in disaster scenarios Proposes a novel deep learning-based health data analytics application for sleep apnea detection, and a novel pathway for diagnostic models of headache disorders Reviews techniques for educational data mining and learning analytics, and introduces a scalable MapReduce graph partitioning approach for high degree vertices Presents a multivariate and dynamic data representation model for the visualization of healthcare data, and big data analytics methods for software reliability assessment This practically-focused volume is an invaluable resource for all researchers, academics, data scientists and business professionals involved in the planning, designing, and implementation of big data analytics

projects. Dr. Mohammed M. Alani is an Associate Professor in Computer Engineering and currently is the Provost at Al Khawarizmi International College, Abu Dhabi, UAE. Dr. Hissam Tawfik is a Professor of Computer Science in the School of Computing, Creative Technologies & Engineering at Leeds Beckett University, UK. Dr. Mohammed Saeed is a Professor in Computing and currently is the Vice President for Academic Affairs and Research at the University of Modern Sciences, Dubai, UAE. Dr. Obinna Anya is a Research Staff Member at IBM Research - Almaden, San Jose, CA, USA.

**Brain Informatics** - Mufti Mahmud 2021-09-15

This book constitutes the refereed proceedings of the 14th International Conference on Brain Informatics, BI 2021, held in September 2021. The conference was held virtually due to the COVID-19 pandemic. The 49 full and 2 short papers together with 18 abstract papers were carefully reviewed and selected from 90 submissions. The papers are organized in the following topical sections: cognitive and computational foundations of brain science; investigations of human information processing systems; brain big data analytics, curation and management; informatics paradigms for brain and mental health research; and brain-machine intelligence and brain-inspired computing.

*Uncertainty Modeling in Knowledge Engineering and Decision Making* - 2012

FLINS, originally an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science, is now extended to Computational Intelligence for applied research. The contributions to the 10th of FLINS conference cover state-of-the-art research, development, and technology for computational intelligence systems, both from the foundations and the applications points-of-view. Sample Chapter(s). Foreword (55 KB). Evaluation of Manufacturing Technology of Photovoltaic Cells (124 KB). Contents: Decision Making and Decision Support Systems; Uncertainty Modeling; Foundations of Computational

Intelligence; Statistics, Data Analysis and Data Mining; Intelligent Information Processing; Productivity and Reliability; Applied Research. Readership: Graduate students, researchers, and academics in artificial intelligence/machine learning, information management, decision sciences, databases/information sciences and fuzzy logic.

**Wireless Sensor Network Based Flood Prediction Using Belief Rule Based Expert System** - Raihan Ul Islam 2017

**Proceedings of the 9th International Conference on Computer Recognition Systems CORES 2015** - Robert Burduk 2016-03-05

The computer recognition systems are nowadays one of the most promising directions in artificial intelligence. This book is the most comprehensive study of this field. It contains a collection of 79 carefully selected articles contributed by experts of pattern recognition. It reports on current research with respect to both methodology and applications. In particular, it includes the following sections: Features, learning, and classifiers Biometrics Data Stream Classification and Big Data Analytics Image processing and computer vision Medical applications Applications RGB-D perception: recent developments and applications This book is a great reference tool for scientists who deal with the problems of designing computer pattern recognition systems. Its target readers can be the as well researchers as students of computer science, artificial intelligence or robotics.

**Intelligent Computing and Optimization** - Pandian Vasant 2021-02-07

Third edition of International Conference on Intelligent Computing and Optimization and as a premium fruit, this book, pursue to gather research leaders, experts and scientists on Intelligent Computing and Optimization to share knowledge, experience and current research achievements. Conference and book provide a unique opportunity for the global community to

interact and share novel research results, explorations and innovations among colleagues and friends. This book is published by SPRINGER, Advances in Intelligent Systems and Computing. Ca. 100 authors submitted full papers to ICO'2020. That global representation demonstrates the growing interest of the research community here. The book covers innovative and creative research on sustainability, smart cities, meta-heuristics optimization, cyber-security, block chain, big data analytics, IoTs, renewable energy, artificial intelligence, Industry 4.0, modeling and simulation. We editors thank all authors and reviewers for their important service. Best high-quality papers have been selected by the International PC for our premium series with SPRINGER.

**Developments Of Artificial Intelligence Technologies In Computation And Robotics - Proceedings Of The 14th International Flins Conference (Flins 2020)** - Zhong Li 2020-08-04

FLINS, an acronym introduced in 1994 and originally for Fuzzy Logic and Intelligent Technologies in Nuclear Science, is now extended into a well-established international research forum to advance the foundations and applications of computational intelligence for applied research in general and for complex engineering and decision support systems. The principal mission of FLINS is bridging the gap between machine intelligence and real complex systems via joint research between universities and international research institutions, encouraging interdisciplinary research and bringing multidiscipline researchers together. FLINS 2020 is the fourteenth in a series of conferences on computational intelligence systems.

**Optimizing Hyperparameters for Machine Learning Algorithms in Production** - Jonathan Krauß 2022-04-13

Machine learning (ML) offers the potential to train data-based models and therefore to extract knowledge from data. Due to an increase in networking and digitalization, data and consequently

the application of ML are growing in production. The creation of ML models includes several tasks that need to be conducted within data integration, data preparation, modeling, and deployment. One key design decision in this context is the selection of the hyperparameters of an ML algorithm – regardless of whether this task is conducted manually by a data scientist or automatically by an AutoML system. Therefore, data scientists and AutoML systems rely on hyperparameter optimization (HPO) techniques: algorithms that automatically identify good hyperparameters for ML algorithms. The selection of the HPO technique is of great relevance, since it can improve the final performance of an ML model by up to 62 % and reduce its errors by up to 95 %, compared to computing with default values. As the selection of the HPO technique depends on different domain-specific influences, it becomes more and more popular to use decision support systems to facilitate this selection. Since no approach exists, which covers the requirements from the production domain, the main research question of this thesis was: Can a decision support system be developed that supports in the selecting of HPO techniques in the production domain?

*Applied Intelligence and Informatics* - Mufti Mahmud 2021-07-27

This book constitutes the refereed proceedings of the First International Conference on Applied Intelligence and Informatics, AII 2021, held in Nottingham, UK, in July 2021. Due to the COVID-19 pandemic the conference was held in a fully virtual mode. The 26 full papers and 4 short papers presented were thoroughly reviewed and selected from the total 107 submissions. They are organized in the following topical sections: application of AI and informatics in disease detection; application of AI and informatics in healthcare; application of AI and informatics in pattern recognition; application of AI and informatics in network, security, and analytics; emerging applications of AI and informatics.

Knowledge and Systems Sciences - Jian Chen 2018-10-30

This book constitutes the refereed proceedings of the 19th International Symposium, KSS 2019, held in Tokyo, Japan, in November 2018. The 20 revised full papers presented were carefully reviewed and selected from 54 submissions. This year KSS 2018 provides opportunities for presenting interesting new research results, facilitating interdisciplinary discussions, and leading to knowledge transfer under the theme of "Knowledge Acquisition from Structured and Unstructured Data for Effective Social Implementation".

**Machine Learning, Big Data, and IoT for Medical Informatics** - Pardeep Kumar 2021-06-13

Machine Learning, Big Data, and IoT for Medical Informatics focuses on the latest techniques adopted in the field of medical informatics. In medical informatics, machine learning, big data, and IOT-based techniques play a significant role in disease diagnosis and its prediction. In the medical field, the structure of data is equally important for accurate predictive analytics due to heterogeneity of data such as ECG data, X-ray data, and image data. Thus, this book focuses on the usability of machine learning, big data, and IOT-based techniques in handling structured and unstructured data. It also emphasizes on the privacy preservation techniques of medical data. This volume can be used as a reference book for scientists, researchers, practitioners, and academicians working in the field of intelligent medical informatics. In addition, it can also be used as a reference book for both undergraduate and graduate courses such as medical informatics, machine learning, big data, and IoT. Explains the uses of CNN, Deep Learning and extreme machine learning concepts for the design and development of predictive diagnostic systems. Includes several privacy preservation techniques for medical data. Presents the integration of Internet of Things with predictive diagnostic systems for disease diagnosis. Offers case studies and applications relating to machine learning, big data, and health care analysis.

Statistical Implicative Analysis - Régis Gras 2008-04-29

Statistical implicative analysis is a data analysis method created by Régis Gras almost thirty years ago which has a significant impact on a variety of areas ranging from pedagogical and psychological research to data mining. Statistical implicative analysis (SIA) provides a framework for evaluating the strength of implications; such implications are formed through common knowledge acquisition techniques in any learning process, human or artificial. This new concept has developed into a unifying methodology, and has generated a powerful convergence of thought between mathematicians, statisticians, psychologists, specialists in pedagogy and last, but not least, computer scientists specialized in data mining. This volume collects significant research contributions of several rather distinct disciplines that benefit from SIA. Contributions range from psychological and pedagogical research, bioinformatics, knowledge management, and data mining.

**Database and Expert Systems Applications** - Pablo García Bringas 2010-08-18

This book constitutes the refereed proceedings of the 21 International Conference on Database and Expert Systems Applications, DEXA 2010, held in Bilbao, Spain, August 30 - September 3, 2010. The 45 revised full papers and 36 short papers were carefully reviewed and selected from 197 submissions. The papers are organized in topical sections on Data Mining Systems, Parallelism and Query Planning, Data Warehousing and Decision Support Systems, Temporal, Spatial and High Dimensional Databases, Data Mining Algorithms, Information Retrieval, Query Processing and Optimization.

*COVID-19: Prediction, Decision-Making, and its Impacts* - K.C. Santosh 2020-12-11

The book aims to outline the issues of AI and COVID-19, involving predictions, medical support decision-making, and possible impact on human life. Starting with major COVID-19 issues and

challenges, it takes possible AI-based solutions for several problems, such as public health surveillance, early (epidemic) prediction, COVID-19 positive case detection, and robotics integration against COVID-19. Beside mathematical modeling, it includes the necessity of changes in innovations and possible COVID-19 impacts. The book covers a clear understanding of AI-driven tools and techniques, where pattern recognition, anomaly detection, machine learning, and data analytics are considered. It aims to include the wide range of audiences from computer science and engineering to healthcare professionals.

Fuzzy Expert Systems for Disease Diagnosis - Kumar, A.V. Senthil 2014-11-30

The development of fuzzy expert systems has provided new opportunities for problem solving amidst uncertainties. The medical field, in particular, has benefitted tremendously from advancing fuzzy system technologies. Fuzzy Expert Systems for Disease Diagnosis highlights the latest research and developments in fuzzy rule-based methods used in the detection of medical complications and illness. Offering emerging solutions and practical applications, this timely publication is designed for use by researchers, academicians, and students, as well as practitioners in the medical field.

**Rule-based Expert Systems** - Bruce G. Buchanan 1984

Artificial intelligence, or AI, is largely an experimental science--at least as much progress has been made by building and analyzing programs as by examining theoretical questions. MYCIN is one of several well-known programs that embody some intelligence and provide data on the extent to which intelligent behavior can be programmed. As with other AI programs, its development was slow and not always in a forward direction. The book shares the results of nearly a decade of work, the experiments performed, and present a coherent picture of the work. It presents a critical analysis of several pieces of related research, performed by a large number of scientists. The whole field of AI will benefit from

detailed, retrospective examinations of experiments, for this is the way the scientific foundations of the field will gradually be defined. This is the reason this analysis of the MCYIN experiments is being offered to readers.

**Information Processing and Management of Uncertainty in Knowledge-Based Systems** - Davide Ciucci 2022-07-04

This two-volume set (CCIS 1601-1602) constitutes the proceedings of the 19th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2021, held in Milan, Italy, in July 2022. The 124 papers were carefully reviewed and selected from 188 submissions. The papers are organized in topical sections as follows: aggregation theory beyond the unit interval; formal concept analysis and uncertainty; fuzzy implication functions; fuzzy mathematical analysis and its applications; generalized sets and operators; information fusion techniques based on aggregation functions, pre-aggregation functions, and their generalizations; interval uncertainty; knowledge acquisition, representation and reasoning; logical structures of opposition and logical syllogisms; mathematical fuzzy logics; theoretical and applied aspects of imprecise probabilities; data science and machine learning; decision making modeling and applications; e-health; fuzzy methods in data mining and knowledge discovery; soft computing and artificial intelligence techniques in image processing; soft methods in statistics and data analysis; uncertainty, heterogeneity, reliability and explainability in AI; weak and cautious supervised learning.

**Digital Health Transformation with Blockchain and Artificial Intelligence** - Chinmay Chakraborty 2022-05-11

The book Digital Health Transformation with Blockchain and Artificial Intelligence covers the global digital revolution in the field of healthcare sector. The population has been overcoming the COVID-19 period; therefore, we need to establish intelligent digital healthcare systems using various emerging technologies

like Blockchain and Artificial Intelligence. Internet of Medical Things is the technological revolution that has included the element of "smartness" in the healthcare industry and also identifying, monitoring, and informing service providers about the patient's clinical information with faster delivery of care services. This book highlights the important issues i.e. (a) How Internet of things can be integrated with the healthcare ecosystem for better diagnostics, monitoring, and treatment of the patients, (b) Artificial Intelligence for predictive and preventive healthcare systems, (c) Blockchain for managing healthcare data to provide transparency, security, and distributed storage, and (d) Effective remote diagnostics and telemedicine approach for developing smart care. The book encompasses chapters belong to the blockchain, Artificial Intelligence, and Big health data technologies. Features: Blockchain and internet of things in healthcare systems Secure Digital Health Data Management in Internet of Things Public Perception towards AI-Driven Healthcare Security, privacy issues and challenges in adoption of smart digital healthcare Big data analytics and Internet of things in the pandemic era Clinical challenges for digital health revolution Artificial intelligence for advanced healthcare Future Trajectory of Healthcare with Artificial Intelligence 9 Parkinson disease pre-diagnosis using smart technologies Emerging technologies to combat the COVID-19 Machine Learning and Internet of Things in Digital Health Transformation Effective Remote Healthcare and Telemedicine Approaches Legal implication of blockchain technology in public health This Book on "Digital Health Transformation with Blockchain and Artificial Intelligence" aims at promoting and facilitating exchanges of research knowledge and findings across different disciplines on the design and investigation of secured healthcare data analytics. It can also be used as a textbook for a Masters course in security and biomedical engineering. This book will also present new methods for the medical data analytics, blockchain technology,



and diagnosis of different diseases to improve the quality of life in general, and better integration into digital healthcare.

**Application of Big Data, Blockchain, and Internet of Things for Education Informatization** - Mian Ahmad Jan 2021-10-12

This two-volume set constitutes the refereed proceedings of the First International Conference International Conference on Application of Big Data, Blockchain, and Internet of Things for Education Informatization. The conference was held in August 2021 and due to COVID-19 pandemic virtually. The 99 revised full papers and 45 short papers have been selected from 503 submissions. The papers describe research fields such as “big data” and “information education”. The aim of the conference is to provide international cooperation and exchange platforms for big data and information education experts, scholars and enterprise developers to share research results, discuss existing problems and challenges, and explore cutting-edge science and technology.

**Emerging Trends and Advanced Technologies for Computational Intelligence** - Liming Chen 2016-06-06

This book is a collection of extended chapters from the selected papers that were published in the proceedings of Science and Information (SAI) Conference 2015. It contains twenty-one chapters in the field of Computational Intelligence, which received highly recommended feedback during SAI Conference 2015 review process. During the three-day event 260 scientists, technology developers, young researcher including PhD students, and industrial practitioners from 56 countries have engaged intensively in presentations, demonstrations, open panel sessions and informal discussions.

**Decision Aid Models for Disaster Management and Emergencies** - Begoña Vitoriano 2013-01-26

Disaster management is a process or strategy that is implemented when any type of catastrophic event takes place. The process may be initiated when anything threatens to disrupt

normal operations or puts the lives of human beings at risk. Governments on all levels as well as many businesses create some sort of disaster plan that make it possible to overcome the catastrophe and return to normal function as quickly as possible. Response to natural disasters (e.g., floods, earthquakes) or technological disaster (e.g., nuclear, chemical) is an extreme complex process that involves severe time pressure, various uncertainties, high non-linearity and many stakeholders. Disaster management often requires several autonomous agencies to collaboratively mitigate, prepare, respond, and recover from heterogeneous and dynamic sets of hazards to society. Almost all disasters involve high degrees of novelty to deal with most unexpected various uncertainties and dynamic time pressures. Existing studies and approaches within disaster management have mainly been focused on some specific type of disasters with certain agency oriented. There is a lack of a general framework to deal with similarities and synergies among different disasters by taking their specific features into account. This book provides with various decisions analysis theories and support tools in complex systems in general and in disaster management in particular. The book is also generated during a long-term preparation of a European project proposal among most leading experts in the areas related to the book title. Chapters are evaluated based on quality and originality in theory and methodology, application oriented, relevance to the title of the book.

**Intelligent Computing & Optimization** - Pandian Vasant 2022-10-20

This book of Springer Nature is another proof of Springer’s outstanding and greatness on the lively interface of Smart Computational Optimization, Green ICT, Smart Intelligence and Machine Learning! It is a Master Piece of what our community of academics and experts can provide when an Interconnected Approach of Joint, Mutual and Meta Learning is supported by

Modern Operational Research and Experience of the World-Leader Springer Nature! The 5th edition of International Conference on Intelligent Computing and Optimization took place at October 27-28, 2022, via Zoom. Objective was to celebrate “Creativity with Compassion and Wisdom” with researchers, scholars, experts and investigators in Intelligent Computing and Optimization across the planet, to share knowledge, experience, innovation—a marvelous opportunity for discourse and mutuality by novel research, invention and creativity. This proceedings book of ICO’2022 is published by Springer Nature—Quality Label of wonderful.

**Uncertainty Modelling in Knowledge Engineering and Decision Making** - Xianyi Zeng 2016-07-14

FLINS, originally an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science, is now extended to include Computational Intelligence for applied research. The contributions to the 12th of FLINS conference cover state-of-the-art research, development, and technology for computational intelligence systems, both from the foundations and the applications points-of-view.

Proceedings of the Third International Conference on Trends in Computational and Cognitive Engineering - M. Shamim Kaiser 2022-02-28

This book presents various computational and cognitive modeling approaches in the areas of health, education, finance, environment, engineering, commerce, and industry. It is a collection of selected conference papers presented at the 3rd International Conference on Trends in Cognitive Computation Engineering (TCCE 2021), hosted online by Universiti Tun Hussein Onn Malaysia (UTHM) during October 21-22, 2021. It shares cutting-edge insights and ideas from mathematicians, engineers, scientists, and researchers and discusses fresh perspectives on problem solving in a range of research areas.

**International Conference on Applications and Techniques**

**in Cyber Intelligence ATCI 2019** - Jemal H. Abawajy 2019-07-31

This book presents innovative ideas, cutting-edge findings, and novel techniques, methods, and applications in a broad range of cybersecurity and cyberthreat intelligence areas. As our society becomes smarter, there is a corresponding need to be able to secure our cyberfuture. The approaches and findings described in this book are of interest to businesses and governments seeking to secure our data and underpin infrastructures, as well as to individual users.

**Proceedings of International Joint Conference on Advances in Computational Intelligence** - Mohammad Shorif Uddin 2021-05-17

This book gathers outstanding research papers presented at the International Joint Conference on Advances in Computational Intelligence (IJCACI 2020), organized by Daffodil International University (DIU) and Jahangirnagar University (JU) in Bangladesh and South Asian University (SAU) in India. These proceedings present novel contributions in the areas of computational intelligence and offer valuable reference material for advanced research. The topics covered include collective intelligence, soft computing, optimization, cloud computing, machine learning, intelligent software, robotics, data science, data security, big data analytics, and signal and natural language processing.

Proceedings of SAI Intelligent Systems Conference (IntelliSys) 2016 - Yaxin Bi 2017-08-19

These proceedings of the SAI Intelligent Systems Conference 2016 (IntelliSys 2016) offer a remarkable collection of chapters on a wide range of topics in intelligent systems, artificial intelligence and their applications to the real world. Authors hailing from 56 countries on 5 continents submitted 404 papers to the conference, attesting to the global importance of the conference’s themes. After being reviewed, 222 papers were accepted for presentation, and 168 were ultimately selected for

these proceedings. Each has been reviewed on the basis of its originality, novelty and rigorousness. The papers not only present state-of-the-art methods and valuable experience from researchers in the related research areas; they also outline the field's future development.

*Cyber Security and Computer Science* - Touhid Bhuiyan  
2020-07-29

This book constitutes the refereed post-conference proceedings of the Second International Conference on Cyber Security and Computer Science, ICONCS 2020, held in Dhaka, Bangladesh, in February 2020. The 58 full papers were carefully reviewed and selected from 133 submissions. The papers detail new ideas, inventions, and application experiences to cyber security systems. They are organized in topical sections on optimization problems; image steganography and risk analysis on web applications; machine learning in disease diagnosis and monitoring; computer vision and image processing in health care; text and speech processing; machine learning in health care; blockchain applications; computer vision and image processing in health care; malware analysis; computer vision; future technology applications; computer networks; machine learning on imbalanced data; computer security; Bangla language processing.

**Advances in Software Engineering, Education, and e-Learning** - Hamid R. Arabnia 2021-09-09

This book presents the proceedings of four conferences: The 16th International Conference on Frontiers in Education: Computer Science and Computer Engineering + STEM (FECS'20), The 16th International Conference on Foundations of Computer Science (FCS'20), The 18th International Conference on Software Engineering Research and Practice (SERP'20), and The 19th International Conference on e-Learning, e-Business, Enterprise Information Systems, & e-Government (EEE'20). The conferences

took place in Las Vegas, NV, USA, July 27-30, 2020 as part of the larger 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20), which features 20 major tracks. Authors include academics, researchers, professionals, and students. This book contains an open access chapter entitled, "Advances in Software Engineering, Education, and e-Learning". Presents the proceedings of four conferences as part of the 2020 World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'20); Includes the tracks Computer Engineering + STEM, Foundations of Computer Science, Software Engineering Research, and e-Learning, e-Business, Enterprise Information Systems, & e-Government; Features papers from FECS'20, FCS'20, SERP'20, EEE'20, including one open access chapter.

**Advances in Artificial Intelligence** - Yasufumi Takama  
2022-02-25

This book contains extended versions of research papers presented at the international sessions at the 35th Annual Conference of the Japanese Society for Artificial Intelligence (JSAI2021), which was held online from June 8-11, 2021. The JSAI annual conferences are considered key events for our organization, and the international sessions held at these conferences play a key role for the society in its efforts to share Japan's research on artificial intelligence with other countries. The topics of the international sessions in JSAI2021 cover five categories: knowledge engineering, machine learning, agents, robots and real worlds, and human interface and education aid. From the papers submitted to those categories, papers of high quality were selected through the strict reviewing procedure. As a result, 19 papers are included in this book. From this book, readers can get an overview of recent Japan's research on artificial intelligence.