

Classic Works Of The Dempster Shafer Theory Of Belief Functions

Multimodal images carry available information that can be complementary, redundant information, and overcomes the various problems attached to the unimodal classification task, by modeling and combining these information together. Although, this classification gives acceptable classification results, it still does not reach the level of the visual perception model that has a great ability to classify easily observed scene thanks to the powerful mechanism of the human brain.

The five-volume set LNCS 7971-7975 constitutes the refereed proceedings of the 13th International Conference on Computational Science and Its Applications, ICCSA 2013, held in Ho Chi Minh City, Vietnam, in June 2013. Apart from the general track, ICCSA 2013 also include 33 special sessions and workshops, in various areas of computational sciences, ranging from computational science technologies, to specific areas of computational sciences, such as computer graphics and virtual reality. There are 46 papers from the general track, and 202 in special sessions and workshops.

This book constitutes the refereed proceedings of the 26th Australasian Joint Conference on Artificial Intelligence, AI 2013, held in Dunedin, New Zealand, in December 2013. The 35 revised full papers and 19 revised short papers presented were carefully reviewed and selected from 120 submissions. The papers are organized in topical sections as agents; AI applications; cognitive modelling; computer vision; constraint satisfaction, search and optimisation; evolutionary computation; game playing; knowledge representation and reasoning; machine learning and data mining; natural language processing and information retrieval; planning and scheduling.

The LNAI series reports state-of-the-art results in artificial intelligence research, development, education, at a high level and in both printed and electronic form. Enjoying tight cooperation with the R&D community, with numerous individuals, as well as with prestigious organizations and societies, LNAI has grown into the most comprehensive artificial intelligence research forum available. The scope of LNAI spans the whole range of artificial intelligence and intelligent information processing including interdisciplinary topics in a variety of application fields.

This book presents recently developed intelligent techniques with applications and theory in the area of engineering management. The involved applications of intelligent techniques such as neural networks, fuzzy sets, Tabu search, genetic algorithms, etc. will be useful for engineering managers, postgraduate students, researchers, and lecturers. The book has been written considering the contents of a classical engineering management book but intelligent techniques are used for handling the engineering management problem areas. This comprehensive characteristics of the book makes it an excellent reference for the solution of complex problems of engineering management. The authors of the chapters are well-known researchers with their previous works in the area of engineering management.

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 of the FLINS conference cover state-of-the-art research, development, and technology for computational intelligence systems, with special focuses on data science and knowledge engineering for sensing decision support, both from the foundations and the applications points-of-view.

The Internet of Things (IoT) and Big Data are hot topics in the world of intelligence operations and information gathering. This first-of-its-kind volume reveals the benefits of addressing these topics with the integration of Fusion of Information and Analytics Technologies (FIAT). The book explains how FIAT is materialized into decision support systems that are capable of supporting the prognosis, diagnosis, and prescriptive tasks within complex systems and organizations. This unique resource offers keen insight into how complex systems emerge from the integration of social and cognitive information, cyber and physical worlds, and the various models of decision-making and situational awareness. Practitioners also discover the central notions of analytics and information fusion. Moreover the book introduces propos such as integration through a FIAT computational model and applications at the systems level. This book concludes with a list of prospective research activities that can contribute towards the required FIAT integration for critical application domains such as energy, health, transport and defense and security.

How should thinkers cope with uncertainty? What makes their degrees of belief rational, and how should they reason about uncertain matters? In epistemology, recent research has attempted to answer these questions by developing formal models of ideally rational credences. However, we know from psychological research that perfect rationality is unattainable for human thinkers—and so this raises the question of how rational ideals can apply to human thinkers. A popular reply is that the more a thinker’s imperfectly rational credences approximate compliance with norms of ideal rationality, the better. But what exactly does this mean? Why is it better to be less irrational, if we can’t ever be completely rational? And what does being closer to ideally rational amount to? If ideal models of rationality are supposed to help us understand the rationality of human, imperfect thinkers, we need answers to these questions. Unsettled Thoughts breaks new ground in the study of rationality in providing these answers: we can explain why it’s better to be less irrational, because less irrational degrees of belief are generally more accurate and better at guiding our actions. Moreover, the way in which approximating ideal rationality is beneficial can be made formally precise by using a variety of distance measures that track the benefits of being more rational.

[Data Science and Knowledge Engineering for Sensing Decision Support](#)

[Degrees of Belief](#)

[10th International Conference, ICAISC 2010, Zakopane, Poland, June 13-17, 2010](#)

[Integrated Uncertainty in Knowledge Modelling and Decision Making](#)

[Database and Expert Systems Applications](#)

[Proceedings of the Seventh International Conference on Intelligent Systems and Knowledge Engineering, Beijing, China, Dec 2012 \(ISKE 2012\)](#)

[Proceedings of the 13th International FLINS Conference \(FLINS 2018\)](#)

[8th International Symposium, IJUKM 2020, Phuket, Thailand, November 11-13, 2020, Proceedings](#)

[Computational Science and Its Applications – ICCSA 2013](#)

[AI 2013: Advances in Artificial Intelligence](#)

[Information Fusion and Analytics for Big Data and IoT](#)

[Recent Developments in the Ordered Weighted Averaging Operators: Theory and Practice](#)

This book constitutes the refereed proceedings of the International Symposium on Integrated Uncertainty in Knowledge Modeling and Decision Making, IUKM 2013, held in Beijing China, in July 2013. The 19 revised full papers were carefully reviewed and selected from 49 submissions and are presented together with keynote and invited talks. The papers provide a wealth of new ideas and report both theoretical and applied research on integrated uncertainty modeling and management.

This work proposes the multilayered information fusion system MACRO (multilayer attribute-based conflict-reducing observation) and the ?BaTLCS (fuzzified balanced two-layer conflict solving) fusion algorithm to reduce the impact of conflicts on the fusion result. In addition, a sensor defect detection method, which is based on the continuous monitoring of sensor reliabilities, is presented. The performances of the contributions are shown by their evaluation in the scope of both a publicly available data set and a machine condition monitoring application under laboratory conditions.

Here, the MACRO system yields the best results compared to state-of-the-art fusion mechanisms.

Social computing concerns the study of social behavior and context based on computational systems. Behavioral modeling reproduces the social behavior, and allows for experimenting with and deep understanding of behavior, patterns, and potential outcomes. The pervasive use of computer and Internet technologies provides an unprecedented environment where people can share opinions and experiences, offer suggestions and advice, debate, and even conduct experiments. Social computing facilitates behavioral modeling in model building, analysis, pattern mining, anticipation, and prediction. The preceding interdisciplinary research provides a platform for researchers, practitioners, and graduate students, behavioral and computer science, psychology, cultural study, information systems, and operations research to share results and develop new concepts and methodologies aimed at advancing and deepening our understanding of social and behavioral computing to aid critical decision making.

The theory of belief functions, also known as evidence theory or Dempster-Shafer theory, was first introduced by Arthur P. Dempster in the context of statistical inference, and was later developed by Glenn Shafer as a general framework for modeling epistemic uncertainty. These early contributions have been the starting points of many important developments, including the Transferable Belief Model and the Theory of Hints. The theory of belief functions is now well established as a general framework for reasoning with uncertainty, and has well understood connections to other frameworks such as probability, possibility and imprecise probability theories. This volume contains the proceedings of the 2nd International Conference on Belief Functions that was held in Compiègne, France on 9-11 May 2012. It gathers 51 contributions describing recent developments both on theoretical issues (including approximation methods, combination rules, continuous belief functions, graphical models and independence concepts) and applications in various areas including classification, image processing, statistics and intelligent vehicles.

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

This book constitutes the refereed proceedings of the 19th International Conference on Big Data Analytics and Knowledge Discovery, DaWaK 2017, held in Lyon, France, in August 2017. The 24 revised full papers and 11 short papers presented were carefully reviewed and selected from 97 submissions. The papers are organized in the following topical sections: new generation data warehouses design; cloud and NoSQL databases; advanced programming paradigms; non-functional requirements satisfaction; machine learning; social media and twitter analysis; sentiment analysis and user influence; knowledge discovery; and data flow management and optimization.

The information infrastructure—comprising computers, embedded devices, networks and software systems—is vital to day-to-day operations in every sector: information and telecommunications, banking and finance, energy, chemicals and hazardous materials, agriculture, food, water, public health, emergency services, transportation, postal and shipping, government and defense. Global business and industry, governments, indeed society itself, cannot function effectively if major components of the critical information infrastructure are degraded, disabled or destroyed. Critical Infrastructure Protection describes original research results and innovative applications in the interdisciplinary field of critical infrastructure protection. Also, it highlights the importance of weaving science, technology and policy in crafting sophisticated, yet practical, solutions that will help secure information, computer and network assets in the various critical infrastructure sectors. Areas of coverage include: Themes and Issues, Control Systems Security, Cyber-Physical Systems Security, Infrastructure Modeling and Simulation, Risk and Impact Assessment.

This book is the sixth volume in the annual series produced by the International Federation for Information Processing (IFIP) Working Group 11.10 on Critical Infrastructure Protection, an international community of scientists, engineers, practitioners and policy makers dedicated to advancing research, development and implementation efforts focused on infrastructure protection. The book contains a selection of nineteen edited papers from the Ninth Annual IFIP WG 11.10 International Conference on Critical Infrastructure Protection, held at SRI International, Arlington, Virginia, USA in the spring of 2015. Critical Infrastructure Protection IX is an important resource for researchers, faculty members and graduate students, as well as for policy makers, practitioners and other individuals with interests in homeland security. Mason Rice is an Assistant Professor of Computer Science at the Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA. Sujet Shenoi is the F.P. Walter Professor of Computer Science and a Professor of Chemical Engineering at the University of Tulsa, Tulsa, Oklahoma, USA.

This second volume dedicated to Dezert-Smarandache Theory (DSmT) in Information Fusion brings in new fusion qualitative rules (such as the PCR1-6, where PCR5 for two sources does the most mathematically exact redistribution of conflicting masses to the non-empty sets in the fusion literature), qualitative fusion rules, and the Belief Conditioning Rule (BCR) which is different from the classical conditioning rule used by the fusion community working with the Mathematical Theory of Evidence. Other fusion rules are constructed based on T-norm and T-conorm (hence using fuzzy logic and fuzzy set in information fusion), or more general fusion rules based on N-norm and N-conorm (hence using neutrosophic logic and neutrosophic set in information fusion), and an attempt to unify the fusion rules and fusion theories. The known fusion rules are extended from the power set to the hyper-power-set and comparison between rules are made on many examples. One defines the degree of intersection of two sets, degree of union of two sets, and degree of inclusion of two sets which all help in improving the all existing fusion rules as well as the credibility, plausibility, and communnality functions. The book chapters are written by Frederic Dambreville, Milan Daniel, Jean Dezert, Pascal Dijknavorin, Dominic Grenier, Xinhua Huang, Pavlina Dimitrova Konstantinova, Xinde Li, Arnaud Martin, Christophe Osswald, Andrew Schumann, Tzvetana Atanasov Semerdjiev, Florentin Smarandache, Albena Tchamova, and Min Wang.

[Scalable Uncertainty Management](#)

[19th International Conference, DaWaK 2017, Lyon, France, August 28–31, 2017, Proceedings](#)

[Knowledge Engineering and Management](#)

[13th International Conference, KSEM 2020, Hangzhou, China, August 28-30, 2020, Proceedings, Part II](#)

[A Theory of Degree of Rationality](#)

[Critical Infrastructure Protection IX](#)

[Artificial Intelligence and Soft Computing, Part I](#)

[Information Processing and Management of Uncertainty in Knowledge-Based Systems](#)

[Theory and Applications](#)

[Computational Intelligence: Research Frontiers](#)

[A new weighting factor in combining belief function](#)

[12th Chinese Conference, CTCS 2018, Wuhua, China, October 18, 2018, Revised Selected Papers](#)

[Intelligent Techniques in Engineering Management](#)

This volume is authored by a mix of global contributors from across the landscape of academia, research institutions, police organizations, and experts in security policy and address some of the most contemporary challenges within the global security domain. The latter includes protection of critical infrastructures (CI), counter-terrorism, application of dark web, and analysis of a large volume of artificial intelligence data, cybercrime, serious and organised crime, border surveillance, and management of disasters and crises. This title explores various application scenarios of advanced ICT in the context of cybercrime, border security and crisis management, serious and organised crime, and protection of critical infrastructures. Readers will benefit from lessons learned from more than 30 large R&D projects within a security context. The book addresses not only theoretical narratives pertinent to the subject but also identifies current challenges and emerging security threats, provides analysis of operational capability gaps, and includes real-world applied solutions. Offers perspectives of R&D contributions to strengthening security potential from a multidisciplinary group of stakeholders from several domains; Addresses a range of security topics seen from the viewpoint of practitioners; Provides an extended collection of results delivered by advanced security research projects. Chapter 11 is available open access under a Creative Commons Attribution 3.0 IGO License via link.springer.com.

This book constitutes the thoroughly refereed proceedings of the Third International Conference on Belief Functions, BELIEF 2014, held in Oxford, UK, in September 2014. The 47 revised full papers presented in this book were carefully selected and reviewed from 56 submissions. The papers are organized in topical sections on belief combination; machine learning; applications; theory; networks; information fusion; data association; and geometry.

This book constitutes the refereed proceedings of the 8th International Symposium on Integrated Uncertainty in Knowledge Modelling and Decision Making, IJUKM 2020, held in Phuket, Thailand, in November 2020. The 35 full papers presented were carefully reviewed and selected from 55 submissions. The papers deal with all aspects of uncertainty modelling and management and are organized in topical sections on uncertainty management; decision support; machine learning; machine applications; and statistical methods. * The conference was held virtually due to the COVID-19 pandemic.*

This book contains papers presented in the main track of IITI 2018, the Third International Scientific Conference on Intelligent Information Technologies for Industry held in Sochi, Russia on September 17–21. The conference was jointly co-organized by Rostov State Transport University (Russia) and VSB – Technical University of Ostrava (Czech Republic) with the participation of Russian Association for Artificial Intelligence (RAAI). IITI 2018 was devoted to practical models and industrial applications related to intelligent information systems. It was considered as 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 were also included into proceedings.

This volume presents the state of the art of new developments, and some interesting and relevant applications of the OWA (ordered weighted averaging) operators. The OWA operators were introduced in the early 1980s by Ronald R. Yager as a conceptually and numerically simple, easily implementable, yet extremely powerful general aggregation operator. That simplicity, generality and implementability of the OWA operators, combined with their intuitive appeal, have triggered much research both in the foundations and extensions of the OWA operators, and in their applications to a wide variety of problems in various fields of science and technology. Part I: Methods includes papers on theoretical foundations of OWA operators and their extensions. The papers in Part II: Applications show some more relevant applications of the OWA operators, mostly means, as powerful yet general aggregation operators. The application areas are exemplified by environmental modeling, social networks, image analysis, financial decision making and water resource management.

Dempster-Shafer evidence theory has been widely used in various applications. However, to solve the problem of counter-intuitive outcomes by using classical Dempster-Shafer combination rule is still an open issue while fusing the conflicting evidences. Many approaches based on discounted evidence and weighted average evidence have been investigated and have made significant improvements. This is a collection of classic research papers on the Dempster-Shafer theory of belief functions. The book is the authoritative reference in the field of evidential reasoning and an important archival reference in a wide range of areas including uncertainty reasoning in artificial intelligence and decision making in economics, engineering, and management. The book includes a foreword reflecting the development of the theory in the last forty years.

This edited book reports recent research results and provides a state-of-the-art on intelligent decision support systems applications, lessons learned and future research directions. The book covers a balanced mixture of theory and practice, including new methods and developments of intelligent decision support systems applications in Society and Policy Support. Its main objective is to gather a peer-reviewed collection of high quality contributions in the relevant topic areas.

[Knowledge Science, Engineering and Management](#)

[A Hommage to Abe Mamdani](#)

[Recent Advances in Decision Making](#)

[International Symposium, IJUKM 2013, Beijing, China, July 12-14, 2013, Proceedings](#)

[Intelligent Decision and Policy Making Support Systems](#)

[Information Fusion Under Consideration of Conflicting Input Signals](#)

[Big Data Analytics and Knowledge Discovery](#)

[Volume 1](#)

[IEEE World Congress on Computational Intelligence, WCCI 2008, Hong Kong, China, June 1-6, 2008, Plenary/Invited Lectures](#)

[Combining Experimentation and Theory](#)

[Proceedings of the 2nd International Conference on Belief Functions, Compiègne, France 9-11 May 2012](#)

[Proceedings of the Third International Scientific Conference “Intelligent Information Technologies for Industry” \(IITI’18\)](#)

[Technology Development for Security Practitioners](#)

This anthology is the first book to give a balanced overview of the competing theories of degrees of belief. It also explicitly relates these debates to more traditional concerns of the philosophy of language and mind and epistemic logic.

This book constitutes the refereed proceedings of the 13th International Conference on Scalable Uncertainty Management, SUM 2019, which was held in Compiègne, France, in December 2019. The 25 full, 4 short, 4 tutorial, 2 invited keynote papers presented in this volume were carefully reviewed and selected from 44 submissions. The conference is dedicated to the management of large amounts of complex, uncertain, incomplete, or inconsistent information. New approaches have been developed on imprecise probabilities, fuzzy set theory, rough set theory, ordinal uncertainty representations, or even purely qualitative models.

With 1,125 entries and 170 contributors, this is the first encyclopedia on the history of classical archaeology. It focuses on Greek and Roman material, but also covers the prehistoric and semi-historical cultures of the Bronze Age Aegean, the Etruscans, and manifestations of Greek and Roman culture in Europe and Asia Minor. The Encyclopedia of the History of Classical Archaeology includes entries on individuals whose activities influenced the knowledge of sites and monuments in their own time; articles on famous monuments and sites as seen, changed, and interpreted through time; and entries on major works of art excavated from the Renaissance to the present day as well as works known in the Middle Ages. As the definitive source on a comparatively new discipline – the history of archaeology – these finely illustrated volumes will be useful to students and scholars in archaeology, the classics, history, topography, and art and architectural history.

The double volumes LNCS 12391-12392 constitutes the papers of the 31st International Conference on Database and Expert Systems Applications, DEXA 2020, which will be held online in September 2020. The 38 full papers presented together with 20 short papers plus 1 keynote papers in these volumes were carefully reviewed and selected from a total of 190 submissions. These proceedings present 212 papers selected from the 2012 International Conference on Intelligent Systems and Knowledge Engineering (ISKE 2012), held on December 15–17 in Beijing. The aim of this conference is to bring together experts from different fields of expertise to discuss the state-of-the-art in Intelligent Systems and Knowledge Engineering, and to present new findings and perspectives on future developments. The proceedings introduce current scientific and technical advances in the fields of artificial intelligence, machine learning, pattern recognition, data mining, knowledge engineering, information retrieval, information theory, knowledge-based systems, knowledge representation and reasoning, multi-agent systems, and natural-language processing, etc. Furthermore they include papers on new intelligent computing paradigms, which combine new computing methodologies, e.g., cloud computing, service computing and pervasive computing with traditional intelligent methods. By presenting new methodologies and practices, the proceedings will benefit both researchers and practitioners who want to utilize intelligent methods in their specific fields. Dr. Fuchun Sun is a professor at the Department of Computer Science & Technology, Tsinghua University, China. Dr. Tianrui Li is a professor at the School of Information Science & Technology, Southwest Jiaotong University, Chengdu, China. Dr. Hongbo Li also works at the Department of Computer Science & Technology, Tsinghua University, China.

The unexpected and premature passing away of Professor Ebrahim H. “Abe” Mamdani on January, 22, 2010, was a big shock to the scientific community, to all his friends and colleagues around the world, and to his close relatives. Professor Mamdani was a remarkable figure in the academic world, as he contributed to so many areas of science and technology. Of great relevance are his latest thoughts and ideas on the study of language and its handling by computers. The fuzzy logic community is particularly indebted to Abe Mamdani (1941–2010) who, in 1975, in his famous paper An Experiment in Linguistic Synthesis with a Fuzzy Logic Controller, jointly written with his student Sedrak Assilian, introduced the novel idea of fuzzy control. This was an elegant engineering approach to the modeling and control of complex processes for which mathematical models were unknown or too difficult to build, yet they could effectively and efficiently be controlled by human operators. This ground-breaking idea has found innumerable applications and can be considered as one of the main factors for the proliferation and adoption of fuzzy logic technology. Professor Mamdani’s own life and vital experience are illustrative of his “never surrendering” attitude while facing adversaries, which is normal for a person proposing any novel solution, and represent a great example for everybody. His subtle sense of humor, his joy for life, and his will to critically help people, especially young people, were characteristics deeply appreciated by all the people who enjoyed and benefited from his friendship and advice. This book constitutes a posthumous homage to Abe Mamdani. It is a collection of original papers related in some way to his works, ideas and vision, and especially written by researchers directly acquainted with him or with his work. The underlying goal of this book will be fulfilled if, in the very spirit of Mamdani’s legacy, the papers will trigger a scientific or philosophical debate on the issues covered, or contribute to a cross-fertilization of ideas in the various fields.

This two-volume set of LNAI 12274 and LNAI 12275 constitutes the refereed proceedings of the 13th International Conference on Knowledge Science, Engineering and Management, KSEM 2020, held in Hangzhou, China, in August 2020.* The 58 revised full papers and 27 short papers were carefully reviewed and selected from 291 submissions. The papers of the first volume are organized in the following topical sections: knowledge graph; knowledge representation; knowledge management for education; knowledge-based systems; and data processing and mining. The papers of the second volume are organized in the following topical sections: machine learning; recommendation algorithms and systems; social knowledge analysis and management; text mining and document analysis; and deep learning. *The conference was held virtually due to the COVID-19 pandemic.

Over the last two decades, the field of artificial intelligence has experienced a separation into two schools that hold opposite opinions on how uncertainty should be treated. This separation is the result of a debate that began at the end of the 1960’s when AI first faced the problem of building machines required to make decisions and act in the real world. This debate witnessed the contraposition between the mainstream school, which relied on probability for handling uncertainty, and an alternative school, which criticized the adequacy of probability in AI applications and developed alternative formalisms. The debate has focused on the technical aspects of the criticisms raised against probability while neglecting an important element of contrast. This element is of an epistemological nature, and is therefore exquisitely philosophical. In this book, the historical context in which the debate on probability developed is presented and the key components of the technical criticisms therein are illustrated. By referring to the original texts, the epistemological element that has been neglected in the debate is analyzed in detail. Through a philosophical analysis of the epistemological element it is argued that this element is metaphysical in Popper’s sense. It is shown that this element cannot be tested nor possibly disproved on the basis of experience and is therefore extra-scientific. It is established that a philosophical analysis is now compelling in order to both solve the problematic division that characterizes the uncertainty field and to secure the foundations of the field itself.

[Classic Works of the Dempster-Shafer Theory of Belief Functions](#)

[Trusted Computing and Information Security](#)

[Encyclopedia of the History of Classical Archaeology](#)

[Third International Conference, MLACS 2020, Guangzhou, China, October 8-10, 2020, Proceedings, Part III](#)

[31st International Conference, DEXA 2020, Bratislava, Czech Republic, September 14-17, 2020, Proceedings, Part I](#)

[Third International Conference, BELIEF 2014, Oxford, UK, September 26-28, 2014, Proceedings](#)

[Social Computing, Behavioral Modeling, and Prediction](#)

[Past, Present, and Future of Statistical Science](#)

[13th International Conference, Ho Chi Minh City, Vietnam, July 24-27, 2013, Proceedings, Part I](#)

[13th International Conference, SUM 2019, Compiègne, France, December 16-18, 2019, Proceedings](#)

[10th International Conference, LPNMR 2009, Potsdam, Germany, September 14-18, 2009, Proceedings](#)

[Collected Works](#)

[6th International Conference, BELIEF 2021, Shanghai, China, October 15-19, 2021, Proceedings](#)

This three volume set (CCIS 1237-1239) constitutes the proceedings of the 18th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2020, in June 2020. The conference was scheduled to take place in Lisbon, Portugal, at University of Lisbon, but due to COVID-19 pandemic it was held virtually. The 173 papers were carefully reviewed and selected from 213 submissions. The papers are organized in topical sections: homage to Enrique Ruspini; invited talks; foundations and mathematics; decision making, preferences and votes; optimization and uncertainty; games; real world applications; knowledge processing and creation; machine learning I; machine learning II; XAI; image processing; temporal data processing; text analysis and processing; fuzzy interval analysis; theoretical and applied aspects of imprecise probabilities; similarities in artificial intelligence; belief function theory and its applications; aggregation: theory and practice; aggregation: pre-aggregation functions and other generalizations of monotonicity; aggregation: aggregation of different data structures; fuzzy methods in data mining and knowledge discovery; computational intelligence for logistics and transportation problems; fuzzy implication functions; soft methods in statistics and data analysis; image understanding and explainable AI; fuzzy and generalized quantifier theory; mathematical methods towards dealing with uncertainty in applied sciences; statistical image processing and analysis, with applications in neuroimaging; interval uncertainty; discrete models and computational intelligence; current techniques to model, process and describe time series; mathematical fuzzy logic and graded reasoning models; formal concept analysis, rough sets, general operators and related topics; computational intelligence methods in information modelling, representation and processing.

Intelligent paradigms are increasingly finding their ways in the design and development of decision support systems. This book presents a sample of recent research results from key researchers. The contributions include: Introduction to intelligent systems in decision making - A new method of ranking intuitionistic fuzzy alternatives - Fuzzy rule base model identification by bacterial memetic algorithms - Discovering associations with uncertainty from large databases - Dempster-Shafer structures, monotonic set measures and decision making - Interpretable decision-making models - A general methodology for managerial decision making - Supporting decision making via verbalization of data analysis results using linguistic data summaries - Computational intelligence in medical decisions making. This book is directed to the researchers, graduate students, professors, decision makers and to those who are interested to investigate intelligent paradigms in decision making.

This three volume book set constitutes the proceedings of the Third International Conference on Machine Learning for Cyber Security, ML4CS 2020, held in Xi'an, China in October 2020. The 118 full papers and 40 short papers presented were carefully reviewed and selected from 360 submissions. The papers offer a wide range of the following subjects: Machine learning, security, privacy-preserving, cyber security, Adversarial machine Learning, Malware detection and analysis, Data mining, and Artificial Intelligence.

Past, Present, and Future of Statistical Science was commissioned in 2013 by the Committee of Presidents of Statistical Societies (COPSS) to celebrate its 50th anniversary and the International Year of Statistics. COPSS consists of five charter member statistical societies in North America and is best known for sponsoring prestigious awards in stat

This state-of-the-art survey offers a renewed and refreshing focus on the progress in nature-inspired and linguistically motivated computation. The book presents the expertise and experiences of leading researchers spanning a diverse spectrum of computational intelligence in the areas of neurocomputing, fuzzy systems, evolutionary computation, and adjacent areas. The result is a balanced contribution to the field of computational intelligence that should serve the community not only as a survey and a reference, but also as an inspiration for the future advancement of the state of the art of the field. The 18 selected chapters originate from lectures and presentations given at the 5th IEEE World Congress on Computational Intelligence, WCCI 2008, held in Hong Kong, China, in June 2008. After an introduction to the field and an overview of the volume, the chapters are divided into four topical sections on machine learning and brain computer interface, fuzzy modeling and control, computational evolution, and applications.

This book constitutes the refereed proceedings of the Chinese Conference on Trusted Computing and Information Security, CTCIS 2018, held in Wuhan, China, in October 2018. The 24 revised full papers presented were carefully reviewed and selected from 73 submissions. The papers are centered around cryptography, systems security, trusted computing, information security, and network security.

The Metaphysical Nature of the Non-adequacy Claim

9th IFIP 11.10 International Conference, ICCIP 2015, Arlington, VA, USA, March 16-18, 2015. Revised Selected Papers

Logic Programming and Nonmonotonic Reasoning

An Epistemological Analysis of the Debate on Probability in Artificial Intelligence

Advances and Applications of DSMT for Information Fusion (Collected works), second volume

Belief Functions: Theory and Applications

Unsettled Thoughts

26th Australian Joint Conference, Dunedin, New Zealand, December 1-6, 2013. Proceedings

Machine Learning for Cyber Security

18th International Conference, IPMU 2020, Lisbon, Portugal, June 15-19, 2020. Proceedings, Part II

Improvement of multimodal images classification based on DSMT using visual saliency model fusion with SVM