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Computational Intelligence Distributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted Living Accuracy and Fuzziness. A Life in Science and Politics Artificial Intelligence, Evolutionary Computing and Metaheuristics Computational Web Intelligence Computational Web Intelligence Intelligent Soft Computation and Evolving Data Mining: Integrating Advanced Technologies Complex System Modelling and Control Through Intelligent Soft Computations Computational Intelligence COMPUTATIONAL INTELLIGENCE IN COMPLEX DECISION MAKING SYSTEMS Improving Information Security Practices through Computational Intelligence Modelling Machine Emotions for Realizing Intelligence Soft Computing and Intelligent Systems Innovative Computational Intelligence: A Rough Guide to 134 Clever Algorithms Computational Intelligence in Automotive Applications Smart Manufacturing Innovation and Transformation: Interconnection and Intelligence Web Intelligence: Research and Development Computational Intelligence for Decision Support Computational Intelligence: A Compendium Computational Intelligence Computational Intelligence Paradigms Advances in Computational Intelligence An Introduction to Robophilosophy Cognition, Intelligence, Autonomy, Consciousness, Conscience, and Ethics Artificial Intelligence: From Beginning To Date Computational Intelligence in Time Series Forecasting Implementing Computational Intelligence Techniques for Security Systems Design Computational Intelligence: Soft Computing and Fuzzy-Neuro Integration with Applications Advanced Intelligent Computing Theories and Applications. With Aspects of Artificial Intelligence Computational Intelligence in Intelligent Data Analysis Artificial Intelligence: Concepts, Methodologies, Tools, and Applications Advanced Methodologies and Technologies in Artificial Intelligence, Computer Simulation, and Human-Computer Interaction Handbook of Research on Artificial Intelligence Techniques and Algorithms Fuzzy Logic in Artificial Intelligence Advances in Computational Intelligence and Learning Knowledge-Based Intelligent Techniques in Industry Artificial Intelligence and Soft Computing, Part II Computational Intelligence Systems and Applications Intelligent Decision-making Models for Production and Retail Operations New Trends in Applied Artificial Intelligence Engineering Intelligent Hybrid Multi-Agent Systems

Computational Intelligence *1994*

this volume ii contains all publications accepted for the symposiums and workshops held in parallel with the 10th international work conference on artificial neural networks iwann 2009 covering a wide spectrum of technological areas such as distributed computing artificial intelligence bioinformatics soft computing and ambient assisted living dcai 2009 international symposium on distributed computing and artificial intelligence covering artificial intelligence and its applications in distributed environments such as the internet electronic commerce mobile communi tions wireless devices distributed computing and so on this event accepted a total of 96 submissions selected from a submission pool of 157 papers from 12 different countries iwaal 2009 international workshop of ambient assisted living covering solutions aimed at increasing the quality of life safety and health problems of elderly and disabled people by means of technology this event accepted a tal of 42 submissions selected from a submission pool of 78 papers from 9 d ferent countries iwpacbb 2009 third international workshop on practical applications of computational biology and bioinformatics covering computational biology and bioinformatics as a possibility for knowledge discovery modelling and timization tasks aiming at the development of computational models so that the response of biological complex systems to any perturbation can be p dicted this event accepted a total of 39 submissions selected from a subm sion pool of 75 papers from 6 different countries

Distributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted Living *2009-06-06*

this book which goes far beyond a traditional collection of technical articles is dedicated to enric trillas a fuzzy systems pioneer but also an internationally renowned researcher in other areas of science such as mathematics and aerospace and an outstanding manager of scientific affairs in spain some of the contributions in this book develop technical state of the art themes obviously related to fuzzy logic while others resemble popular science articles that shed light on complex mathematical concepts there are also chapters that highlight the authors personal relationships and experiences working with enric trillas while planning this book project the editors decided to give contributors absolute freedom of thought and expression in preparing their chapters the result is a colorful and inspiring mixture of styles and topics which perfectly reflects enric trillas s multifaceted contributions to research and his outstanding role in promoting education and technological transfer in the field of soft computing this festschrift to enric trillas published on the occasion of his 75th birthday is not only intended as an exemplary source of information for young scientists dealing with uncertainty imprecision and accuracy of models but also as an inspiring guide to the role of scientists in education politics and communication

Accuracy and Fuzziness. A Life in Science and Politics *2015-05-27*

alan turing pioneered many research areas such as artificial intelligence computability heuristics and pattern formation nowadays at the information age it is hard to imagine how the world would be without computers and the internet without turing s work especially the core concept of turing machine at the heart of every computer mobile phone and microchip today so many things on which we are so dependent would be impossible 2012 is the alan turing year a centenary celebration of the life and work of alan turing to celebrate turing s legacy and follow the footsteps of this brilliant mind we take this golden opportunity to review

the latest developments in areas of artificial intelligence evolutionary computation and metaheuristics and all these areas can be traced back to turing s pioneer work topics include turing test turing machine artificial intelligence cryptography software testing image processing neural networks nature inspired algorithms such as bat algorithm and cuckoo search and multiobjective optimization and many applications these reviews and chapters not only provide a timely snapshot of the state of art developments but also provide inspiration for young researchers to carry out potentially ground breaking research in the active diverse research areas in artificial intelligence cryptography machine learning evolutionary computation and nature inspired metaheuristics this edited book can serve as a timely reference for graduates researchers and engineers in artificial intelligence computer sciences computational intelligence soft computing optimization and applied sciences

Artificial Intelligence, Evolutionary Computing and Metaheuristics 2012-07-27

this review volume introduces the novel intelligent theory calledcomputational intelligence cwi based on computationalintelligence ci and technology wt it takes an in depth lookat hybrid intelligence hwi which is based on artificialbiological and computational intelligence with technology and isused to build hybrid intelligent systems that serve wired andwireless users more efficiently

Computational Web Intelligence 2004

this review volume introduces the novel intelligent theory called computational intelligence cwi based on computational intelligence ci and technology wt it takes an in depth look at hybrid intelligence hwi which is based on artificial biological and computational intelligence with technology and is used to build hybrid intelligent systems that serve wired and wireless users more efficiently the basic principles of cwi and various e applications of cwi and hwi are discussed for completeness six major cwi techniques fuzzy intelligence neural intelligence evolutionary intelligence granular intelligence rough intelligence and probabilistic intelligence are described with the huge potential for intelligent e business applications of cwi and hwi these techniques represent the future of intelligent applications contents fuzzy intelligence rough intelligence and probabilistic intelligenceneural intelligence evolutionary intelligence and granular intelligencehybrid intelligence and e applications readership graduate students researchers and professionals in artificial intelligence and fuzzy logic keywords computational intelligence intelligence computational intelligence soft computing granular computing fuzzy logic neural networks evolutionary computation rough sets e businesskey features completely introduces the intelligent techniques based on soft computing granular computing computational intelligence and technology for different intelligent applicationsfirst to introduce the novel intelligent theory computational intelligence with many potential intelligent applicationsintroduces cwi techniques for currently hot and important applications such as security internet security bioinformatics search engines mining e commerce intelligent agents etc

Computational Web Intelligence *2004-08-25*

this book provides a reference to researchers practitioners and students in both soft computing and data mining communities for generating creative ideas of securing and managing data mining provided by publisher

Intelligent Soft Computation and Evolving Data Mining: Integrating Advanced Technologies *2010-03-31*

the book offers a snapshot of the theories and applications of soft computing in the area of complex systems modeling and control it presents the most important findings discussed during the 5th international conference on modelling identification and control held in cairo from august 31 september 2 2013 the book consists of twenty nine selected contributions which have been thoroughly reviewed and extended before their inclusion in the volume the different chapters written by active researchers in the field report on both current theories and important applications of soft computing besides providing the readers with soft computing fundamentals and soft computing based inductive methodologies algorithms the book also discusses key industrial soft computing applications as well as multidisciplinary solutions developed for a variety of purposes like windup control waste management security issues biomedical applications and many others it is a perfect reference guide for graduate students researchers and practitioners in the area of soft computing systems modeling and control

Complex System Modelling and Control Through Intelligent Soft Computations 2014-11-29

the definitive survey of computational intelligence from luminaries in the field computational intelligence is a fast moving multidisciplinary field the nexus of diverse technical interest areas that include neural networks fuzzy logic and evolutionary computation keeping up with computational intelligence means understanding how it relates to an ever expanding range of applications this is the book that ties it all together and puts that understanding well within your reach in computational intelligence the experts speak editors david b fogel and charles j robinson present an unmatched compilation of expanded papers from plenary and special lecturers attending the 2002 ieee world congress on computational intelligence collectively these papers provide a compelling snapshot of the issues that define the industry as observed by some of the top minds in the computational intelligence community in a series of topical chapters this comprehensive volume shows how current technology is shaping computational intelligence and it delivers eye opening insights into the field s future challenges the research detailed here covers an array of leading edge applications from coevolutionary robotics to underwater sensors and cognitive science in such areas as self organizing systems situation awareness human machine interaction automatic control data recognition computational intelligence also includes introductions to each grouping of contributions that provide helpful tutorials and discuss important parallels between topics whatever your role might be in this dynamic influential field this is the one reference that no practitioner of computational intelligence should be without

Computational Intelligence 2003-06-16

in recent years there has been a growing interest in the need for designing intelligent systems to address complex decision systems one of the most challenging issues for the intelligent system is to effectively handle real world uncertainties that cannot be eliminated these uncertainties include various types of information that are incomplete imprecise fragmentary not fully reliable vague contradictory deficient and overloading the uncertainties result in a lack of the full and precise knowledge of the decision system including the determining and selection of evaluation criteria alternatives weights assignment scores and the final integrated decision result computational intelligent techniques including fuzzy logic neural networks and genetic algorithms etc which are complimentary to the existing traditional techniques have shown great potential to solve these demanding real world decision problems that exist in uncertain and unpredictable environments these technologies have formed the foundation for intelligent systems

COMPUTATIONAL INTELLIGENCE IN COMPLEX DECISION MAKING SYSTEMS *2010-06-01*

the recent explosion in complex global networking architectures has spurred a concomitant rise in the need for robust information security further as computing power increases exponentially with every passing year so do the number of proposed cryptographic schemata for improving and ensuring the encryption integrity of cutting edge infosec protocols improving information security practices through computational intelligence presents an overview of the latest and greatest research in the field touching on such topics as cryptology stream ciphers and intrusion detection and providing new insights to an audience of students teachers and entry level researchers working in computational intelligence information security and security engineering

Improving Information Security Practices through Computational Intelligence *2015-08-26*

emotion connects the thought to the body which is a magnificent biological vice for sensing and affecting the world the thought controls the body through emotions the body affects the thought through emotions through this mec nism the thought allows the agent to behave intelligently in the complex world filled with a huge amount of dynamic information the emotion maps a flux of information into a space which the agent is familiar with enabling her him to associate ongoing events with past experiences which help to reduce complexity by providing with a nominal solution recent findings in brain science suggest that mirror neurons map visual signals into motor signals for the body this mechanism might permit one to experience the emotion of the other agent just by feeling the motor signals caused by mirror neurons as a result of visual stimuli caused by the other agent s emotional beh iors in particular it might play a significant role in invoking empathy in a social situation it may not be hard to think about what might happen to emotion less machines the emotion less machines may not be able to accumulate experiences to avoid serious failures they may not be able to communicate with the humans in an empathetic way

Modelling Machine Emotions for Realizing Intelligence *2010-06-21*

the field of soft computing is emerging from the cutting edge research over the last ten years devoted to fuzzy engineering and genetic algorithms the subject is being called soft computing and computational intelligence with acceptance of the research fundamentals in these important areas the field is expanding into direct applications through engineering and systems science this book cover the fundamentals of this emerging filed as well as direct applications and case studies there is a need for practicing engineers computer scientists and system scientists to directly apply fuzzy engineering into a wide array of devices and systems

Soft Computing and Intelligent Systems *1999-10-28*

the first notable feature of this book is its innovation computational intelligence ci a fast evolving area is currently attracting lots of researchers attention in dealing with many complex problems at present there are quite a lot competing books existing in the market nevertheless the present book is markedly different from the existing books in that it presents new paradigms of ci that have rarely mentioned before as opposed to the traditional ci techniques or methodologies employed in other books during the past decade a number of new ci algorithms are proposed unfortunately they spread in a number of unrelated publishing directions which may hamper the use of such published resources these provide us with motivation to analyze the existing research for categorizing and synthesizing it in a

meaningful manner the mission of this book is really important since those algorithms are going to be a new revolution in computer science we hope it will stimulate the readers to make novel contributions or even start a new paradigm based on nature phenomena although structured as a textbook the book s straightforward self contained style will also appeal to a wide audience of professionals researchers and independent learners we believe that the book will be instrumental in initiating an integrated approach to complex problems by allowing cross fertilization of design principles from different design philosophies the second feature of this book is its comprehensiveness through an extensive literature research there are 134 innovative ci algorithms covered in this book

Innovative Computational Intelligence: A Rough Guide to 134 Clever Algorithms 2013-12-13

what is computational intelligence ci traditionally ci is understood as a collection of methods from the elds of neural networks nn fuzzy logic and evolutionary computation various de nitions and opinions exist but what belongs to ci is still being debated see e g 1 3 more recently there has been a proposal to de ne the ci not in terms of the tools but in terms of challenging problems to be solved 4 with this edited volume i have made an attempt to give a representative sample of contemporary ci activities in automotive applications to illustrate the state of the art while ci researchand achievements in some specialized elds described see e g 5 6 this is the rst volume of its kind dedicated to automotive technology as if re ecting the general lack of consensus on what constitutes the eld of ci this volume 1 illustrates automotive applications of not only neural and fuzzy computations which are considered to be the standard ci topics but also others such as decision trees graphicalmodels support vector machines svm multi agent systems etc this book is neither an introductory text nor a comprehensive overview of all ci research in this area hopefully as a broad and representative sample of ci activities in automotive applications it will be worth reading for both professionals and students when the details appear insu cient the reader is encouraged to consult other relevant sources provided by the chapter authors

Computational Intelligence in Automotive Applications *2008-05-28*

fast advances in information technology have led to a smarter world vision with ubiquitous interconnection and intelligence smart manufacturing innovation and transformation interconnection and intelligence covers both theoretical perspectives and practical approaches to smart manufacturing research and development triggered by ubiquitous interconnection and intelligence this reference work discusses the transformation of manufacturing the latest developments in smart manufacturing innovation current and emerging technology opportunities and market imperatives that enable manufacturing innovation and transformation useful tools for readers in industry academia and government

Smart Manufacturing Innovation and Transformation: Interconnection and Intelligence 2014-03-31

this book constitutes the refereed proceedings of the first asia pacific conference on intelligence wi 2001 held in maebashi city japan in october 2001 the 28 revised full papers and 45 revised short papers presented were carefully reviewed and selected from 153 full length paper submissions also included are an introductory survey and six invited presentations the book offers topical sections on information systems environments and foundations human media engineering information management information retrieval agents mining and farming and based applications

Web Intelligence: Research and Development *2003-06-30*

intelligent decision support relies on techniques from a variety of disciplines including artificial intelligence and database management systems most of the existing literature neglects the relationship between these disciplines by integrating ai and dbms computational intelligence for decision support produces what other texts don t an explanation of how to use ai and dbms together to achieve high level decision making threading relevant disciplines from both science and industry the author approaches computational intelligence as the science developed for decision support the use of computational intelligence for reasoning and dbms for retrieval brings about a more active role for computational intelligence in decision support and merges computational intelligence and dbms the introductory chapter on technical aspects makes the material accessible with or without a decision support background the examples illustrate the large number of applications and an annotated bibliography allows you to easily delve into subjects of greater interest the integrated perspective creates a book that is all at once technical comprehensible and usable now more than ever it is important for science and business workers to creatively combine their knowledge to generate effective fruitful decision support computational intelligence for decision support makes this task manageable

Computational Intelligence for Decision Support 1999-11-24

computational intelligence a compendium presents a well structured overview about this rapidly growing field with contributions of leading experts in computational intelligence the main focus of the compendium is on applied methods tired and proven effective to realworld problems which is especially useful for practitioners researchers students and also newcomers to the field the 25 chapters are grouped into the following themes i overview and background ii data preprocessing and systems integration iii artificial intelligence iv logic and reasoning v ontology vi agents vii fuzzy systems viii artificial neural networks ix evolutionary approaches x dna and immune based computing

Computational Intelligence: A Compendium 2008-06-16

computational intelligence an introduction second edition offers an in depth exploration into the adaptive mechanisms that enable intelligent behaviour in complex and changing environments the main focus of this text is centred on the computational modelling of biological and natural intelligent systems encompassing swarm intelligence fuzzy systems artificial neutral networks artificial immune systems and evolutionary computation engelbrecht provides readers with a wide knowledge of computational intelligence ci paradigms and algorithms inviting readers to implement and problem solve real world complex problems within the ci development framework this implementation framework will enable readers to tackle new problems without any difficulty through a single java class as part of the ci library key features of this second edition include a tutorial hands on based presentation of the material state of the art coverage of the most recent developments in computational intelligence with more elaborate discussions on intelligence and artificial intelligence ai new discussion of darwinian evolution versus lamarckian evolution also including swarm robotics hybrid systems and artificial immune systems a section on how to perform empirical studies topics including statistical analysis of stochastic algorithms and an open source library of ci algorithms tables illustrations graphs examples assignments java code implementing the algorithms and a complete ci implementation and experimental framework computational intelligence an introduction second edition is essential reading for third and fourth year undergraduate and postgraduate students studying ci the first edition has been prescribed by a number of overseas universities

and is thus a valuable teaching tool in addition it will also be a useful resource for researchers in computational intelligence and artificial intelligence as well as engineers statisticians operational researchers and bioinformaticians with an interest in applying ai or ci to solve problems in their domains check out ci cs up ac za for examples assignments and java code implementing the algorithms

Computational Intelligence 2007-10-22

system designers are faced with a large set of data which has to be analysed and processed efficiently advanced computational intelligence paradigms present tremendous advantages by offering capabilities such as learning generalisation and robustness these capabilities help in designing complex systems which are intelligent and robust the book includes a sample of research on the innovative applications of advanced computational intelligence paradigms the characteristics of computational intelligence paradigms such as learning generalization based on learned knowledge knowledge extraction from imprecise and incomplete data are the extremely important for the implementation of intelligent machines the chapters include architectures of computational intelligence paradigms knowledge discovery pattern classification clusters support vector machines and gene linkage analysis we believe that the research on computational intelligence will simulate great interest among designers and researchers of complex systems it is important to use the fusion of various constituents of computational intelligence to offset the demerits of one paradigm by the merits of another

Computational Intelligence Paradigms 2008-06-17

this volume comprises the proceedings of the international conference on computational intelligence 2015 icci15 this book aims to bring together work from leading academicians scientists researchers and research scholars from across the globe on all aspects of computational intelligence the work is composed mainly of original and unpublished results of conceptual constructive empirical experimental or theoretical work in all areas of computational intelligence specifically the major topics covered include classical computational intelligence models and artificial intelligence neural networks and deep learning evolutionary swarm and particle algorithms hybrid systems optimization constraint programming human machine interaction computational intelligence for the web analytics robotics computational neurosciences neurodynamics bioinspired and biomorphic algorithms cross disciplinary topics and applications the contents of this volume will be of use to researchers and professionals alike

Advances in Computational Intelligence *2016-11-08*

modern robots have arrived at a very matured state both in their mechanical control aspects and their mental aspects an introduction to robophilosophy explores the philosophical questions that arise in the development creation and use of mental anthropomorphic and zoomorphic robots that are capable of semiautonomous autonomous operation decision making and human like action being able to socially interact with humans and exhibit behavior similar to human beings or animals coverage first presents fundamental concepts and an overview of philosophy philosophy of science and philosophy of technology the six principal mental capabilities of modern robots namely cognition intelligence autonomy consciousness conscience and ethics are then studied from a philosophical point of view they actually represent the product of technological embodiment of cognitive features to robots overall readers are provided a consolidated thorough investigation of the

philosophical aspects of these mental capabilities when embedded to robots this book will serve as an ideal educational source in engineering and robotics courses as well as an introductory reference for researchers in the field of robotics and it includes a rich bibliography

An Introduction to Robophilosophy Cognition, Intelligence, Autonomy, Consciousness, Conscience, and Ethics *2022-09-01*

this english edition monograph is developed and updated from china s best selling and award winning book on artificial intelligence ai it covers the foundations as well as the latest developments of ai in a comprehensive and systematic manner it is a valuable guide for students and researchers on artificial intelligence a wide range of topics in ai are covered in this book with four distinct features first of all the book comprises a comprehensive system covering the core technology of ai including the basic theories and techniques of traditional artificial intelligence and the basic principles and methods of computational intelligence secondly the book focuses on innovation covering advanced learning methods for machine learning and deep learning techniques and other artificial intelligence that have been widely used in recent years thirdly the theory and practice of the book are highly integrated there are theories techniques and methods as well as many application examples which will help readers to understand the artificial intelligence theory and its application development fourthly the content structure of the book is quite characteristic consisting of three parts i knowledge based artificial intelligence ii data based artificial intelligence and iii artificial intelligence applications it is closely related to the core elements of artificial intelligence namely knowledge data algorithms and computing powers this reflects the authors deep understanding of the artificial intelligence discipline

Artificial Intelligence: From Beginning To Date *2021-05-25*

foresight in an engineering business can make the difference between success and failure and can be vital to the effective control of industrial systems the authors of this book harness the power of intelligent technologies individually and in combination

Computational Intelligence in Time Series Forecasting *2006-01-04*

recently cryptology problems such as designing good cryptographic systems and analyzing them have been challenging researchers many algorithms that take advantage of approaches based on computational intelligence techniques such as genetic algorithms genetic programming and so on have been proposed to solve these issues implementing computational intelligence techniques for security systems design is an essential research book that explores the application of computational intelligence and other advanced techniques in information security which will contribute to a better understanding of the factors that influence successful security systems design featuring a range of topics such as encryption self healing systems and cyber fraud this book is ideal for security analysts it specialists computer engineers software developers technologists academicians researchers practitioners and students

Implementing Computational Intelligence Techniques for Security Systems Design *2020-02-14*

soft computing is a consortium of computing methodologies that provide a foundation for the conception design and deployment of intelligent systems and aims to formalize the human ability to make rational decisions in an environment of uncertainty and imprecision this book is based on a nato advanced study institute held in 1996 on soft computing and its applications the distinguished contributors consider the principal constituents of soft computing namely fuzzy logic neurocomputing genetic computing and probabilistic reasoning the relations between them and their fusion in industrial applications two areas emphasized in the book are how to achieve a synergistic combination of the main constituents of soft computing and how the combination can be used to achieve a high machine intelligence quotient

Computational Intelligence: Soft Computing and Fuzzy-Neuro Integration with Applications *2012-12-06*

the international conference on intelligent computing icic was formed to p vide an annual forum dedicated to the emerging and challenging topics in artificial intelligence machine learning bioinformatics and computational biology etc it aims to bring together researchers and practitioners from both academia and ind try to share ideas problems and solutions related to the multifaceted aspects of intelligent computing icic 2008 held in shanghai china september 15 18 2008 constituted the 4th international conference on intelligent computing it built upon the success of icic 2007 icic 2006 and icic 2005 held in qingdao kunming and hefei china 2007 2006 and 2005 respectively this year the conference concentrated mainly on the theories and methodologies as well as the emerging applications of intelligent computing its aim was to unify the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in advanced computational intelligence and bridges theoretical research with applications therefore the theme for this conference was emerging intelligent computing technology and applications papers focusing on this theme were solicited addressing theories methodologies and applications in science and technology

Advanced Intelligent Computing Theories and Applications. With Aspects of Artificial Intelligence *2008-09-08*

complex systems and their phenomena are ubiquitous as they can be found in biology finance the humanities management sciences medicine physics and similar fields for many problems in these fields there are no conventional ways to mathematically or analytically solve them completely at low cost on the other hand nature already solved many optimization problems efficiently computational intelligence attempts to mimic nature inspired problem solving strategies and methods these strategies can be used to study model and analyze complex systems such that it becomes feasible to handle them key areas of computational intelligence are artificial neural networks evolutionary computation and fuzzy systems as only a few researchers in that field rudolf kruse has contributed in many important ways to the understanding modeling and application of computational intelligence methods on occasion of his 60th birthday a collection of original papers of leading researchers in the field of computational intelligence has been collected in this volume

Computational Intelligence in Intelligent Data Analysis 2012-08-23

ongoing advancements in modern technology have led to significant developments in artificial intelligence with the numerous applications available it becomes imperative to conduct research and make further progress in this field artificial intelligence concepts methodologies tools and applications provides a comprehensive overview of the latest breakthroughs and recent progress in artificial intelligence highlighting relevant technologies uses and techniques across various industries and settings this publication is a pivotal reference source for researchers professionals academics upper level students and practitioners interested in emerging perspectives in the field of artificial intelligence

Artificial Intelligence: Concepts, Methodologies, Tools, and Applications *2016-12-12*

as modern technologies continue to develop and evolve the ability of users to adapt with new systems becomes a paramount concern research into new ways for humans to make use of advanced computers and other such technologies through artificial intelligence and computer simulation is necessary to fully realize the potential of tools in the 21st century advanced methodologies and technologies in artificial intelligence computer simulation and human computer interaction provides emerging research in advanced trends in robotics ai simulation and human computer interaction readers will learn about the positive applications of artificial intelligence and human computer interaction in various disciples such as business and medicine this book is a valuable resource for it professionals researchers computer scientists and researchers invested in assistive technologies artificial intelligence robotics and computer simulation

Advanced Methodologies and Technologies in Artificial Intelligence, Computer Simulation, and Human-Computer Interaction *2018-09-28*

for decades optimization methods such as fuzzy logic artificial neural networks firefly simulated annealing and tabu search have been capable of handling and tackling a wide range of real world application problems in society and nature analysts have turned to these problem solving techniques in the event during natural disasters and chaotic systems research the handbook of research on artificial intelligence techniques and algorithms highlights the cutting edge developments in this promising research area this premier reference work applies meta heuristics optimization mo techniques to real world problems in a variety of fields including business logistics computer science engineering and government this work is particularly relevant to researchers scientists decision makers managers and practitioners

Handbook of Research on Artificial Intelligence Techniques and Algorithms *2014-11-30*

this volume constitutes the thoroughly refereed post workshop proceedings of an international workshop on fuzzy logic in artificial intelligence held in negoya japan during ijcai 97 the 17 revised full papers presented have gone through two rounds of reviewing and revision three papers by leading authorities in the area are devoted to the general relevance of fuzzy logic and fuzzy sets to ai the remaining papers address various relevant issues ranging from theory to application in

areas like knowledge representation induction logic programming robotics pattern recognition etc

Fuzzy Logic in Artificial Intelligence *1999-07-28*

advances in computational intelligence and learning methods and applications presents new developments and applications in the area of computational intelligence which essentially describes methods and approaches that mimic biologically intelligent behavior in order to solve problems that have been difficult to solve by classical mathematics generally fuzzy technology artificial neural nets and evolutionary computing are considered to be such approaches the editors have assembled new contributions in the areas of fuzzy sets neural sets and machine learning as well as combinations of them so called hybrid methods in the first part of the book the second part of the book is dedicated to applications in the areas that are considered to be most relevant to computational intelligence

Advances in Computational Intelligence and Learning *2012-12-06*

the successful development and deployment of expert system tools spurred the initial momentum in developing and using intelligent techniques in industry the brittleness of expert systems and the enormous effort involved in the development and maintenance of knowledge bases prompted researchers to seek friendlier approaches neural networks fuzzy logic and evolutionary computing tools added a new dimension to the quest for more intelligent tools to supplement the capabilities of expert systems in one volume knowledge based intelligent techniques in industry comprehensively brings together the more important developments in the use of intelligent techniques in solving industrial problems the book s primary readership includes electrical engineers in industry as well as researchers working in computational intelligence research labs outlining state of the art techniques and cost effective solutions knowledge based intelligent techniques in industry singularly reflects the increasing study of computational intelligence techniques for designing and monitoring complex less predictable electrical or mechanical systems

Knowledge-Based Intelligent Techniques in Industry *1998-09-28*

this volume constitutes the proceedings of the 10th international conference on artificial intelligence and soft computing icaisc 2010 held in zakopane poland in june 13 17 2010 the articles are organized in topical sections on fuzzy systems and their applications data mining classification and forecasting image and speech analysis bioinformatics and medical applications volume 6113 together with neural networks and their applications evolutionary algorithms and their applications agent system robotics and control various problems aof artificial intelligence volume 6114

Artificial Intelligence and Soft Computing, Part II *2010-06-18*

traditional artificial intelligence ai systems adopted symbolic processing as their main paradigm symbolic ai systems have proved effective in handling problems characterized by exact and complete knowledge representation unfortunately these systems have very little power in dealing with imprecise uncertain and incomplete data and information which significantly contribute to the description of many real world problems both physical systems and processes as well as

mechanisms of decision making moreover there are many situations where the expert domain knowledge the basis for many symbolic ai systems is not sufficient for the design of intelligent systems due to incompleteness of the existing knowledge problems caused by different biases of human experts difficulties in forming rules etc in general problem knowledge for solving a given problem can consist of an explicit knowledge e g heuristic rules provided by a domain an implicit hidden knowledge buried in past experience expert and numerical data a study of huge amounts of these data collected in databases and the synthesizing of the knowledge encoded in them also referred to as knowledge discovery in data or data mining can significantly improve the performance of the intelligent systems designed

Computational Intelligence Systems and Applications *2012-12-06*

this book provides an overview of intelligent decision making techniques and discusses their application in production and retail operations manufacturing and retail enterprises have stringent standards for using advanced and reliable techniques to improve decision making processes since these processes have significant effects on the performance of relevant operations and the entire supply chain in recent years researchers have been increasingly focusing attention on using intelligent techniques to solve various decision making problems the opening chapters provide an introduction to several commonly used intelligent techniques such as genetic algorithm harmony search neural network and extreme learning machine the book then explores the use of these techniques for handling various production and retail decision making problems such as production planning and scheduling assembly line balancing and sales forecasting

Intelligent Decision-making Models for Production and Retail Operations *2016-06-27*

this book constitutes the refereed proceedings of the 20th international conference on industrial and engineering applications of artificial intelligence and expert systems iea aie 2007 held in kyoto japan coverage includes text processing fuzzy system applications real world interaction data mining machine learning chance discovery and social networks e commerce heuristic search application systems and other applications

New Trends in Applied Artificial Intelligence *2007-07-18*

engineering intelligent hybrid multi agent systems is about building intelligent hybrid systems included is coverage of applications and design concepts related to fusion systems transformation systems and combination systems these applications are in areas involving hybrid configurations of knowledge based systems case based reasoning fuzzy systems artificial neural networks genetic algorithms and in knowledge discovery and data mining through examples and applications a synergy of these subjects is demonstrated the authors introduce a multi agent architectural theory for engineering intelligent associative hybrid systems the architectural theory is described at both the task structure level and the computational level this problem solving architecture is relevant for developing knowledge agents and information agents an enterprise wide system modeling framework is outlined to facilitate forward and backward integration of systems developed in the knowledge information and data engineering layers of an organization in the modeling process software engineering aspects like agent oriented analysis design and reuse are developed and described engineering intelligent hybrid multi agent systems is the first book in the field to provide details of a multi agent architecture for building intelligent hybrid systems

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