

Expert Systems Principles And Programming Third Edition

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Computational Intelligence, Theory and Applications - Bernd Reusch 2006-08-18

This book constitutes the refereed proceedings of the 8th Dortmund Fuzzy Days, held in Dortmund, Germany, 2004. The Fuzzy-Days conference has established itself as an international forum for the discussion of new results in the field of Computational Intelligence. All the papers had to undergo a thorough review guaranteeing a solid quality of the programme. The papers are devoted to foundational and practical issues in fuzzy systems, neural networks, evolutionary algorithms, and machine learning and thus cover the whole range of computational intelligence.

Expert Systems: Principles and Programming with CD - Giarratano

Wavelet Active Media Technology and Information Processing -

Artificial Intelligence in Education - Chee-Kit Looi 2005

The field of Artificial Intelligence in Education includes research and researchers from many areas of technology and social science. This study aims to open opportunities for the cross-fertilization of information and ideas from researchers in the many fields that make up this interdisciplinary research area.

Design and Optimization of Thermal Systems, Third Edition -

Yogesh Jaluria 2019-09-06

Design and Optimization of Thermal Systems, Third Edition: with MATLAB® Applications provides systematic and efficient approaches to the design of thermal systems, which are of interest in a wide range of applications. It presents basic concepts and procedures for conceptual design, problem formulation, modeling, simulation, design evaluation, achieving feasible design, and optimization. Emphasizing modeling and simulation, with experimentation for physical insight and model validation, the third edition covers the areas of material selection, manufacturability, economic aspects, sensitivity, genetic and gradient search methods, knowledge-based design methodology, uncertainty, and other aspects that arise in practical situations. This edition features many new and revised examples and problems from diverse application areas and more extensive coverage of analysis and simulation with MATLAB®.

Computational Intelligence - Andries P. Engelbrecht 2007-10-22

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 neural 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 <http://www.ci.cs.up.ac.za> for examples, assignments and Java code implementing the algorithms.

Semantic Grid: Model, Methodology, and Applications - Zhaohui Wu 2008-11-16

Semantic Grid: Model, Methodology, and Applications introduces to the science, core technologies, and killer applications. First, scientific issues of semantic grid systems are covered, followed by two basic technical issues, data-level semantic mapping, and service-level semantic interoperating. Two killer applications are then introduced to show how to build a semantic grid for specific application domains. Although this book is organized in a step by step manner, each chapter is independent. Detailed application scenarios are also presented. In 1990, Prof. Wu invented the first KB-system tool, ZIPE, based on C on a SUN platform. He proposed the first coupling knowledge representing model, Couplingua, which embodies Rule, Frame, Semantic Network and Nerve Cell Network, and supports symbol computing and data processing computing. His current focus is on semantic web, grid & ubiquitous computing, and their applications in the life sciences.

Intelligent Systems - Robert J. Schalkoff 2011-08-24

Artificial Intelligence has changed significantly in recent years and many new resources and approaches are now available to explore and implement this important technology. Intelligent Systems: Principles, Paradigms, and Pragmatics takes a modern, 21st-century approach to the concepts of Artificial Intelligence and includes the latest developments, developmental tools, programming, and approaches related to AI. The author is careful to make the important distinction between theory and practice, and focuses on a broad core of technologies, providing students with an accessible and comprehensive introduction to key AI topics.

Encyclopedia of Information Science and Technology, Third

Edition - Khosrow-Pour, Mehdi 2014-07-31

"This 10-volume compilation of authoritative, research-based articles contributed by thousands of researchers and experts from all over the world emphasized modern issues and the presentation of potential opportunities, prospective solutions, and future directions in the field of information science and technology"--Provided by publisher.

Principles of Expert Systems - Peter Lucas 1991

Intelligent Systems for Engineers and Scientists - Adrian A.

Hopgood 2000-10-11

This updated version of the best-selling Knowledge-Based Systems for Engineers and Scientists (CRC Press, 1993) embraces both the explicit knowledge-based models retained from the first edition and the implicit numerical models represented by neural networks and optimization algorithms. The title change to Intelligent Systems for Engineers and Scie

Knowledge Technologies - Nick R. Milton 2008

Proceedings of the Third International Scientific Conference "Intelligent Information Technologies for Industry" (IITI'18) - Ajith Abraham 2018-12-05

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 VŠB – 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. Frontiers of Expert Systems - Chilukuri Krishna Mohan 2012-12-06 The development of modern knowledge-based systems, for applications ranging from medicine to finance, necessitates going well beyond traditional rule-based programming. *Frontiers of Expert Systems: Reasoning with Limited Knowledge* attempts to satisfy such a need, introducing exciting and recent advances at the frontiers of the field of expert systems. Beginning with the central topics of logic, uncertainty and rule-based reasoning, each chapter in the book presents a different perspective on how we may solve problems that arise due to limitations in the knowledge of an expert system's reasoner. Successive chapters address (i) the fundamentals of knowledge-based systems, (ii) formal inference, and reasoning about models of a changing and partially known world, (iii) uncertainty and probabilistic methods, (iv) the expression of knowledge in rule-based systems, (v) evolving representations of knowledge as a system interacts with the environment, (vi) applying connectionist learning algorithms to improve on knowledge acquired from experts, (vii) reasoning with cases organized in indexed hierarchies, (viii) the process of acquiring and inductively learning knowledge, (ix) extraction of knowledge nuggets from very large data sets, and (x) interactions between multiple specialized reasoners with specialized knowledge bases. Each chapter takes the reader on a journey from elementary concepts to topics of active research, providing a concise description of several topics within and related to the field of expert systems, with pointers to practical applications and other relevant literature. *Frontiers of Expert Systems: Reasoning with Limited Knowledge* is suitable as a secondary text for a graduate-level course, and as a reference for researchers and practitioners in industry.

Modelling and Predicting Textile Behaviour - Xiaogang Chen 2009-11-30

The textile industry can experience a vast array of problems. Modelling represents a group of techniques that have been widely used to explore the nature of these problems, it can highlight the mechanisms involved and lead to predictions of the textile behaviour. This book provides an overview of how textile modelling techniques can be used successfully within the textile industry for solving various problems. The first group of chapters reviews the different types of models and methods available for predicting textile structures and behaviour. Chapters include modelling of yarn, woven and nonwoven materials. The second group of chapters presents a selection of case studies, expressing the strengths and limitations and how various models are applied in specific applications. Case studies such as modelling colour properties for textiles and modelling, simulation and control of textile dyeing are discussed. With its distinguished editor and international range of contributors, *Modelling and predicting textile behaviour* is essential reading material for textile technologists, fibre scientists and textile engineers. It will also be beneficial for academics researching this important area. Provides an overview of the different types of models and methods that can be used successfully within the textile industry Reviews the structural hierarchy in textile materials fundamental to the modelling of textile fibrous structures Assesses the strengths and weaknesses of different textile models and how specific models are applied in different situations

Mathematical Methods in Scattering Theory and Biomedical Engineering - Dimitrios Ioannou Fotiadis 2006

This volume comprises the papers presented at the Seventh International Workshop on Scattering Theory and Biomedical Engineering, focusing on the hottest topics in scattering theory and biomedical technology. All the contributions are state-of-the-art and have been fully reviewed. The authors are recognized as being eminent both in their field and in the science community. Sample Chapter(s). Chapter 1: A Method to Solve Inverse Scattering Problems for Electromagnetic Fields in Chiral Media (891 KB). Contents: A Method to Solve Inverse Scattering Problems for Electromagnetic Fields in Chiral Media (C Athanasiadis & E Kardasi); Nonlinear Integral Equations in Inverse Obstacle Scattering (O Ivanyshyn & R Kres); Homogenization in Chiral Elasticity (G Barbatis & I G Stratis); Shape Control and Damage Identification of Piezoelectric Smart Beams Using Finite Element Modelling and Genetic Optimization (E P Hadjigeorgiou et al.); A Fast Numerical Method for a Simplified Phase Field Model (C A Sfyarakis & V A Dougalis); On the Hidden Electromagnetic Activity of the Brain (G Dassios); A Decision Tree Based Approach for the Identification of Ischaemic Beats in ECG Recordings (T P Exarchos et al.); An Automatic Microcalcification Detection System Utilizing Mammographic Enhancement Techniques (A N Papadopoulos & D I Fotiadis); Multidimensional Cardiac Models (D G Tsalikakis et al.); Mobile and Electronic Medical Support and Education for Dyslexic

Students (M Virvou & E Alepis); and other papers. Readership: Graduate students, academics and researchers in industry working in biomedical engineering, computational biology, mathematical biology and mathematical physics.

Computational Intelligence - Diego Andina 2007-05-06

Computational Intelligence is tolerant of imprecise information, partial truth and uncertainty. This book presents a selected collection of contributions on a focused treatment of important elements of CI, centred on its key element: learning. This book presents novel applications and real world applications working in Manufacturing and Engineering, and it sets a basis for understanding Domestic and Production Methods of the XXI Century.

User Modeling 2005 - Liliana Ardissono 2005-08-25

The 33 revised full papers and 30 poster summaries presented together with papers of 12 selected doctoral consortium articles and the abstracts of 3 invited lectures were carefully reviewed and selected from 160 submissions. The book offers topical sections on adaptive hypermedia, affective computing, data mining for personalization and cross-recommendation, ITS and adaptive advice, modeling and recognizing human activity, multimodality and ubiquitous computing, recommender systems, student modeling, user modeling and interactive systems, and Web site navigation support.

Encyclopedia of Information Science and Technology, Fourth Edition - Khosrow-Pour, D.B.A., Mehdi 2017-06-20

In recent years, our world has experienced a profound shift and progression in available computing and knowledge sharing innovations. These emerging advancements have developed at a rapid pace, disseminating into and affecting numerous aspects of contemporary society. This has created a pivotal need for an innovative compendium encompassing the latest trends, concepts, and issues surrounding this relevant discipline area. During the past 15 years, the *Encyclopedia of Information Science and Technology* has become recognized as one of the landmark sources of the latest knowledge and discoveries in this discipline. The *Encyclopedia of Information Science and Technology, Fourth Edition* is a 10-volume set which includes 705 original and previously unpublished research articles covering a full range of perspectives, applications, and techniques contributed by thousands of experts and researchers from around the globe. This authoritative encyclopedia is an all-encompassing, well-established reference source that is ideally designed to disseminate the most forward-thinking and diverse research findings. With critical perspectives on the impact of information science management and new technologies in modern settings, including but not limited to computer science, education, healthcare, government, engineering, business, and natural and physical sciences, it is a pivotal and relevant source of knowledge that will benefit every professional within the field of information science and technology and is an invaluable addition to every academic and corporate library.

The Ethos of Rhetoric - Michael J. Hyde 2004

Fourteen noted rhetorical theorists and critics answer a summons to return ethics from abstraction to the particular. They discuss and explore a meaning of ethos that predates its more familiar translation as "moral character" and "ethics." Together the contributors define ethical discourse and describe what its practice looks like in particular communities.

Systematic Introduction to Expert Systems - Frank Puppe 2012-12-06

At present one of the main obstacles to a broader application of expert systems is the lack of a theory to tell us which problem-solving methods are available for a given problem class. Such a theory could lead to significant progress in the following central aims of the expert system technique: - Evaluating the technical feasibility of expert system projects: This depends on whether there is a suitable problem-solving method, and if possible a corresponding tool, for the given problem class. - Simplifying knowledge acquisition and maintenance: The problem-solving methods provide direct assistance as interpretation models in knowledge acquisition. Also, they make possible the development of problem-specific expert system tools with graphical knowledge acquisition components, which can be used even by experts without programming experience. - Making use of expert systems as a knowledge medium: The structured knowledge in expert systems can be used not only for problem solving but also for knowledge communication and tutorial purposes. With such a theory in mind, this book provides a systematic introduction to expert systems. It describes the basic knowledge representations and the present situation with regard to the identification, realization, and integration of problem-solving methods for the main problem classes of

expert systems: classification (diagnostics), construction, and simulation.
Intelligent Control Systems - Gábor Szederkényi 2006-04-18

Intelligent control is a rapidly developing, complex and challenging field with great practical importance and potential. Because of the rapidly developing and interdisciplinary nature of the subject, there are only a few edited volumes consisting of research papers on intelligent control systems but little is known and published about the fundamentals and the general know-how in designing, implementing and operating intelligent control systems. Intelligent control system emerged from artificial intelligence and computer controlled systems as an interdisciplinary field. Therefore the book summarizes the fundamentals of knowledge representation, reasoning, expert systems and real-time control systems and then discusses the design, implementation verification and operation of real-time expert systems using G2 as an example. Special tools and techniques applied in intelligent control are also described including qualitative modelling, Petri nets and fuzzy controllers. The material is illustrated with simple examples taken from the field of intelligent process control.

Expert Systems - John Durkin 1994

Presents a step-by-step methodology for designing expert systems. Each chapter on design methodology starts with a problem and leads the reader through the design of a system which solves that problem.

Information Computing and Automation -

Programming Expert Systems in PASCAL - Brian Sawyer 1986-08-04

This is the first build-it-yourself guide to writing an expert system. The fact that the entire program can be written in either of the two most popular Pascal dialects, UCSD and Turbo, makes this easily accessible to all individual programmers.

Expert Systems - Joseph C. Giarratano 1994

In this book, the authors present rule-based programming in CLIPS (a rule-based programming language developed at NASA in part by Gary Riley). This book covers the construction of expert systems using rule-based programming methodologies. In this new edition the CLIPS software has been completely updated from version 4.2 to 6.0 and new CLIPS features have been included. The prerequisites are a structured programming and a data structures courses.

Applications of Fuzzy Logic in Bioinformatics - Dong Xu 2008-08-11

Many biological systems and objects are intrinsically fuzzy as their properties and behaviors contain randomness or uncertainty. In addition, it has been shown that exact or optimal methods have significant limitation in many bioinformatics problems. Fuzzy set theory and fuzzy logic are ideal to describe some biological systems/objects and provide good tools for some bioinformatics problems. This book comprehensively addresses several important bioinformatics topics using fuzzy concepts and approaches, including measurement of ontological similarity, protein structure prediction/analysis, and microarray data analysis. It also reviews other bioinformatics applications using fuzzy techniques.

Contents: Introduction to Bioinformatics Introduction to Fuzzy Set Theory and Fuzzy Logic Fuzzy Similarities in Ontologies Fuzzy Logic in Structural Bioinformatics Application of Fuzzy Logic in Microarray Data Analyses Other Applications Summary and Outlook Readership:

Postdoctoral fellows, students, senior investigators and professional practitioners/bioinformatics experts. Also used as a textbook for upper undergraduates and graduates in bioinformatics.

Keywords: Bioinformatics; Fuzzy Set Theory; Fuzzy

Logic; Clustering; Ontology; Protein Structure Key Features: Bridges two important research areas — computational intelligence and bioinformatics Chapters are connected seamlessly through a systematic design of the overall structure of the book Provides appendices on fundamental biological concepts and online resources related to the book James Keller, a renowned scientist in computational intelligence, pioneered a number of methods in fuzzy set theory Dong Xu, a well-known researcher in bioinformatics, developed several widely-used bioinformatics tools

Secure Data Management in Decentralized Systems - Ting Yu 2007-05-11

The field of database security has expanded greatly, with the rapid development of global inter-networked infrastructure. Databases are no longer stand-alone systems accessible only to internal users of organizations. Today, businesses must allow selective access from different security domains. New data services emerge every day, bringing complex challenges to those whose job is to protect data security. The Internet and the web offer means for collecting and sharing data with unprecedented flexibility and convenience, presenting threats and challenges of their own. This book identifies and addresses these

new challenges and more, offering solid advice for practitioners and researchers in industry.

Proceedings of All India Seminar on Advances in Product Development (APD-2006) - R.K. Srivastava 2006

Papers presented at an All India Seminar on Advances in Product Development, 17-18 February 2006.

Building Expert Systems - James Martin 1988

The vocabulary used with expert systems; Why expert systems?; What is an expert system?; Knowledge-base management and system evolution; Business opportunities offered by expert systems; Linking expert systems to other software; The construction of expert systems; Verifying suitability of tasks for expert system support; Building expert systems; The expert system life cycle; Expert system construction requirements; Tools for building expert systems; Languages; Expert system shells; Commercial expert system shells; Hardware for expert systems; Construction strategies; development of a personal computer expert system; How to select the right tools; The future of expert system technology; Index.

Behavioral Modeling and Simulation - National Research Council 2008-07-04

Today's military missions have shifted away from fighting nation states using conventional weapons toward combating insurgents and terrorist networks in a battlespace in which the attitudes and behaviors of civilian noncombatants may be the primary effects of military actions. To support these new missions, the military services are increasingly interested in using models of the behavior of humans, as individuals and in groups of various kinds and sizes. Behavioral Modeling and Simulation reviews relevant individual, organizational, and societal (IOS) modeling research programs, evaluates the strengths and weaknesses of the programs and their methodologies, determines which have the greatest potential for military use, and provides guidance for the design of a research program to effectively foster the development of IOS models useful to the military. This book will be of interest to model developers, operational military users of the models and their managers, and government personnel making funding decisions regarding model development.

Optimal Strategies for Disaster and Hazard Mitigation - Stuart Reid 2007

IFED is sponsored and organized by the Five-University Consortium on Uncertainty, Risk and Decision Making in Engineering. Forums are held every 12-18 months, to provide an opportunity to share exciting developments, and to stimulate new initiatives in engineering decision making and risk analysis for engineering systems.

Agile Manufacturing Systems - K Hans Raj 2011-12-17

Agility has become very important for the industries today as the lifetimes of the products are continuously shrinking. This book provides an excellent opportunity for updating understanding of agile methods from the design, manufacturing and business process perspectives, whether one is an industrial practitioner, academic researcher engineer or business graduate student. This volume is a compilation of various important aspects of agility consisting of systemic considerations in manufacturing, agile software systems, agile business systems, agile operations research, flexible manufacturing systems, advanced manufacturing systems with improved materials and mechanical behavior of products, agile aspects of design, clean and green manufacturing systems, environment, agile defence systems.

Computational Intelligence for Decision Support - Zhengxin Chen 1999-11-24

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.

Fuzzy Systems and Knowledge Discovery - Lipo Wang 2006-09-28

This book constitutes the refereed proceedings of the Third International Conference on Fuzzy Systems and Knowledge Discovery, FSKD 2006, held in federation with the Second International Conference on Natural Computation ICNC 2006. The book presents 115 revised full papers and 50 revised short papers. Coverage includes neural computation, quantum computation, evolutionary computation, DNA computation, fuzzy computation, granular computation, artificial life, innovative applications to knowledge discovery, finance, operations research, and more.

Continuous Cover Forestry - Klaus von Gadow 2013-03-09

The large-scale application of new silvicultural systems has become a political reality in many parts of the world. This involves a gradual transformation of traditional silvicultural practice towards Continuous Cover Forestry, also known as near-natural forest management, favouring mixed uneven-aged stands, site-adapted tree species and selective harvesting. Selective harvesting systems have a long tradition. Specific CCF-related resource assessment, forecasting and sustainable harvest control techniques have been developed, but details about their use are not widely known. The objective of this volume is to present state-of-the-art research results and techniques relating to CCF management with an emphasis on systems engineering and modelling. Using a very simple classification based on the development of timber volume over age or time we may distinguish two types of sustainable forest management systems. Rotation forest management (RFM) systems, characterized by standard silvicultural treatments and repetitive cycles of clearfelling followed by planting; and continuous cover forestry (CCF) systems which are characterized by selective harvesting and natural regeneration, resulting in uneven-aged structures and frequently also in multi-species forests. The distinction is usually the result of decisions relating to the cost of timber harvesting, simplicity of management, or various intangible benefits. The oldest and most perfect examples of CCF systems are the so called plenter selection forests found in France, Switzerland, Slovenia and Germany. Today, CCF systems are encountered in various regions of Europe, North America and in some tropical and sub-tropical forests of South Africa, Asia and South America.

AI for Games, Third Edition - Ian Millington 2019-03-18

AI is an integral part of every video game. This book helps professionals keep up with the constantly evolving technological advances in the fast growing game industry and equips students with up-to-date information they need to jumpstart their careers. This revised and updated Third Edition includes new techniques, algorithms, data structures and representations needed to create powerful AI in games. Key Features A comprehensive professional tutorial and reference to implement true AI in games Includes new exercises so readers can test their comprehension and understanding of the concepts and practices presented Revised and updated to cover new techniques and advances in AI Walks the reader through the entire game AI development process

Computer Aided Systems Theory - EUROCAST 2005 - Roberto Moreno-Díaz 2005-10-19

The concept of CAST, computer aided systems Theory, was introduced by

F. Pichler of Linz in the late 1980s to include those computer theoretical and practical developments used as tools to solve problems in system science. It was considered as the third component (the other two being CAD and CAM) that would provide for a complete picture of the path from computer and systems sciences to practical developments in science and engineering. The University of Linz organized the first CAST workshop in April 1988, which demonstrated the acceptance of the concepts by the scientific and technical community. Next, the University of Las Palmas de Gran Canaria joined the University of Linz to organize the first international meeting on CAST (Las Palmas February 1989), under the name EUROCAST 1989, a very successful gathering of systems theorists, computer scientists and engineers from most European countries, North America and Japan. It was agreed that EUROCAST international conferences would be organized every two years. Thus, the following EUROCAST meetings took place in Krems (1991), Las Palmas (1993), Innsbruck (1995), Las Palmas (1997), Vienna (1999), Las Palmas (2001) and Las Palmas (2003) in addition to an extra-European CAST conference in Ottawa in 1994. Selected papers from those meetings were published as Springer Lecture Notes in Computer Science vols. 410, 585, 763, 1030, 1333, 1728, 2178 and 2809 and in several special issues of Cybernetics and Systems: an International Journal.

Success in Evolutionary Computation - Yin Shan 2008-02-29

Darwinian evolutionary theory is one of the most important theories in human history for it has equipped us with a valuable tool to understand the amazing world around us. There can be little surprise, therefore, that Evolutionary Computation (EC), inspired by natural evolution, has been so successful in providing high quality solutions in a large number of domains. EC includes a number of techniques, such as Genetic Algorithms, Genetic Programming, Evolution Strategy and Evolutionary Programming, which have been used in a diverse range of highly successful applications. This book brings together some of these EC applications in fields including electronics, telecommunications, health, bioinformatics, supply chain and other engineering domains, to give the audience, including both EC researchers and practitioners, a glimpse of this exciting rapidly evolving field.

A First Course in Fuzzy Logic, Third Edition - Hung T. Nguyen 2005-10-06

A First Course in Fuzzy Logic, Third Edition continues to provide the ideal introduction to the theory and applications of fuzzy logic. This best-selling text provides a firm mathematical basis for the calculus of fuzzy concepts necessary for designing intelligent systems and a solid background for readers to pursue further studies and real-world applications. New in the Third Edition: A section on type-2 fuzzy sets - a topic that has received much attention in the past few years Additional material on copulas and t-norms More discussions on generalized modus ponens and the compositional rule of inference Complete revision to the chapter on possibility theory Significant expansion of the chapter on fuzzy integrals Many new exercises With its comprehensive updates, this new edition presents all the background necessary for students and professionals to begin using fuzzy logic in its many-and rapidly growing-applications in computer science, mathematics, statistics, and engineering.