A solution network based on stud krill herd algorithm for .pdf

Feature Selection and Enhanced Krill Herd Algorithm for Text Document Clustering Swarm Intelligence and Bio-Inspired Computation Augmented Powell-Based Krill Herd Optimization for Roadside Unit Deployment in Vehicular Ad Hoc Networks Design and Applications of Nature Inspired Optimization New Advancements in Swarm Algorithms: Operators and Applications Advanced Optimization by Nature-Inspired Algorithms Advances in Nature-Inspired Computing and Applications Optimization in Control Applications Numerical and Evolutionary Optimization 2018 Evolutionary Computation Recent Advances in Hybrid Metaheuristics for Data Clustering Smart Technologies in Data Science and Communication Applications of Computing, Automation and Wireless Systems in Electrical Engineering Handbook of Moth-Flame Optimization Algorithm Proceedings of 2019 Chinese Intelligent Systems Conference Advances in Metaheuristic Algorithms for Optimal Design of Structures Dynamic Sensor Deployment in Mobile Wireless Sensor Networks Using Multi-agent Krill Herd Algorithm Metaheuristics in Machine Learning: Theory and Applications Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities Intelligent Information Processing IX Advances in Swarm Intelligence Comprehensive Metaheuristics Intelligent Systems Technologies and Applications POWER SYSTEM OPTIMIZATION Machine Learning, Optimization, and Data Science Intelligent Systems'2014 Swarm Intelligence Algorithms (Two Volume Set) Distributed Computing and Internet Technology Automation and Computational Intelligence for Road Maintenance and Management Comprehensive Metaheuristics Structural Optimization Using Shuffled Shepherd Meta-Heuristic Algorithm Advances in Computer and Computational Sciences Bio-inspired Computing: Theories and Applications Networking Communication and Data Knowledge Engineering Advances in Energy Technology Deep Learning Approaches for Spoken and Natural Language Processing Input Modeling with Phase-Type Distributions and Markov Models Advances in Intelligent Networking and Collaborative Systems Proceedings of SAI Intelligent Systems Conference (IntelliSys) 2016 Problem Solving and Uncertainty Modeling through Optimization and Soft Computing Applications

Feature Selection and Enhanced Krill Herd Algorithm for Text Document Clustering 2018-12-18

this book puts forward a new method for solving the text document td clustering problem which is established in two main stages i a new feature selection method based on a particle swarm optimization algorithm with a novel weighting scheme is proposed as well as a detailed dimension reduction technique in order to obtain a new subset of more informative features with low dimensional space this new subset is subsequently used to improve the performance of the text clustering tc algorithm and reduce its computation time the k mean clustering algorithm is used to evaluate the effectiveness of the obtained subsets ii four krill herd algorithms khas namely the a basic kha b modified kha c hybrid kha and d multi objective hybrid kha are proposed to solve the tc problem each algorithm represents an incremental improvement on its predecessor for the evaluation process seven benchmark text datasets are used with different characterizations and complexities text document td clustering is a new trend in text mining in which the tds are separated into several coherent clusters where all documents in the same cluster are similar the findings presented here confirm that the proposed methods and algorithms delivered the best results in comparison with other similar methods to be found in the literature

Swarm Intelligence and Bio-Inspired Computation 2013-05-16

a new metaheuristic optimization algorithm called krill herd kh has been recently proposed by gandomi and alavi in this study kh is introduced for structural optimization for more verification kh is subsequently applied to three design problems reported in the literature the performance of the kh algorithm is further compared with various algorithms representative of the state of the art in the area the comparisons show that the results obtained by kh can be better than the best solutions obtained by the existing methods in these three case studies

Augmented Powell-Based Krill Herd Optimization for Roadside Unit Deployment in Vehicular Ad Hoc Networks 2018

this article focuses on roadside unit rsu deployment based on the analysis of aggregation delay causes between the accident occurring location and the nearby rsu information aggregation in vehicular ad hoc networks using rsu is one of the phenomenal concepts that look ahead in todays recent advancements since the consistency in aggregation and dissemination of data in a volatile network is high when compared with vehicle to vehicle communications deploying the rsu as appropriate in rural areas is cost sensitive since the collection of information is not up to the mark when compared with urban regions a mathematical model called powells method and a bioinspired algorithm namely krill herd algorithm have been hybridized and proposed in this research article for effective rsu deployment the proposed algorithm has been tested under three different road maps and the consistency of the algorithm has been evaluated under appropriate performance measures

Design and Applications of Nature Inspired Optimization 2023-01-02

this book gives a detailed information of various real life applications from various fields using nature inspired optimization techniques these techniques are proven to be efficient and robust in many difficult problems in literature the authors provide detailed information about real life problems and how various nature inspired optimizations are applied to solve these problems the authors discuss techniques such as biogeography based optimization glow swarm optimization elephant herd optimization algorithm cuckoo search algorithm ant colony optimization and grey wolf optimization etc these algorithms are applied to a wide range of problems from the field of engineering finance medicinal etc as an important part of the women in science and engineering book series the work highlights the contribution of women leaders in nature inspired optimization inspiring women and men girls and boys to enter and apply themselves to the field

New Advancements in Swarm Algorithms: Operators and Applications 2019-04-02

this book presents advances in alternative swarm development that have proved to be effective in several complex problems swarm intelligence si is a problem solving methodology that results from the cooperation between a set of agents with similar characteristics the study of biological entities such as animals and insects manifesting social behavior has resulted in several computational models of swarm intelligence while there are numerous books addressing the most widely known swarm methods namely ant colony algorithms and particle swarm optimization those discussing new alternative approaches are rare the focus on developments based on the simple modification of popular swarm methods overlooks the opportunity to discover new techniques and procedures that can be useful in solving problems formulated by the academic and industrial communities presenting various novel swarm methods and their practical applications the book helps researchers lecturers engineers and practitioners solve their own optimization problems

Advanced Optimization by Nature-Inspired Algorithms 2017-06-30

this book compiles presents and explains the most important meta heuristic and evolutionary optimization algorithms whose successful performance has been proven in different fields of engineering and it includes application of these algorithms to important engineering optimization problems in addition this book guides readers to studies that have implemented these algorithms by providing a literature review on developments and applications of each algorithm this book is intended for students but can be used by researchers and professionals in the area of engineering optimization

Advances in Nature-Inspired Computing and Applications 2018-08-29

this book contains research contributions from leading global scholars in nature inspired computing it includes comprehensive coverage of each respective topic while also highlighting recent and future trends the contributions provides readers with a snapshot of the state of the art in the field of nature inspired computing and its application this book has focus on the current researches while highlighting the

empirical results along with theoretical concepts to provide a comprehensive reference for students researchers scholars professionals and practitioners in the field of advanced artificial intelligence nature inspired algorithms and soft computing

Optimization in Control Applications 2019-01-10

this book is a printed edition of the special issue optimization in control applications that was published in mca

Numerical and Evolutionary Optimization 2018 2019-11-19

this book was established after the 6th international workshop on numerical and evolutionary optimization neo representing a collection of papers on the intersection of the two research areas covered at this workshop numerical optimization and evolutionary search techniques while focusing on the design of fast and reliable methods lying across these two paradigms the resulting techniques are strongly applicable to a broad class of real world problems such as pattern recognition routing energy lines of production prediction and modeling among others this volume is intended to serve as a useful reference for mathematicians engineers and computer scientists to explore current issues and solutions emerging from these mathematical and computational methods and their applications

Evolutionary Computation 2019-11-28

computational intelligence is a general term for a class of algorithms designed by nature s wisdom and human intelligence computer scientists have proposed many computational intelligence algorithms with heuristic features these algorithms either mimic the evolutionary processes of the biological world mimic the physiological structure and bodily functions of the organism imitate the behavior of the animal s group mimic the characteristics of human thought language and memory processes or mimic the physical phenomena of nature hoping to simulate the wisdom of nature and humanity enables an optimal solution to the problem and solves an acceptable solution in an acceptable time computational intelligent algorithms have received extensive attention at home and abroad and have become an important research direction of artificial intelligence and computer science this book will introduce the application of intelligent optimization algorithms in detail from the aspects of computational intelligence job shop scheduling problems multi objective optimization problems and machine learning

Recent Advances in Hybrid Metaheuristics for Data Clustering 2020-08-24

an authoritative guide to an in depth analysis of various state of the art data clustering approaches using a range of computational intelligence techniques recent advances in hybrid metaheuristics for data clustering offers a guide to the fundamentals of various metaheuristics and their application to data clustering metaheuristics are designed to tackle complex clustering problems where classical clustering algorithms have failed to be either effective or efficient the authors noted experts on the topic provide a text that can aid in

the design and development of hybrid metaheuristics to be applied to data clustering the book includes performance analysis of the hybrid metaheuristics in relationship to their conventional counterparts in addition to providing a review of data clustering the authors include in depth analysis of different optimization algorithms the text offers a step by step guide in the build up of hybrid metaheuristics and to enhance comprehension in addition the book contains a range of real life case studies and their applications this important text includes performance analysis of the hybrid metaheuristics as related to their conventional counterparts offers an in depth analysis of a range of optimization algorithms highlights a review of data clustering contains a detailed overview of different standard metaheuristics in current use presents a step by step guide to the build up of hybrid metaheuristics offers real life case studies and applications written for researchers students and academics in computer science mathematics and engineering recent advances in hybrid metaheuristics for data clustering provides a text that explores the current data clustering approaches using a range of computational intelligence techniques

Smart Technologies in Data Science and Communication 2020-03-30

this book features high quality peer reviewed research papers presented at the international conference on smart technologies in data science and communication smart dsc 2019 held at vignan s institute of information technology autonomous visakhapatnam andhra pradesh india on 13 14 december 2019 it includes innovative and novel contributions in the areas of data analytics communication and soft computing

Applications of Computing, Automation and Wireless Systems in Electrical Engineering 2019-05-31

this book discusses key concepts challenges and potential solutions in connection with established and emerging topics in advanced computing renewable energy and network communications gathering edited papers presented at marc 2018 on july 19 2018 it will help researchers pursue and promote advanced research in the fields of electrical engineering communication computing and manufacturing

Handbook of Moth-Flame Optimization Algorithm 2022-09-20

moth flame optimization algorithm is an emerging meta heuristic and has been widely used in both science and industry solving optimization problem using this algorithm requires addressing a number of challenges including multiple objectives constraints binary decision variables large scale search space dynamic objective function and noisy parameters handbook of moth flame optimization algorithm variants hybrids improvements and applications provides an in depth analysis of this algorithm and the existing methods in the literature to cope with such challenges key features reviews the literature of the moth flame optimization algorithm provides an in depth analysis of equations mathematical models and mechanisms of the moth flame optimization algorithm proposes different variants of the moth flame optimization algorithm to solve binary multi objective noisy dynamic and combinatorial optimization problems demonstrates how to design develop and test different hybrids of moth flame optimization algorithm introduces several applications areas of the moth flame optimization algorithm this handbook will interest researchers in evolutionary computation and meta heuristics and those who are interested in applying moth flame

optimization algorithm and swarm intelligence methods overall to different application areas

Proceedings of 2019 Chinese Intelligent Systems Conference 2019-09-07

this book showcases new theoretical findings and techniques in the field of intelligent systems and control it presents in depth studies on a number of major topics including multi agent systems complex networks intelligent robots complex system theory and swarm behavior event triggered control and data driven control robust and adaptive control big data and brain science process control intelligent sensor and detection technology deep learning and learning control guidance navigation and control of aerial vehicles and so on given its scope the book will benefit all researchers engineers and graduate students who want to learn about cutting edge advances in intelligent systems intelligent control and artificial intelligence

Advances in Metaheuristic Algorithms for Optimal Design of Structures 2021-01-21

this book presents efficient metaheuristic algorithms for optimal design of structures many of these algorithms are developed by the author and his graduate students consisting of particle swarm optimization charged system search magnetic charged system search field of forces optimization democratic particle swarm optimization dolphin echolocation optimization colliding bodies optimization ray optimization these are presented together with algorithms which are developed by other authors and have been successfully applied to various optimization problems these consist of partical swarm optimization big band big crunch algorithm cuckoo search optimization imperialist competitive algorithm and chaos embedded metaheuristic algorithm finally a multi objective optimization is presented to solve large scale structural problems based on the charged system search algorithm in the second edition seven new chapters are added consisting of enhance colliding bodies optimization global sensitivity analysis tug of war optimization water evaporation optimization vibrating system optimization and cyclical parthenogenesis optimization algorithm in the third edition five new chapters are included consisting of the recently developed algorithms these are shuffled shepherd optimization algorithm set theoretical teaching learning based optimization algorithm thermal exchange metaheuristic optimization algorithm and water strider optimization algorithm and its enhancement the concepts and algorithm presented in this book are not only applicable to optimization of skeletal structure finite element models but can equally be utilized for optimal design of other systems such as hydraulic and electrical networks

Dynamic Sensor Deployment in Mobile Wireless Sensor Networks Using Multi-agent Krill Herd Algorithm 2018

a wireless sensor network wsn is a group of spatially dispersed sensors that monitor the physical conditions of the environment and collect data at a central location sensor deployment is one of the main design aspects of wsns as this a ffects network coverage in general wsn deployment methods fall into two categories planned deployment and random deployment this thesis considers planned sensor deployment of a mobile wireless sensor network mwsn which is defined as selectively deciding the locations of the mobile sensors under the given

constraints to optimize the coverage of the network metaheuristic algorithms are powerful tools for the modeling and optimization of problems the krill herd algorithm kha is a new nature inspired metaheuristic algorithm which can be used to solve the sensor deployment problem a multi agent system mas is a system that contains multiple interacting agents these agents are autonomous entities that interact with their environment and direct their activity towards achieving speci c goals agents can also learn or use their knowledge to accomplish a mission multi agent systems can solve problems that are very difficult or even impossible for monolithic systems to solve in this work a modification of kha is proposed which incorporates mas to obtain a multi agent krill herd algorithm makha to test the performance of the proposed method five benchmark global optimization problems are used numerical results are presented which show that makha performs better than the kha by finding better solutions the proposed makha is also employed to solve the sensor deployment problem simulation results are presented which indicate that the agent agent interactions in makha improves the wsn coverage in comparison with particle swarm optimization pso the firefly algorithm fa and the kha

Metaheuristics in Machine Learning: Theory and Applications 2019-04-05

this book is a collection of the most recent approaches that combine metaheuristics and machine learning some of the methods considered in this book are evolutionary swarm machine learning and deep learning the chapters were classified based on the content then the sections are thematic different applications and implementations are included in this sense the book provides theory and practical content with novel machine learning and metaheuristic algorithms the chapters were compiled using a scientific perspective accordingly the book is primarily intended for undergraduate and postgraduate students of science engineering and computational mathematics and is useful in courses on artificial intelligence advanced machine learning among others likewise the book is useful for research from the evolutionary computation artificial intelligence and image processing communities

Handbook of Research on Metaheuristics for Order Picking Optimization in Warehouses to Smart Cities 2018-10-10

building accurate algorithms for the optimization of picking orders is a difficult task especially when one considers the delays of real world situations in warehouse environments diverse algorithms must be developed to enhance the global performance relating to combining customer orders into picking orders to reduce wait times the handbook of research on metaheuristics for order picking optimization in warehouses to smart cities is a pivotal reference source that addresses strategies for developing able algorithms in order to build better picking orders and the impact of these strategies on the picking systems in which diverse algorithms are implemented while highlighting topics such abc optimization environmental intelligence and order batching this publication examines common picking aspects in warehouse environments ranging from manual order picking systems to automated retrieval systems this book is intended for researchers teachers engineers managers and practitioners seeking research on algorithms to enhance the order picking performance

Intelligent Information Processing IX 2017-07-18

this book constitutes the refereed proceedings of the 10th ifip to 12 international conference on intelligent information processing iip 2018 held in nanning china in october 2018 the 37 full papers and 8 short papers presented were carefully reviewed and selected from 80 submissions they are organized in topical sections on machine learning deep learning multi agent systems neural computing and swarm intelligence natural language processing recommendation systems social computing business intelligence and security pattern recognition and image understanding

Advances in Swarm Intelligence 2023-01-31

the two volume set of lncs 10385 and 10386 constitutes the proceedings of the 8th international conference on advances in swarm intelligence icsi 2017 held in fukuoka japan in july august 2017 the total of 133 papers presented in these volumes was carefully reviewed and selected from 267 submissions the paper were organized in topical sections as follows part i theories and models of swarm intelligence novel swarm based optimization algorithms particle swarm optimization applications of particle swarm optimization ant colony optimization artificial bee colony algorithms genetic algorithms differential evolution fireworks algorithm brain storm optimization algorithm cuckoo searh and firefly algorithm part ii multi objective optimization portfolio optimization community detection multi agent systems and swarm robotics hybrid optimization algorithms and applications fuzzy and swarm approach clustering and forecast classification and detection planning and routing problems dialog system applications robotic control and other applications

Comprehensive Metaheuristics 2015-08-28

comprehensive metaheuristics algorithms and applications presents the foundational underpinnings of metaheuristics and a broad scope of algorithms and real world applications across a variety of research fields the book starts with fundamentals mathematical prerequisites and conceptual approaches to provide readers with a solid foundation after presenting multi objective optimization constrained optimization and problem formation for metaheuristics world renowned authors give readers in depth understanding of the full spectrum of algorithms and techniques scientists researchers academicians and practitioners who are interested in optimizing a process or procedure to achieve a goal will benefit from the case studies of real world applications from different domains the book takes a much needed holistic approach putting the most widely used metaheuristic algorithms together with an in depth treatise on multi disciplinary applications of metaheuristics each algorithm is thoroughly analyzed to observe its behavior providing a detailed tutorial on how to solve problems using metaheuristics new case studies and research problem statements are also discussed which will help researchers in their application of the concepts presented by world renowned researchers and practitioners in metaheuristics includes techniques algorithms and applications based on real world case studies presents the methodology for formulating optimization problems for metaheuristics provides readers with methods for analyzing and tuning the performance of a metaheuristic as well as for integrating metaheuristics in other ai techniques features online complementary source code from the applications and algorithms

Intelligent Systems Technologies and Applications 2010-09-25

this book contains a selection of refereed and revised papers of intelligent techniques and applications track and the special track on intelligent image processing and artificial vision track originally presented at the international symposium on intelligent systems technologies and applications ista august 10 13 2015 kochi india

POWER SYSTEM OPTIMIZATION 2021-01-07

power system optimization is intended to introduce the methods of multi objective optimization in integrated electric power system operation covering economic environmental security and risk aspects as well evolutionary algorithms which mimic natural evolutionary principles to constitute random search and optimization procedures are appended in this new edition to solve generation scheduling problems written in a student friendly style the book provides simple and understandable basic computational concepts and algorithms used in generation scheduling so that the readers can develop their own programs in any high level programming language this clear logical overview of generation scheduling in electric power systems permits both students and power engineers to understand and apply optimization on a dependable basis the book is particularly easy to use with sound and consistent terminology and perspective throughout this edition presents systematic coverage of local and global optimization techniques such as binary and real coded genetic algorithms evolutionary algorithms particle swarm optimization and differential evolutionary algorithms the economic dispatch problem presented considers higher order nonlinearities and discontinuities in input output characteristics in fossil fuel burning plants due to valve point loading ramp rate limits and prohibited operating zones search optimization techniques presented are those which participate efficiently in decision making to solve the multiobjective optimization problems stochastic optimal generation scheduling is also updated in the new edition generalized z bus distribution factors gzbdf are presented to compute the active and reactive power flow on transmission lines the interactive decision making methodology based on fuzzy set theory in order to determine the optimal generation allocation to committed generating units is also discussed this book is intended to meet the needs of a diverse range of groups interested in the application of optimization techniques to power system operation it requires only an elementary knowledge of numerical techniques and matrix operation to understand most of the topics it is designed to serve as a textbook for postgraduate electrical engineering students as well as a reference for faculty researchers and power engineers interested in the use of optimization as a tool for reliable and secure economic operation of power systems key features the book discusses load flow techniques and economic dispatch both classical and rigorous economic dispatch considering valve point loading ramp rate limits and prohibited operating zones real coded genetic algorithms for economic dispatch evolutionary programming for economic dispatch particle swarm optimization for economic dispatch differential evolutionary algorithm for economic dispatch stochastic multiobjective thermal power dispatch with security generalized z bus distribution factors to compute line flow stochastic multiobjective hydrothermal generation scheduling multiobjective thermal power dispatch using artificial neural networks fuzzy multiobjective generation scheduling multiobjective generation scheduling by searching weight pattern

Machine Learning, Optimization, and Data Science 2014-09-23

this two volume set lncs 12565 and 12566 constitutes the refereed proceedings of the 6th international conference on machine learning optimization and data science lod 2020 held in siena italy in july 2020 the total of 116 full papers presented in this two volume post conference proceedings set was carefully reviewed and selected from 209 submissions these research articles were written by leading scientists in the fields of machine learning artificial intelligence reinforcement learning computational optimization and data science presenting a substantial array of ideas technologies algorithms methods and applications

Intelligent Systems'2014 2021-01-26

this two volume set of books constitutes the proceedings of the 2014 7th ieee international conference intelligent systems is or ieee is 2014 for short held on september 24 26 2014 in warsaw poland moreover it contains some selected papers from the collocated iwifsgn 2014 thirteenth international workshop on intuitionistic fuzzy sets and generalized nets the conference was organized by thesystems research institute polish academy of sciences department iv of engineering sciences polish academy of sciences and industrial institute of automation and measurements piap the papers included in the two proceedings volumes have been subject to a thorough review process by three highly qualified peer reviewers comments and suggestions from them have considerable helped improve the quality of the papers but also the division of the volumes into parts and assignment of the papers to the best suited parts

Swarm Intelligence Algorithms (Two Volume Set) 2014-01-28

swarm intelligence algorithms are a form of nature based optimization algorithms their main inspiration is the cooperative behavior of animals within specific communities this can be described as simple behaviors of individuals along with the mechanisms for sharing knowledge between them resulting in the complex behavior of the entire community examples of such behavior can be found in ant colonies bee swarms schools of fish or bird flocks swarm intelligence algorithms are used to solve difficult optimization problems for which there are no exact solving methods or the use of such methods is impossible e g due to unacceptable computational time this set comprises two volumes swarm intelligence algorithms a tutorial and swarm intelligence algorithms modifications and applications the first volume thoroughly presents the basics of 24 algorithms selected from the entire family of swarm intelligence algorithms it contains a detailed explanation of how each algorithm works along with relevant program codes in matlab and the c programming language as well as numerical examples illustrating step by step how individual algorithms work the second volume describes selected modifications of these algorithms and presents their practical applications this book presents 24 swarm algorithms together with their modifications and practical applications each chapter is devoted to one algorithm it contains a short description along with a pseudo code showing the various stages of its operation in addition each chapter contains a description of selected modifications of the algorithm and shows how it can be used to solve a selected practical problem

<u>Distributed Computing and Internet Technology</u> 2022-07-13

this book constitutes the refereed proceedings of the 10th international conference on distributed computing and internet technology icdcit 2014 held in bhubaneswar india in february 2014 the 29 revised full papers presented together with 6 invited talks in this volume were carefully reviewed and selected from 197 submissions the papers cover topics such as distributed computing sensor networks internet technologies and applications security and multimedia

Automation and Computational Intelligence for Road Maintenance and Management 2023-01-15

automation and computational intelligence for road maintenance and management a comprehensive computational intelligence toolbox for solving problems in infrastructure management in automation and computational intelligence for road maintenance and management a team of accomplished researchers delivers an incisive reference that covers the latest developments in computer technology infrastructure management the book contains an overview of foundational and emerging technologies and methods in both automation and computational intelligence as well as detailed presentations of specific methodologies the distinguished authors emphasize the most recent advances in the maintenance and management of infrastructure robotics automated inspection remote sensing and the applications of new and emerging computing technologies including artificial intelligence evolutionary computing fuzzy logic genetic algorithms knowledge discovery and engineering and more automation and computational intelligence for road maintenance and management explores a universal synthesis of the cutting edge in parameters and indices to evaluate models it also includes thorough introductions to management science and the latest methods of automation and the structure and framework of automation and computing intelligence comprehensive explorations of advanced image processing techniques recent advances in fuzzy and diagnossis automation practical discussions of segmentation and fragmentation and different types of features and feature extraction methods in depth examinations of methods of classification along with various developed methodologies and models of quantification evaluation and indexing in automation perfect for postgraduate students in road and transportation engineering evaluation and assessment automation and computational intelligence for road maintenance and management will also earn a place in the libraries of researchers interested in or working with the evaluation and assessment of infrastructure

<u>Comprehensive Metaheuristics</u> 2023-03-01

comprehensive metaheuristics algorithms and applications presents the foundational underpinnings of metaheuristics and a broad scope of algorithms and real world applications across a variety of research fields the book starts with fundamentals mathematical prerequisites and conceptual approaches to provide readers with a solid foundation after presenting multi objective optimization constrained optimization and problem formation for metaheuristics world renowned authors give readers in depth understanding of the full spectrum of algorithms and techniques scientists researchers academicians and practitioners who are interested in optimizing a process or procedure to achieve a goal will benefit from the case studies of real world applications from different domains the book takes a much needed holistic approach putting the most widely used metaheuristic algorithms together with an in depth treatise on multi disciplinary applications of metaheuristics each

algorithm is thoroughly analyzed to observe its behavior providing a detailed tutorial on how to solve problems using metaheuristics new case studies and research problem statements are also discussed which will help researchers in their application of the concepts presented by world renowned researchers and practitioners in metaheuristics includes techniques algorithms and applications based on real world case studies presents the methodology for formulating optimization problems for metaheuristics provides readers with methods for analyzing and tuning the performance of a metaheuristic as well as for integrating metaheuristics in other ai techniques features online complementary source code from the applications and algorithms

Structural Optimization Using Shuffled Shepherd Meta-Heuristic Algorithm 2017-05-25

this book presents the so called shuffled shepherd optimization algorithm ssoa a recently developed meta heuristic algorithm by authors there is always limitations on the resources to be used in the construction some of the resources used in the buildings are also detrimental to the environment for example the cement utilized in making concrete emits carbon dioxide which contributes to the global warming hence the engineers should employ resources efficiently and avoid the waste in the traditional optimal design methods the number of trials and errors used by the designer is limited so there is no guarantee that the optimal design can be found for structures hence the deigning method should be changed and the computational algorithms should be employed in the optimum design problems the gradient based method and meta heuristic algorithms are the two different types of methods used to find the optimal solution the gradient based methods require gradient information also these can easily be trapped in the local optima in the nonlinear and complex problems therefore to overcome these issues meta heuristic algorithms are developed these algorithms are simple and can get out of the local optimum by easy means however a single meta heuristic algorithm cannot find the optimum results in all types of optimization problems thus civil engineers develop different meta heuristic algorithms for their optimization problems different applications of the ssoa are provided the simplified and enhanced versions of the ssoa are also developed and efficiently applied to various optimization problems in structures another special feature of this book consists of the use of graph theoretical force method as analysis tool in place of traditional displacement approach this has reduced the computational time to a great extent especially for those structures having smaller dsi compared to the dki new framework is also developed for reliability based design of frame structures the algorithms are clearly stated such that they can simply be implemented and utilized in practice and research

Advances in Computer and Computational Sciences 2018-10-17

exchange of information and innovative ideas are necessary to accelerate the development of technology with advent of technology intelligent and soft computing techniques came into existence with a wide scope of implementation in engineering sciences keeping this ideology in preference this book includes the insights that reflect the advances in computer and computational sciences from upcoming researchers and leading academicians across the globe it contains high quality peer reviewed papers of international conference on computer communication and computational sciences iccccs 2016 held during 12 13 august 2016 in ajmer india these papers are arranged in the form of chapters the content of the book is divided into two volumes that cover variety of topics such as intelligent hardware and software design advanced communications power and energy optimization intelligent techniques used in internet of things intelligent image processing a solution network based on stud krill herd

2016-01-09 12/20 algorithm for advanced software engineering evolutionary and soft computing security and many more this book helps the perspective readers from computer industry and academia to derive the advances of next generation computer and communication technology and shape them into real life applications

Bio-inspired Computing: Theories and Applications 2017-11-13

this two volume set ccis 951 and ccis 952 constitutes the proceedings of the 13th international conference on bio inspired computing theories and applications bic ta 2018 held in beijing china in november 2018 the 88 full papers presented in both volumes were selected from 206 submissions the papers deal with studies abstracting computing ideas such as data structures operations with data ways to control operations computing models from living phenomena or biological systems such as evolution cells neural networks immune systems swarm intelligence

Networking Communication and Data Knowledge Engineering 2021-07-27

data science data engineering and knowledge engineering requires networking and communication as a backbone and have wide scope of implementation in engineering sciences keeping this ideology in preference this book includes the insights that reflect the advances in these fields from upcoming researchers and leading academicians across the globe it contains high quality peer reviewed papers of international conference on recent advancement in computer communication and computational sciences icracccs 2016 held at janardan rai nagar rajasthan vidyapeeth university udaipur india during 25 26 november 2016 the volume covers variety of topics such as advanced communication networks artificial intelligence and evolutionary algorithms advanced software engineering and cloud computing image processing and computer vision and security the book will help the perspective readers from computer industry and academia to derive the advances of next generation communication and computational technology and shape them into real life applications

Advances in Energy Technology 2022-01-01

this book presents select proceedings of international conference on energy material sciences and mechanical engineering emsme 2020 held at national institute of technology delhi various topics covered in this book include clean materials solar energy systems wind energy systems power optimization grid integration of renewable energy smart energy storage technologies artificial intelligence in solar and wind system analysis of clean energy material in environment converter topology modelling and simulation this book will be useful for researchers and professionals working in the areas of solar material science electrical engineering and energy technologies

Deep Learning Approaches for Spoken and Natural Language Processing 2014-05-20

this book provides insights into how deep learning techniques impact language and speech processing applications the authors discuss the

promise limits and the new challenges in deep learning the book covers the major differences between the various applications of deep learning and the classical machine learning techniques the main objective of the book is to present a comprehensive survey of the major applications and research oriented articles based on deep learning techniques that are focused on natural language and speech signal processing the book is relevant to academicians research scholars industrial experts scientists and post graduate students working in the field of speech signal and natural language processing and would like to add deep learning to enhance capabilities of their work discusses current research challenges and future perspective about how deep learning techniques can be applied to improve nlp and speech processing applications presents and escalates the research trends and future direction of language and speech processing includes theoretical research experimental results and applications of deep learning

Input Modeling with Phase-Type Distributions and Markov Models 2021-08-06

containing a summary of several recent results on markov based input modeling in a coherent notation this book introduces and compares algorithms for parameter fitting and gives an overview of available software tools in the area due to progress made in recent years with respect to new algorithms to generate ph distributions and markovian arrival processes from measured data the models outlined are useful alternatives to other distributions or stochastic processes used for input modeling graduate students and researchers in applied probability operations research and computer science along with practitioners using simulation or analytical models for performance analysis and capacity planning will find the unified notation and up to date results presented useful input modeling is the key step in model based system analysis to adequately describe the load of a system using stochastic models the goal of input modeling is to find a stochastic model to describe a sequence of measurements from a real system to model for example the inter arrival times of packets in a computer network or failure times of components in a manufacturing plant typical application areas are performance and dependability analysis of computer systems communication networks logistics or manufacturing systems but also the analysis of biological or chemical reaction networks and similar problems often the measured values have a high variability and are correlated it s been known for a long time that markov based models like phase type distributions or markovian arrival processes are very general and allow one to capture even complex behaviors however the parameterization of these models results often in a complex and non linear optimization problem only recently several new results about the modeling capabilities of markov based models and algorithms to fit the parameters of those models have been published

<u>Advances in Intelligent Networking and Collaborative Systems</u> 2017-08-19

this book provides latest research findings innovative research results methods and development techniques from both theoretical and practical perspectives related to intelligent social networks and collaborative systems intelligent networking systems mobile collaborative systems secure intelligent cloud systems etc as well as to reveal synergies among various paradigms in such a multi disciplinary field intelligent collaborative systems with the fast development of the internet we are experiencing a shift from the traditional sharing of information and applications as the main purpose of the to an emergent paradigm which locates people at the very centre of networks and exploits the value of people s connections relations and collaboration social networks are also playing a major role in the dynamics and a solution network based on stud krill herd algorithm for

structure of intelligent based networking and collaborative systems virtual campuses virtual communities and organizations strongly leverage intelligent networking and collaborative systems by a great variety of formal and informal electronic relations such as business to business peer to peer and many types of online collaborative learning interactions including the emerging e learning systems this has resulted in entangled systems that need to be managed efficiently and in an autonomous way in addition latest and powerful technologies based on grid and wireless infrastructure as well as cloud computing are currently enhancing collaborative and networking applications a great deal but also facing new issues and challenges the principal purpose of the research and development community is to stimulate research that will lead to the creation of responsive environments for networking and at longer term the development of adaptive secure mobile and intuitive intelligent systems for collaborative work and learning

Proceedings of SAI Intelligent Systems Conference (IntelliSys) 2016 2016-03-01

these proceedings of the sai intelligent systems conference 2016 intellisys 2016 offer a remarkable collection of chapters on a wide range of topics in intelligent systems artificial intelligence and their applications to the real world authors hailing from 56 countries on 5 continents submitted 404 papers to the conference attesting to the global importance of the conference s themes after being reviewed 222 papers were accepted for presentation and 168 were ultimately selected for these proceedings each has been reviewed on the basis of its originality novelty and rigorousness the papers not only present state of the art methods and valuable experience from researchers in the related research areas they also outline the field s future development

<u>Problem Solving and Uncertainty Modeling through Optimization and Soft Computing Applications</u>

optimization techniques have developed into a modern day solution for real world problems in various industries as a way to improve performance and handle issues of uncertainty optimization research becomes a topic of special interest across disciplines problem solving and uncertainty modeling through optimization and soft computing applications presents the latest research trends and developments in the area of applied optimization methodologies and soft computing techniques for solving complex problems taking a multi disciplinary approach this critical publication is an essential reference source for engineers managers researchers and post graduate students

List of File a solution network based on stud krill herd algorithm for

Page	Title
1	Swarm Intelligence and Bio-Inspired Computation
2	Augmented Powell-Based Krill Herd Optimization for Roadside Unit Deployment in Vehicular Ad Hoc Networks
3	Design and Applications of Nature Inspired Optimization
4	New Advancements in Swarm Algorithms: Operators and Applications
5	Advanced Optimization by Nature-Inspired Algorithms
6	Advances in Nature-Inspired Computing and Applications
7	Optimization in Control Applications
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12	Applications of Computing, Automation and Wireless Systems in Electrical Engineering

Page	Title
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25	Intelligent Systems'2014
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Page	Title
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