

Applying K Means Clustering And Genetic Algorithm For

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Artificial Neural Nets and Genetic Algorithms - David W. Pearson 2011-06-28

The 2003 edition of ICANNGA marks a milestone in this conference series, because it is the tenth year of its existence. The series began in 1993 with the inaugural conference at Innsbruck in Austria. At that first conference, the organisers decided to organise a similar scientific meeting every two years. As a result, conferences were organised at Ales in France (1995), Norwich in England (1997), Portoroz in Slovenia (1999) and Prague in the Czech Republic (2001). It is a great honour that the conference is taking place in France for the second time. Each edition of ICANNGA has been special and had its own character. Not only that, participants have been able to sample the life and local culture in five different European countries. Originally limited to neural networks and genetic algorithms the conference has broadened its outlook over the past ten years and now includes papers on soft computing and artificial intelligence in general. This is one of the reasons why the reader will find papers on fuzzy logic and various other topics not directly related to neural networks or genetic algorithms included in these proceedings. We have, however, kept the same name, "International Conference on Artificial Neural Networks and Genetic Algorithms". All of the papers were sorted into one of six principal categories: neural network theory, neural network applications, genetic algorithm and evolutionary computation theory, genetic algorithm and evolutionary computation applications, fuzzy and soft computing theory, fuzzy and soft computing applications.

Utilizing Information Technology Systems Across Disciplines: Advancements in the Application of Computer Science - Abu-Taieh, Evon M. O. 2009-03-31

Provides original material concerned with all aspects of information resources management, managerial and organizational applications, as well as implications of information technology.

Computer Science, Technology and Application - Xing Zhang 2016-10-07

The 2016 International Conference on Computer Science, Technology and Application (CSTA2016) were held in Changsha, China on March 18–20, 2016. The main objective of the joint conference is to provide a platform for researchers, academics and industrial professionals to present their research findings in the fields of computer science and technology. The CSTA2016 received more than 150 submissions, but only 67 articles were selected to be included in this proceedings, which are organized into 6 chapters; covering Image and Signal Processing, Computer Network, Algorithm and Simulation, Data Mining and Cloud Computing, Computer Systems and Application, Mathematics and Management. Contents:Image and Signal ProcessingComputer Network and Information SecurityAlgorithm and SimulationData Mining and Cloud ComputingComputer System and ApplicationMathematics and Management Readership: Researchers and professionals in computer networks & signal processing.

Algorithms—Advances in Research and Application: 2012 Edition - 2012-12-26

Algorithms—Advances in Research and Application: 2012 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Algorithms. The editors have built *Algorithms—Advances in Research and Application: 2012 Edition* on the vast information databases of ScholarlyNews.™ You can expect the information about Algorithms in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of *Algorithms—Advances in Research and Application: 2012 Edition* has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Multiobjective Genetic Algorithms for Clustering - Ujjwal Maulik 2011-09-01

This is the first book primarily dedicated to clustering using multiobjective genetic algorithms with extensive real-life applications in data mining and bioinformatics. The authors first offer detailed introductions to the relevant techniques – genetic algorithms, multiobjective optimization, soft computing, data mining and bioinformatics. They then demonstrate systematic applications of these techniques to real-world problems in the areas of data mining, bioinformatics and geoscience. The authors offer detailed theoretical and statistical notes, guides to future research, and chapter summaries. The book can be used as a textbook and as a reference book by graduate students and academic and industrial researchers in the areas of soft computing, data mining, bioinformatics and geoscience.

Principal Concepts in Applied Evolutionary Computation: Emerging Trends - Hong, Wei-Chiang Samuelson 2012-06-30

Increasingly powerful and diverse computing technologies have the potential to tackle ever greater and more complex problems and dilemmas in engineering and science disciplines. *Principal Concepts in Applied Evolutionary Computation: Emerging Trends* provides an introduction to the important interdisciplinary discipline of evolutionary computation, an artificial intelligence field that combines the principles of computational intelligence with the mechanisms of the theory of evolution. Academics and practicing field professionals will find this reference useful as they break into the emerging and complex world of evolutionary computation, learning to harness and utilize this exciting new interdisciplinary field.

Simulated Evolution and Learning - Lam Thu Bui 2012-12-02

This volume constitutes the proceedings of the 9th

International Conference on Simulated Evolution and Learning, SEAL 2012, held in Hanoi, Vietnam, in December 2012. The 50 full papers presented were carefully reviewed and selected from 91 submissions. The papers are organized in topical sections on evolutionary algorithms, theoretical developments, swarm intelligence, data mining, learning methodologies, and real-world applications.

Genetic and Evolutionary Computation – GECCO 2004 - Kalyanmoy Deb 2004-06-01

The two volume set LNCS 3102/3103 constitutes the refereed proceedings of the Genetic and Evolutionary Computation Conference, GECCO 2004, held in Seattle, WA, USA, in June 2004. The 230 revised full papers and 104 poster papers presented were carefully reviewed and selected from 460 submissions. The papers are organized in topical sections on artificial life, adaptive behavior, agents, and ant colony optimization; artificial immune systems, biological applications; coevolution; evolutionary robotics; evolution strategies and evolutionary programming; evolvable hardware; genetic algorithms; genetic programming; learning classifier systems; real world applications; and search-based software engineering.

Dimension Reduction - Christopher J. C. Burges 2010
Dimension Reduction: A Guided Tour covers many well-known, and some less well-known, methods for dimension reduction for which the inferred variables are continuous. It describes the mathematics and key ideas underlying the methods, and provides some links to the literature for those interested in pursuing a topic further

Proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications (FICTA) 2015 - Swagatam Das 2015-10-24

The proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications 2015 (FICTA 2015) serves as the knowledge centre not only for scientists and researchers in the field of intelligent computing but also for students of post-graduate level in various engineering disciplines. The book covers a comprehensive overview of the theory, methods, applications and tools of Intelligent Computing. Researchers are now working in interdisciplinary areas and the proceedings of FICTA 2015 plays a major role to accumulate those significant works in one arena. The chapters included in the proceedings inculcates both theoretical as well as practical aspects of different areas like Nature Inspired Algorithms, Fuzzy Systems, Data Mining, Signal Processing, Image processing, Text Processing, Wireless Sensor Networks, Network Security and Cellular Automata.

An Investigation of a Multi-objective Genetic Algorithm Applied to Encrypted Traffic Identification - Carlos Bacquet 2010

Rough Sets and Knowledge Technology - Peng Wen 2009-06-24

The Rough Sets and Knowledge Technology (RSKT) conferences serve as a major forum that brings researchers and industry practitioners together to discuss and deliberate on fundamental issues of knowledge processing and management and knowledge-intensive practical solutions in the current knowledge age. Experts from around the world meet annually to present state-of-the-art scientific results, to nurture academic and industrial interaction, and to promote collaborative research in rough sets and knowledge technology. The main theme of the RSKT conference is to explore the synergy between rough sets and advanced knowledge technology and applications, including knowledge discovery, data mining, knowledge processing and management, granular computing, evolutionary computing, biocomputing and bioinformatics, cognitive computing and cognitive

informatics, natural and artificial intelligence, Web intelligence, complex systems, and many others. The first RSKT conference was held in 2006 in Chongqing, P.R. China, followed by RSKT 2007 in Toronto, Canada and RSKT 2008 in Chengdu, P.R. China. This volume contains the papers selected for presentation at the 4th International Conference on Rough Sets and Knowledge Technology (RSKT2009), which was held during July 14-16 on the Gold Coast, Australia.

Applied Learning Algorithms for Intelligent IoT - Pethuru Raj Chelliah 2021-10-28

This book vividly illustrates all the promising and potential machine learning (ML) and deep learning (DL) algorithms through a host of real-world and real-time business use cases. Machines and devices can be empowered to self-learn and exhibit intelligent behavior. Also, Big Data combined with real-time and runtime data can lead to personalized, prognostic, predictive, and prescriptive insights. This book examines the following topics: Cognitive machines and devices Cyber physical systems (CPS) The Internet of Things (IoT) and industrial use cases Industry 4.0 for smarter manufacturing Predictive and prescriptive insights for smarter systems Machine vision and intelligence Natural interfaces K-means clustering algorithm Support vector machine (SVM) algorithm A priori algorithms Linear and logistic regression Applied Learning Algorithms for Intelligent IoT clearly articulates ML and DL algorithms that can be used to unearth predictive and prescriptive insights out of Big Data. Transforming raw data into information and relevant knowledge is gaining prominence with the availability of data processing and mining, analytics algorithms, platforms, frameworks, and other accelerators discussed in the book. Now, with the emergence of machine learning algorithms, the field of data analytics is bound to reach new heights. This book will serve as a comprehensive guide for AI researchers, faculty members, and IT professionals. Every chapter will discuss one ML algorithm, its origin, challenges, and benefits, as well as a sample industry use case for explaining the algorithm in detail. The book's detailed and deeper dive into ML and DL algorithms using a practical use case can foster innovative research.

Proceedings of First International Conference on Computing, Communications, and Cyber-Security (IC4S 2019) - Pradeep Kumar Singh 2020-04-27

This book features selected research papers presented at the First International Conference on Computing, Communications, and Cyber-Security (IC4S 2019), organized by Northwest Group of Institutions, Punjab, India, Southern Federal University, Russia, and IAC Educational Trust, India along with KEC, Ghaziabad and ITS, College Ghaziabad as an academic partner and held on 12–13 October 2019. It includes innovative work from researchers, leading innovators and professionals in the area of communication and network technologies, advanced computing technologies, data analytics and intelligent learning, the latest electrical and electronics trends, and security and privacy issues.

Bio-inspired Computing – Theories and Applications - Maoguo Gong 2017-01-07

The two-volume set, CCIS 681 and CCIS 682, constitutes the proceedings of the 11th International Conference on Bio-Inspired Computing: Theories and Applications, BIC-TA 2016, held in Xi'an, China, in October 2016. The 115 revised full papers presented were carefully reviewed and selected from 343 submissions. The papers of Part I are organized in topical sections on DNA Computing; Membrane Computing; Neural Computing; Machine Learning. The papers of Part II are organized in topical sections on Evolutionary Computing; Multi-objective Optimization; Pattern Recognition; Others.

Advances in Artificial Intelligence - IBERAMIA 2008 - Hector Geffner 2008-09-29

IBERAMIA is the international conference series of the Ibero-American Artificial Intelligence community that has been meeting every two years since the 1988 meeting in Barcelona. The conference is supported by the main Ibero-American societies of AI and provides researchers from Portugal, Spain, and Latin America the opportunity to meet with AI researchers from all over the world. Since 1998, IBERAMIA has been a widely recognized international conference, with its papers written and presented in English, and its proceedings published by Springer in the LNAI series. This volume contains the papers accepted for presentation at Iberamia 2008, held in Lisbon, Portugal in October 2008. For this conference, 147 papers were submitted for the main track, and 46 papers were accepted. Each submitted paper was reviewed by three members of the Program Committee (PC), coordinated by an Area Chair. In certain cases, extra reviewers were recruited to write additional reviews. The list of Area Chairs, PC members, and reviewers can be found on the pages that follow. The authors of the submitted papers represent 14 countries with topics covering the whole spectrum of themes in AI: robotics and multiagent systems, knowledge representation and constraints, machine learning and planning, neural language processing and AI applications.

The program for Iberamia 2008 also included three invited speakers: Christian Lemaitre (LANIA, Mexico), R. Michael Young (NCSSU, USA) and Miguel Dias (Microsoft LDMC, Lisbon) as well as 7 workshops.

A novel optimized neutrosophic k-means using genetic algorithm for skin lesion detection in dermoscopy images
- Amira S. Ashour

This paper implemented a new skin lesion detection method based on the genetic algorithm (GA) for optimizing the neutrosophic set (NS) operation to reduce the indeterminacy on the dermoscopy images. Then, k-means clustering is applied to segment the skin lesion regions. Therefore, the proposed method is called optimized neutrosophic k-means (ONKM). On the training images set, an initial value of α in the α -mean operation of the NS is used with the GA to determine the optimized α value.

Human Centered Computing - Qiaohong Zu 2016-04-30

This book constitutes revised selected papers from the thoroughly refereed proceedings of the Second International Human Centered Computing Conference, HCC 2016, that consolidated and further develops the successful ICPCA/SWS conferences on Pervasive Computing and the Networked World, and which was held in Colombo, Sri Lanka, in January 2016. The 58 full papers and 30 short papers presented in this volume together with one keynote talk were carefully reviewed and selected from 211 submissions. These proceedings present research papers investigating into a variety of aspects towards human centric intelligent societies. They cover the categories: infrastructure and devices; service and solution; data and knowledge; and community.

Classification, Clustering, and Data Analysis - Krzysztof Jajuga 2012-12-06

The book presents a long list of useful methods for classification, clustering and data analysis. By combining theoretical aspects with practical problems, it is designed for researchers as well as for applied statisticians and will support the fast transfer of new methodological advances to a wide range of applications.

Soft Computing and Signal Processing - Jiacun Wang 2019-01-16

The book presents selected research papers on current developments in the field of soft computing and signal processing from the International Conference on Soft Computing and Signal Processing (ICSCSP 2018). It includes papers on current topics such as soft sets, rough sets, fuzzy logic, neural networks, genetic algorithms and machine learning, discussing various

aspects of these topics, like technological, product implementation, contemporary research as well as application issues.

Intelligent Techniques for Data Analysis in Diverse Settings - Celebi, Numan 2016-04-20

Data analysis forms the basis of many forms of research ranging from the scientific to the governmental. With the advent of machine intelligence and neural networks, extracting, modeling, and approaching data has been unimpeachably altered. These changes, seemingly small, affect the way societies organize themselves, deliver services, or interact with each other. *Intelligent Techniques for Data Analysis in Diverse Settings* addresses the specialized requirements of data analysis in a comprehensive way. This title contains a comprehensive overview of the most innovative recent approaches borne from intelligent techniques such as neural networks, rough sets, fuzzy sets, and metaheuristics. Combining new data analysis technologies, applications, emerging trends, and case studies, this publication reviews the intelligent, technological, and organizational aspects of the field. This book is ideally designed for IT professionals and students, data analysis specialists, healthcare providers, and policy makers.

Proceedings of 2nd International Conference on Communication, Computing and Networking - C. Rama Krishna 2018-09-07

The book provides insights from the 2nd International Conference on Communication, Computing and Networking organized by the Department of Computer Science and Engineering, National Institute of Technical Teachers Training and Research, Chandigarh, India on March 29–30, 2018. The book includes contributions in which researchers, engineers, and academicians as well as industrial professionals from around the globe presented their research findings and development activities in the field of Computing Technologies, Wireless Networks, Information Security, Image Processing and Data Science. The book provides opportunities for the readers to explore the literature, identify gaps in the existing works and propose new ideas for research.

Pattern Recognition and Machine Intelligence - Santanu Chaudhury 2009-12-15

This volume contains the proceedings of the third international conference on Pattern Recognition and Machine Intelligence (PReMI 2009) which was held at the Indian Institute of Technology, New Delhi, India, during December 16–20, 2009. This was the third conference in the series. The first two conferences were held in December at the Indian Statistical Institute, Kolkata in 2005 and 2007. PReMI has become a premier conference in India presenting state-of-art research findings in the areas of machine intelligence and pattern recognition. The conference is also successful in encouraging academic and industrial interaction, and in promoting collaborative research and developmental activities in pattern recognition, machine intelligence and other allied fields, involving scientists, engineers, professionals, researchers and students from India and abroad. The conference is scheduled to be held every alternate year making it an ideal platform for sharing views and experiences in these fields in a regular manner. The focus of PReMI 2009 was soft-computing, machine learning, pattern recognition and their applications to diverse fields. As part of PReMI 2009 we had two special workshops. One workshop focused on text mining. The other workshop showcased industrial and developmental projects in the relevant areas. PReMI 2009 attracted 221 submissions from different countries across the world.

Proceedings of the 5th IEEE/IFToMM International Conference on Reconfigurable Mechanisms and Robots - Fengfeng (Jeff) Xi 2021-08-12

The 5th IEEE/IFToMM International Conference on Re-

configurable Mechanisms and Robots (ReMAR 2021) was held in Toronto, Canada on August 12-14, 2021 at Ryerson University. The conference proceedings include more than 70 papers on three main subjects, 1) Reconfigurable Mechanisms and Robotics, 2) Variable Topology and Morphing Mechanism, and 3) Origami and Bio-inspired mechanisms.

Recent Advances in Hybrid Metaheuristics for Data Clustering - Sourav De 2020-06-02

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.

Proceedings of International Conference on Advances in Computing - Aswatha Kumar M. 2012-09-03

This is the first International Conference on Advances in Computing (ICAdC-2012). The scope of the conference includes all the areas of New Theoretical Computer Science, Systems and Software, and Intelligent systems. Conference Proceedings is a culmination of research results, papers and the theory related to all the three major areas of computing mentioned above. Helps budding researchers, graduates in the areas of Computer Science, Information Science, Electronics, Telecommunication, Instrumentation, Networking to take forward their research work based on the reviewed results in the paper by mutual interaction through e-mail contacts in the proceedings.

Recent Advances in Hybrid Metaheuristics for Data Clustering - Sourav De 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.

Hybrid Evolutionary Algorithms - Crina Grosan 2007-08-29

This edited volume is targeted at presenting the latest state-of-the-art methodologies in "Hybrid Evolutionary Algorithms". The chapters deal with the theoretical and methodological aspects, as well as various applications to many real world problems from science, technology, business or commerce. Overall, the book has 14 chapters including an introductory chapter giving the fundamental definitions and some important research challenges. The contributions were selected on the basis of fundamental ideas/concepts rather than the thoroughness of techniques deployed.

Applied Computational Intelligence and Mathematical Methods - Radek Silhavy 2017-09-04

The book discusses real-world problems and exploratory research in computational intelligence and mathematical models. It brings new approaches and methods to real-world problems and exploratory research that describes novel approaches in the mathematical methods, computational intelligence methods and software engineering in the scope of the intelligent systems. This book constitutes the refereed proceedings of the Computational Methods in Systems and Software 2017, a conference that provided an international forum for the discussion of the latest high-quality research results in all areas related to computational methods, statistics, cybernetics and software engineering.

Unsupervised Classification - Sanghamitra Bandyopadhyay 2012-12-13

Clustering is an important unsupervised classification technique where data points are grouped such that points that are similar in some sense belong to the same cluster. Cluster analysis is a complex problem as a variety of similarity and dissimilarity measures exist in the literature. This is the first book focused on clustering with a particular emphasis on symmetry-based measures of similarity and metaheuristic approaches. The aim is to find a suitable grouping of the input data set so that some criteria are optimized, and using this the authors frame the clustering problem as an optimization one where the objectives to be optimized may represent different characteristics such as compactness, symmetrical compactness, separation between clusters, or connectivity within a cluster. They explain the techniques in detail and outline many detailed applications in data mining, remote sensing and brain imaging, gene expression data analysis, and face detection. The book will be useful to graduate students and researchers in computer science, electrical engineering, system science, and information technology, both as a text and as a reference book. It will also be useful to researchers and practitioners in industry working on pattern recognition, data mining, soft computing, metaheuristics, bioinformatics, remote

sensing, and brain imaging.

Proceedings of the Fifth SIAM International Conference on Data Mining - Hillol Kargupta 2005-04-01

The Fifth SIAM International Conference on Data Mining continues the tradition of providing an open forum for the presentation and discussion of innovative algorithms as well as novel applications of data mining. Advances in information technology and data collection methods have led to the availability of large data sets in commercial enterprises and in a wide variety of scientific and engineering disciplines. The field of data mining draws upon extensive work in areas such as statistics, machine learning, pattern recognition, databases, and high performance computing to discover interesting and previously unknown information in data. This conference results in data mining, including applications, algorithms, software, and systems.

Advances in Natural Computation - Ke Chen 2005-08-17

The three volume set LNCS 3610, LNCS 3611, and LNCS 3612 constitutes the refereed proceedings of the First International Conference on Natural Computation, ICNC 2005, held in Changsha, China, in August 2005 as a joint event with the Second International Conference on Fuzzy Systems and Knowledge Discovery FSKD 2005 (LNAI volumes 3613 and 3614). The program committee selected 313 carefully revised full papers and 189 short papers for presentation in three volumes from 1887 submissions. The first volume includes all the contributions related to learning algorithms and architectures in neural networks, neurodynamics, statistical neural network models and support vector machines, and other topics in neural network models; cognitive science, neuroscience informatics, bioinformatics, and bio-medical engineering, and neural network applications such as communications and computer networks, expert system and informatics, and financial engineering. The second volume concentrates on neural network applications as pattern recognition and diagnostics, robotics and intelligent control, signal processing and multi-media, and other neural network applications; evolutionary learning, artificial immune systems, evolutionary theory, membrane, molecular, DNA computing, and ant colony systems. The third volume deals with evolutionary methodology, quantum computing, swarm intelligence and intelligent agents; natural computation applications as bioinformatics and bio-medical engineering, robotics and intelligent control, and other applications of natural computation; hardware implementations of natural computation, and fuzzy neural systems as well as soft computing.

Advances in Artificial Intelligence - Yang Xiang 2003-08-03

This book constitutes the refereed proceedings of the 16th Conference of the Canadian Society for Computational Studies of Intelligence, AI 2003, held in Halifax, Canada in June 2003. The 30 revised full papers and 24 revised short papers presented were carefully reviewed and selected from 106 submissions. The papers are organized in topical sections on knowledge representation, search, constraint satisfaction, machine learning and data mining, AI and Web applications, reasoning under uncertainty, agents and multi-agent systems, AI and bioinformatics, and AI and e-commerce.

Harmony Search Algorithm - Joong Hoon Kim 2015-08-08

The Harmony Search Algorithm (HSA) is one of the most well-known techniques in the field of soft computing, an important paradigm in the science and engineering community. This volume, the proceedings of the 2nd International Conference on Harmony Search Algorithm 2015 (ICHSA 2015), brings together contributions describing the latest developments in the field of soft computing with a special focus on HSA techniques. It includes coverage of new methods that have potentially immense application in various fields. Contributed articles cover aspects of the following topics related

to the Harmony Search Algorithm: analytical studies; improved, hybrid and multi-objective variants; parameter tuning; and large-scale applications. The book also contains papers discussing recent advances on the following topics: genetic algorithms; evolutionary strategies; the firefly algorithm and cuckoo search; particle swarm optimization and ant colony optimization; simulated annealing; and local search techniques. This book offers a valuable snapshot of the current status of the Harmony Search Algorithm and related techniques, and will be a useful reference for practising researchers and advanced students in computer science and engineering.

Intelligent Computing Theories and Application - De-Shuang Huang 2020-10-13

This two-volume set of LNCS 12463 and LNCS 12464 constitutes - in conjunction with the volume LNAI 12465 - the refereed proceedings of the 16th International Conference on Intelligent Computing, ICIC 2020, held in Bari, Italy, in October 2020. The 162 full papers of the three proceedings volumes were carefully reviewed and selected from 457 submissions. The ICIC theme unifies the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in advanced computational intelligence and bridges theoretical research with applications. The theme for this conference is "Advanced Intelligent Computing Methodologies and Applications." Papers related to this theme are especially solicited, addressing theories, methodologies, and applications in science and technology.

Research Anthology on Multi-Industry Uses of Genetic Programming and Algorithms - Management Association, Information Resources 2020-12-05

Genetic programming is a new and evolutionary method that has become a novel area of research within artificial intelligence known for automatically generating high-quality solutions to optimization and search problems. This automatic aspect of the algorithms and the mimicking of natural selection and genetics makes genetic programming an intelligent component of problem solving that is highly regarded for its efficiency and vast capabilities. With the ability to be modified and adapted, easily distributed, and effective in large-scale/wide variety of problems, genetic algorithms and programming can be utilized in many diverse industries. This multi-industry uses vary from finance and economics to business and management all the way to healthcare and the sciences. The use of genetic programming and algorithms goes beyond human capabilities, enhancing the business and processes of various essential industries and improving functionality along the way. The Research Anthology on Multi-Industry Uses of Genetic Programming and Algorithms covers the implementation, tools and technologies, and impact on society that genetic programming and algorithms have had throughout multiple industries. By taking a multi-industry approach, this book covers the fundamentals of genetic programming through its technological benefits and challenges along with the latest advancements and future outlooks for computer science. This book is ideal for academicians, biological engineers, computer programmers, scientists, researchers, and upper-level students seeking the latest research on genetic programming.

Advances in Computer Science and Information Technology.

Computer Science and Information Technology - Natarajan Meghanathan 2012-02-13

The three volume set LNICST 84 - LNICST 86 constitute the refereed proceedings of the Second International Conference on Computer Science and Information Technology, CCSIT 2012, held in Bangalore, India, in January 2012. The 55 revised full papers presented in this volume were carefully reviewed and selected from numerous submissions. The papers are

organized in topical sections on advances in computer science and information technology; and ad hoc and ubiquitous computing.

Mining Aspects Through Cluster Analysis Using Support Vector Machines and Genetic Algorithms - Yourik Hacopian 2013

The main purpose of object-oriented programming is to use encapsulation to reduce the amount of coupling within each object. However, object-oriented programming has some weaknesses in this area. To address this shortcoming, researchers have proposed an approach known as aspect-oriented programming (AOP). AOP is intended to reduce the amount of tangled code within an application by grouping similar functions into an aspect. To demonstrate the powerful aspects of AOP, it is necessary to extract aspect candidates from current object-oriented applications. Many different approaches have been proposed to accomplish this task. One of such approaches utilizes vector based clustering to identify the possible aspect candidates. In this study, two different types of vectors are applied to two different vector-based clustering techniques. In this approach, each method in a software system S is represented by a d -dimensional vector. These vectors take into account the Fan-in values of the methods as well as the number of calls made to individual methods within the classes in software system S . Then a semi-supervised clustering approach known as Support Vector Clustering is applied to the vectors. In addition, an improved K-means clustering approach which is based on Genetic Algorithms is also applied to these vectors. The results obtained from these two approaches are then evaluated using standard metrics for aspect mining. In addition to introducing two new clustering based approaches to aspect mining, this research investigates the effectiveness of the currently known metrics used in aspect mining to evaluate a given vector based approach. Many of the metrics currently used for aspect mining evaluations are singleton metrics. Such metrics evaluate

a given approach by taking into account only one aspect of a clustering technique. This study, introduces two different sets of metrics by combining these singleton measures. The iDIV metric combines the Diversity of a partition (DIV), Intra-cluster distance of a partition (IntraD), and the percentage of the number of methods analyzed (PAM) values to measure the overall effectiveness of the diversity of the partitions. While the iDISP metric combines the Dispersion of crosscutting concerns (DISP) along with Inter-cluster distance of a partition (InterD) and the PAM values to measure the quality of the clusters formed by a given method. Lastly, the oDIV and oDISP metrics introduced, take into account the complexity of the algorithms in relation with the DIV and DISP values. By comparing the obtained values for each of the approaches, this study is able to identify the best performing method as it pertains to these metrics.

Green Communications and Networks - Chenguang Yang 2012-01-05

The objective of GCN 2011 is to facilitate an exchange of information on best practices for the latest research advances in the area of green communications and networks, which mainly includes the intelligent control, or efficient management, or optimal design of access network infrastructures, home networks, terminal equipment, and etc. Topics of interests include network design methodology, enabling technologies, network components and devices, applications, others and emerging new topics.

Toward an Optimized Neutrosophic k-Means With Genetic Algorithm for Automatic Vehicle License Plate Recognition (ONKM-AVLPR) - BEDIR BEDIR YOUSIF

The present paper proposes a new methodology for license plate (LP) recognition in the state of the art of image processing algorithms and an optimized neutrosophic set (NS) based on genetic algorithm (GA). First of all, we have performed some image processing techniques such as edge detection and morphological operations in order to utilize the (LP) localization.