

Application Of Soft Computing In Electrical Engineering

Thank you very much for reading **Application Of Soft Computing In Electrical Engineering**. Maybe you have knowledge that, people have search numerous times for their favorite books like this Application Of Soft Computing In Electrical Engineering, but end up in infectious downloads.

Rather than reading a good book with a cup of coffee in the afternoon, instead they are facing with some harmful virus inside their laptop.

Application Of Soft Computing In Electrical Engineering is available in our digital library an online access to it is set as public so you can get it instantly.

Our books collection spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one.

Merely said, the Application Of Soft Computing In Electrical Engineering is universally compatible with any devices to read



Soft Computing and Its Applications, Volume Two Springer

Soft Computing has emerged as an important approach towards achieving intelligent computational paradigms where key elements are learning from experience in the presence of uncertainties, fuzzy belief functions, and evolution of the computing strategies of the learning agent itself. Fuzzy, neural and evolutionary computing are the three major themes of soft computing. The book presents original research papers dealing with the theory of soft computing and its applications in engineering design and manufacturing. The methodologies have been applied to a large variety of real life problems. Application of soft computing has provided the opportunity to integrate human like 'vagueness' and real life 'uncertainty' to an otherwise 'hard' computer programme. Now, a computer programme can learn, adapt, and evolve using soft computing. The book identifies the strengths and limitations of soft computing techniques, particularly with reference to their engineering applications. The applications range from design optimisation to scheduling and image analysis. Goal optimisation with incomplete information and under uncertainty is the key to solving real-life problems in design and manufacturing. Soft computing techniques presented in this book address these issues. Computational complexity and efficient implementation of these techniques are also major concerns for realising useful industrial applications of soft computing. The different parts in the book also address these issues. The book contains 9 parts, 8 of which are based on papers from the '2nd On-line World Conference on Soft Computing in Engineering Design and Manufacture (WSC2)',.

Applied Soft Computing CRC Press

This book provides insights into contemporary issues and challenges in soft computing applications and techniques in healthcare. It will be a useful guide to identify, categorise and assess the role of different soft computing techniques for disease, diagnosis and prediction due to technological advancements. The book explores applications in soft computing and covers empirical properties of artificial neural network (ANN), evolutionary computing, fuzzy logic and statistical techniques. It presents basic and advanced concepts to help beginners and industry professionals get up to speed on the latest developments in soft computing and healthcare systems. It incorporates the latest methodologies and challenges facing soft computing, examines descriptive, predictive and social network techniques and discusses analytics tools and their role in providing effective solutions for science and technology. The primary users for the book include researchers, academicians, postgraduate students, specialists and practitioners. Dr. Ashish Mishra is a professor in the Department of Computer Science and Engineering, Gyan Ganga Institute of Technology and Sciences, Jabalpur, Madhya Pradesh, India. He has contributed in organising the INSPIRE Science Internship Camp. He is a member of the Institute of Electrical and Electronics Engineers and is a life member of the Computer Society of India. His research interests include the Internet of Things, data mining, cloud computing, image processing and knowledge-based systems. He holds nine patents in Intellectual Property, India. He has authored four books in the areas of data mining, image processing and LaTeX. Dr. G. Suseendran is an assistant professor, Department of Information Technology, School of Computing Sciences, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai, Tamil Nadu, India. His research interests include ad-hoc networks, the Internet of Things, data mining, cloud computing, image processing, knowledge-based systems, and Web information exploration. He has published more than 75 research papers in various international journals such as Science Citation Index, Springer Book Chapter, Scopus, IEEE Access and UGC-referred journals. Prof. Trung-Nghia Phung is an associate professor and Head of Academic Affairs, Thai Nguyen University of Information and Communication Technology (ICTU). He has published more than 60 research papers. His main research interest lies in the field of speech, audio, and biomedical signal processing. He serves as a technical committee program member, track chair, session chair, and reviewer of many international conferences and journals. He was a co-Chair of the International Conference on Advances in Information and Communication Technology 2016 (ICTA 2016) and a Session Chair of the 4th International Conference on Information System Design and Intelligent Applications (INDIA 2017).

Applied Soft Computing Springer

Soft computing includes several intelligent computing paradigms, like fuzzy logic, neural networks, and bio-inspired optimization algorithms. This book describes the application of soft computing techniques to intelligent control, pattern recognition, and optimization problems. The book is organized in four main parts. The first part deals with nature-inspired optimization methods and their applications. Papers included in this part propose new models for achieving intelligent optimization in different application areas. The second part discusses hybrid intelligent systems for achieving control. Papers included in this part make use of nature-inspired techniques, like evolutionary algorithms, fuzzy logic and neural networks, for the optimal design of intelligent controllers for different kind of applications. Papers in the third part focus on

intelligent techniques for pattern recognition and propose new methods to solve complex pattern recognition problems. The fourth part discusses new theoretical concepts and methods for the application of soft computing to many different areas, such as natural language processing, clustering and optimization.

Soft Computing for Biomedical Applications and Related Topics Springer

This book presents the proceedings of the 11th Conference on Theory and Applications of Soft Computing, Computing with Words and Perceptions and Artificial Intelligence, ICSCCW-2021, held in Antalya, Turkey, on August 23-24, 2021. The general scope of the book covers uncertain computation, decision making under imperfect information, neuro-fuzzy approaches, natural language processing, and other areas. The topics of the papers include theory and application of soft computing, computing with words, image processing with soft computing, intelligent control, machine learning, fuzzy logic in data mining, soft computing in business, economics, engineering, material sciences, biomedical engineering, and health care.

This book is a useful guide for academics, practitioners, and graduates in fields of soft computing and computing with words. It allows for increasing of interest in development and applying of these paradigms in various real-life fields.

Soft Computing Applications in Industry Springer

Soft computing has been presented not only with the theoretical developments but also with a large variety of realistic applications to consumer products and industrial systems. Application of soft computing has provided the opportunity to integrate human-like vagueness and real-life uncertainty into an otherwise hard computer program. This book highlights some of the recent developments in practical applications of soft computing in engineering problems. All the chapters have been sophisticatedly designed and revised by international experts to achieve wide but in-depth coverage. Contents: Automatic Detection of Microcalcifications in Mammograms Using a Fuzzy Classifier (A P Drijarkara et al.) Predictive Fuzzy Model for Control of an Artificial Muscle (P B Petrovi) Evolutionary Computation for Information Retrieval Based on User Preference (H-G Kim & S-B Cho) Fuzzy Logic and Neural Networks Approach — A Way to Improve Overall Performance of Integrated Heating Systems (E Entchev) Design and Tuning a Neurofuzzy Power System Stabilizer Using Genetic Algorithms (A Afzalian & D A Linkens) An Application of Logic Programs with Soft Computing Aspects to Fault Diagnosis in Digital Circuits (H Sakai et al.) Determination of the Motion Parameters from the Perspective Projection of a Triangle (M M Sein & H Hama) and other papers Readership: Graduate students, industrial researchers and academics in fuzzy logic, software engineering, neural networks and artificial intelligence. Keywords: Soft Computing; Neuro-Fuzzy; Choquet Integral; Fuzzy Control; Genetic Algorithm; Information Retrieval; Pattern Recognition; Power System; Emergency Management; Fault Diagnosis

10th International Conference on Theory and Application of Soft Computing, Computing with Words and Perceptions - ICSCCW-2019 Springer

This book plays a significant role in improvising human life to a great extent. The new applications of soft computing can be regarded as an emerging field in computer science, automatic control engineering, medicine, biology application, natural environmental engineering, and pattern recognition. Now, the exemplar model for soft computing is human brain. The use of various techniques of soft computing is nowadays successfully implemented in many domestic, commercial, and industrial applications due to the low-cost and very high-performance digital processors and also the decline price of the memory chips. This is the main reason behind the wider expansion of soft computing techniques and its application areas. These computing methods also play a significant role in the design and optimization in diverse engineering disciplines. With the influence and the development of the Internet of things (IoT) concept, the need for using soft computing techniques has become more significant than ever. In general, soft computing methods are closely similar to biological processes than traditional techniques, which are mostly based on formal logical systems, such as sentential logic and predicate logic, or rely heavily on computer-aided numerical analysis. Soft computing techniques are anticipated to complement each other. The aim of these techniques is to accept imprecision, uncertainties, and approximations to get a rapid solution.

Soft Computing Applications in Optimization, Control, and Recognition Springer Nature

This volume of Advances in Intelligent Systems and Computing contains accepted papers presented at WSC17, the 17th Online World Conference on Soft Computing in Industrial Applications, held from December 2012 to January 2013 on the Internet. WSC17 continues a successful series of scientific events started over a decade ago by the World Federation of Soft Computing. It brought together researchers from over the world interested in the ever advancing state of the art in the field. Continuous technological improvements make this online forum a viable gathering format for a world class conference. The aim of WSC17 was to disseminate excellent research results and contribute to building a global network of scientists interested in both theoretical foundations and practical applications of soft computing. The 2012 edition of the Online World Conference on Soft Computing in Industrial Applications consisted of general track and special session on Continuous Features Discretization for Anomaly Intrusion Detectors Generation and special session on Emerging Theories and Applications in Transportation Science. A total of 33 high quality research papers were accepted after a rigorous review process and are provided in this book.

Soft Computing in Industrial Applications Apple Academic Press

Soft computing techniques have reached a significant level of recognition and acceptance from both the academic and industrial communities. The papers collected in this volume illustrate the depth of the current theoretical research trends and the breadth of the application areas in which soft computing methods are making contributions. This volume consists of forty six selected papers presented at the Fourth International Conference on Recent Advances in Soft Computing, which was held in Nottingham, United Kingdom on 12 and 13 December 2002 at Nottingham Trent University. This volume is organized in five parts. The first four parts address mainly the fundamental and theoretical advances in soft computing, namely Artificial Neural Networks, Evolutionary Computing, Fuzzy Systems and Hybrid Systems. The fifth part of this volume presents papers that deal with practical issues and industrial applications of soft computing techniques. We would like to express our sincere gratitude to all the authors who submitted contributions for inclusion. We are also indebted to Janusz Kacprzyk for his services related to this volume. We hope you find the volume an interesting reflection of current theoretical and application based soft computing research.

Soft Computing Applications CRC Press

WSC2008 Chair's Welcome Message Dear Colleague, The World Soft Computing (WSC) conference is an annual international online

conference on applied and theoretical soft computing technology. This WSC 2008 is the thirteenth conference in this series and it has been a great success. We received a lot of excellent paper submissions which were peer-reviewed by an international team of experts. Only 60 papers out of 111 submissions were selected for online publication. This assured a high quality standard for this online conference. The corresponding online statistics are a proof of the great world-wide interest in the WSC 2008 conference. The conference website had a total of 33,367 different human user accesses from 43 countries with around 100 visitors every day, 151 people signed up to WSC to discuss their scientific disciplines in our chat rooms and the forum. Also audio and slide presentations allowed a detailed discussion of the papers. The submissions and discussions showed that there is a wide range of soft computing applications to date. The topics covered by the conference range from applied to theoretical aspects of fuzzy, neuro-fuzzy and rough sets over to neural networks to single and multi-objective optimisation. Contributions about particles warm optimisation, gene expression programming, clustering, classification, support vector machines, quantum evolution and agents systems have also been received. One whole session was devoted to soft computing techniques in computer graphics, imaging, vision and signal processing.

Soft Computing in Information Retrieval Springer Science & Business Media

This book provides a comprehensive overview of recent advances in the industrial applications of soft computing. It covers a wide range of application areas, including optimisation, data analysis and data mining, computer graphics and vision, prediction and diagnosis, design, intelligent control, and traffic and transportation systems. The book is aimed at researchers and professional engineers engaged in developing and applying intelligent systems.

Soft Computing and Industry Springer

The 15th Online World Conference on Soft Computing in Industrial Applications, held on the Internet, constitutes a distinctive opportunity to present and discuss high quality papers, making use of sophisticated Internet tools and without incurring in high cost and, thus, facilitating the participation of people from the entire world. The book contains a collection of papers covering outstanding research and developments in the field of Soft Computing including, evolutionary computation, fuzzy control and neuro-fuzzy systems, bio-inspired systems, optimization techniques and application of Soft Computing techniques in modeling, control, optimization, data mining, pattern recognition and traffic and transportation systems.

Soft Computing and its Engineering Applications Soft Computing and Its Applications

This book provides a practical guide to applying soft-computing methods to interpret geophysical data. It discusses the design of neural networks with Matlab for geophysical data, as well as fuzzy logic and neuro-fuzzy concepts and their applications. In addition, it describes genetic algorithms for the automatic and/or intelligent processing and interpretation of geophysical data.

Theoretical Advances and Applications of Fuzzy Logic and Soft Computing Springer

These authors use soft computing techniques and fractal theory in this new approach to mathematical modeling, simulation and control of complex non-linear dynamical systems. First, a new fuzzy-fractal approach to automated mathematical modeling of non-linear dynamical systems is presented. It is illustrated with examples on the PROLOG programming language.

Applications and Science in Soft Computing Springer

This book bridges the gap between Soft Computing techniques and their applications to complex engineering problems. In each chapter we endeavor to explain the basic ideas behind the proposed applications in an accessible format for readers who may not possess a background in some of the fields. Therefore, engineers or practitioners who are not familiar with Soft Computing methods will appreciate that the techniques discussed go beyond simple theoretical tools, since they have been adapted to solve significant problems that commonly arise in such areas. At the same time, the book will show members of the Soft Computing community how engineering problems are now being solved and handled with the help of intelligent approaches. Highlighting new applications and implementations of Soft Computing approaches in various engineering contexts, the book is divided into 12 chapters. Further, it has been structured so that each chapter can be read independently of the others.

Soft Computing for Reservoir Characterization and Modeling Springer Nature

Soft computing embraces various methodologies for the development of intelligent systems that have been successfully applied to a large number of real-world problems. This text contains a collection of papers that were presented at the 6th On-line World Conference on Soft Computing in Industrial Applications that was held in September 2001. It provides a comprehensive overview of recent theoretical developments in soft computing as well as of successful industrial applications. It is divided into seven parts covering material on: keynote papers on various subjects ranging from computing with autopoietic systems to the effects of the Internet on education intelligent control classification, clustering and optimization image and signal processing agents, multimedia and Internet theoretical advances prediction, design and diagnosis. The book is aimed at researchers and professional engineers who develop and apply intelligent systems in computer engineering.

Application of Soft Computing and Intelligent Methods in Geophysics CRC Press

Rapid advancements in the application of soft computing tools and techniques have proven valuable in the development of highly scalable systems and resulted in brilliant applications, including those in biometric identification, interactive voice response systems, and data mining. Although many resources on the subject adequately cover the theoretic concepts, few provide clear insight into practical application. Filling this need, Real Life Applications of Soft Computing explains such applications, including the underlying technology and its implementation. While these systems initially seem complex, the authors clearly demonstrate how they can be modeled, designed, and implemented. Written in a manner that makes it accessible to novices, the book begins by covering the theoretical foundations of soft computing. It supplies a concise explanation of various models, principles, algorithms, tools, and techniques, including artificial neural networks, fuzzy systems, evolutionary algorithms, and hybrid algorithms. Supplying in-depth exposure to real life systems, the text provides: Multi-dimensional coverage supported by references, figures, and tables Warnings about common pitfalls in the implementation process, as well as detailed examinations of possible solutions A timely account of developments in various areas of application Solved examples and exercises in each chapter Detailing a wide range of contemporary applications, the text includes coverage of those in biometric systems, including physiological and behavioral biometrics. It also examines applications in legal threat assessment, robotic path planning, and navigation control. The authors consider fusion methods in biometrics and bioinformatics and also provide effective disease identification techniques. Complete with algorithms for robotic path planning, the book addresses character recognition and presents the picture compression technique by using a customized hybrid algorithm. The authors conclude with a discussion of parallel architecture for artificial neural networks and supply guidelines for creating and implementing effective soft computing designs.

11th International Conference on Theory and Application of Soft Computing, Computing with Words and Perceptions and Artificial Intelligence - ICSCCW-2021

Springer Science & Business Media

This book presents innovative intelligent techniques, with an emphasis on their biomedical applications. Although many medical doctors are willing to share their knowledge — e.g. by incorporating it in computer-based advisory systems that can benefit other doctors — this knowledge is often expressed using imprecise (fuzzy) words from natural language such as “small,” which are difficult for computers to process. Accordingly, we need fuzzy techniques to handle such words. It is also desirable to extract general recommendations from the records of medical doctors’ decisions — by using machine learning techniques such as neural networks. The book describes state-of-the-art fuzzy, neural, and other techniques, especially those that are now being used, or potentially could be used, in biomedical applications.

Accordingly, it will benefit all researchers and students interested in the latest developments, as well as practitioners who want to learn about new techniques.

Applications of Soft Computing CRC Press

This book presents a unified view of modelling, simulation, and control of non linear dynamical systems using soft computing techniques and fractal theory. Our particular point of view is that modelling, simulation, and control are problems that cannot be considered apart, because they are intrinsically related in real world applications. Control of non-linear dynamical systems cannot be achieved if we don't have the appropriate model for the system. On the other hand, we know that complex non-linear dynamical systems can exhibit a wide range of dynamic behaviors (ranging from simple periodic orbits to chaotic strange attractors), so the problem of simulation and behavior identification is a very important one. Also, we want to automate each of these tasks because in this way it is more easy to solve a particular problem. A real world problem may require that we use modelling, simulation, and control, to achieve the desired level of performance needed for the particular application.

Application of Soft Computing, Machine Learning, Deep Learning and Optimizations in Geoenvironmental Engineering and Geoscience Springer Science & Business Media

The concept of soft computing is still in its initial stages of crystallization. Presently available books on soft computing are merely collections of chapters or articles about different aspects of the field. This book is the first to provide a systematic account of the major concepts and methodologies of soft computing, presenting a unified framework that makes the subject more accessible to students and practitioners. Particularly worthy of note is the inclusion of a wealth of information about neuro-fuzzy, neuro-genetic, fuzzy-genetic and neuro-fuzzy-genetic systems, with many illuminating applications and examples.

Soft Computing in Industrial Applications World Scientific Publishing Company

This book comprises a selection of papers on theoretical advances and applications of fuzzy logic and soft computing from the IFSA 2007 World Congress, held in Cancun, Mexico, June 2007. These papers constitute an important contribution to the theory and applications of fuzzy logic and soft computing methodologies.