Part C C4 Trees

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Proceeding of the Second International Conference on Microelectronics, Computing & Communication Systems (MCCS 2017) Vijay Nath 2018-07-30 The volume presents high quality papers presented at the Second International Conference on Microelectronics, Computing & Communication Systems (MCCS 2017). The book discusses recent trends in technology and advancement in MEMS and nanoelectronics, wireless communications, optical communication, instrumentation, signal processing, image processing, bioengineering, green energy, hybrid vehicles, environmental science, weather forecasting, cloud computing, renewable energy, RFID, CMOS sensors, actuators, transducers, telemetry systems, embedded systems, and sensor network applications. It includes original papers based on original theoretical, practical, experimental, simulations, development, application, measurement, and testing. The applications and solutions discussed in the book will serve as a good reference material for future works.

Languages and Compilers for Parallel Computing Bill Pugh 2005-12-13 This book constitutes the thoroughly refereed post-proceedings of the 15th International Workshop on Languages and Compilers for Parallel Processing, LCPC 2002, held in College Park, MD, USA in July 2002. The 26 revised full papers presented were carefully selected during two rounds of reviewing and improvement from 32 submissions. All current issues in parallel processing are addressed, in particular memory-constrained computation, compiler optimization, performance studies, high-level languages, programming language consistency models, dynamic parallelization, parallelization of data mining algorithms, parallelizing compilers, garbage collection algorithms, and evaluation of iterative compilation.

Green, Smart and Connected Transportation Systems Wuhong Wang 2020-03-23 These proceedings gather selected papers from the 9th International Conference on Green Intelligent Transportation Systems and Safety, held in Guilin, China on July 1-3, 2018. They feature cutting-edge studies on Green Intelligent Mobility Systems, the guiding motto being to achieve "green, intelligent, and safe transportation systems." The contributions presented here can help promote the development of green mobility and intelligent transportation technologies to improve interconnectivity, resource sharing, flexibility and efficiency. Given its scope, the book will benefit researchers and engineers in the fields of Transportation Technology and Traffic Engineering, Automotive and Mechanical Engineering, Industrial and System Engineering, and Electrical Engineering alike.

Encyclopedia of Information Science and Technology, Fourth Edition Khosrow-Pour, D.B.A., Mehdi 2017-06-20 In recent years, our world has experienced a profound shift and progression in available computing and knowledge sharing innovations. These emerging advancements have developed at a rapid pace, disseminating into and affecting numerous aspects of contemporary society. This has created a pivotal need for an innovative compendium encompassing the latest trends, concepts, and issues surrounding this relevant discipline area. During the past 15 years, the Encyclopedia of

Information Science and Technology has become recognized as one of the landmark sources of the latest knowledge and discoveries in this discipline. The Encyclopedia of Information Science and Technology, Fourth Edition is a 10-volume set which includes 705 original and previously unpublished research articles covering a full range of perspectives, applications, and techniques contributed by thousands of experts and researchers from around the globe. This authoritative encyclopedia is an all-encompassing, well-established reference source that is ideally designed to disseminate the most forward-thinking and diverse research findings. With critical perspectives on the impact of information science management and new technologies in modern settings, including but not limited to computer science, education, healthcare, government, engineering, business, and natural and physical sciences, it is a pivotal and relevant source of knowledge that will benefit every professional within the field of information science and technology and is an invaluable addition to every academic and corporate library.

Artificial Intelligence XXXV Max Bramer 2018-11-27 This book constitutes the proceedings of the 38th SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence, AI 2018, held in Cambridge, UK, in December 2018. The 25 full papers and 12 short papers presented in this volume were carefully reviewed and selected from 46 submissions. There are technical and application papers which were organized in topical sections named: Neural Networks; Planning and Scheduling; Machine Learning; Industrial Applications of Artificial Intelligence; Planning and Scheduling in Action; Machine Learning in Action; Applications of Machine Learning; and Applications of Agent Systems and Genetic Algorithms.

Building Bridges between Soft and Statistical Methodologies for Data Science Luis A. García-Escudero 2022-08-24 Nowadays, data analysis is becoming an appealing topic due to the emergence of new data types, dimensions, and sources. This motivates the development of probabilistic/statistical approaches and tools to cope with these data. Different communities of experts, namely statisticians, mathematicians, computer scientists, engineers, econometricians, and psychologists are more and more interested in facing this challenge. As a consequence, there is a clear need to build bridges between all these communities for Data Science. This book contains more than fifty selected recent contributions aiming to establish the above referred bridges. These contributions address very different and relevant aspects such as imprecise probabilities, information theory, random sets and random fuzzy sets, belief functions, possibility theory, dependence modelling and copulas, clustering, depth concepts, dimensionality reduction of complex data and robustness.

Handbook of Discrete and Combinatorial Mathematics Kenneth H. Rosen 1999-09-28 The importance of discrete and combinatorial mathematics continues to increase as the range of applications to computer science, electrical engineering, and the biological sciences grows dramatically. Providing a ready reference for practitioners in the field, the Handbook of Discrete and Combinatorial Mathematics, Second Edition presents additional material on Google's matrix, random graphs, geometric graphs, computational topology, and other key topics. New chapters highlight essential background information on bioinformatics and computational geometry. Each chapter includes a glossary, definitions, facts, examples, algorithms, major applications, and references.

Artificial Intelligence: Concepts, Methodologies, Tools, and Applications Management Association, Information Resources 2016-12-12 Ongoing advancements in modern technology have led to significant developments in artificial intelligence. With the numerous applications available, it becomes imperative to conduct research and make further progress in this field. Artificial Intelligence: Concepts, Methodologies, Tools, and Applications provides a comprehensive overview of the latest breakthroughs and recent progress in artificial intelligence. Highlighting relevant technologies, uses, and techniques across various industries and settings, this publication is a pivotal reference source for researchers, professionals, academics, upper-level students, and practitioners interested in emerging perspectives in the field of artificial intelligence.

Information Security and Cryptology Xuejia Lai 2011-07-08 This book constitutes the thoroughly refereed post-conference proceedings of the 6th International Conference on Information Security and

Cryptology, Inscrypt 2010, held in Shanghai, China, in October 2010. The 35 revised full papers presented were carefully reviewed and selected from 125 submissions. The papers are organized in topical sections on encryption schemes, stream ciphers, sequences and elliptic curves, secure computing, hash functions, key management, digital signatures, privacy and algebraic cryptanalysis, hashing and authentication, and hardware and software issues.

Encyclopedia of Business Analytics and Optimization Wang, John 2014-02-28 As the age of Big Data emerges, it becomes necessary to take the five dimensions of Big Data- volume, variety, velocity, volatility, and veracity- and focus these dimensions towards one critical emphasis - value. The Encyclopedia of Business Analytics and Optimization confronts the challenges of information retrieval in the age of Big Data by exploring recent advances in the areas of knowledge management, data visualization, interdisciplinary communication, and others. Through its critical approach and practical application, this book will be a must-have reference for any professional, leader, analyst, or manager interested in making the most of the knowledge resources at their disposal.

Intelligent Information Processing and Web Mining Mieczyslaw A. Klopotek 2006-05-28 The international conference Intelligent Information Processing and Web Mining IIS:IIPWM'05, organized in Gda?sk-Sobieszewo on 13–16th June, 2005, was a continuation of a long tradition of conferences on applications of Arti?cial Intelligence (AI) in Information Systems (IS), organized by the Institute of Computer Science of Polish Academy of Sciences in cooperation with other scienti?c and business institutions. The Institute itself is deeply engaged in research both in AI and IS and many scientists view it as a leading institution both in fundamental and - plied research in these areas in Poland. The originators of this conference series, Prof. M. D?browski and Dr. M. Michalewicz had in 1992 a long-term goal of bringing together scientists and industry of di?erent braches from Poland and abroad to achieve a creative synthesis. One can say that their dream has come to reality. Scientists from ?ve continents made their subm- sions to this conference. A brief look at the a?liations makes international cooperation visible. The research papers have either a motivation in c- crete applications or are o?-springs of some practical requests. This volume presents the best papers carefully chosen from a large set of submissions (about 45%). At this point we would like to express our thanks to the m- bers of Programme Committee for their excellent job. Also we are thankful to the organizers of the special sessions accompanying this conference: Jan Komorowski, Adam Przepiórkowski, Zbigniew W.

Structural Defects Reference Manual for Low-Rise Buildings Michael F. Atkinson 2014-04-21 The Structural Defects Reference Manual for Low-Rise Buildings has been written to assist professionals and students involved in building construction to identify causes of structural failure. Each chapter carefully addresses design, materials and workmanship factors which contribute to structural defects. The main structural elements - roofs, walls, floors and foundations - are all covered and illustrated by case studies. The book also contains relevant data and guidance to show how all the different building elements should be designed and constructed.

Symptomatology and Spread of Fomes Annosus in Southern Pine Plantations by Charles S. Hodges, Jr Charles S. Hodges (Jr.) 1974

Steiner Tree Problems in Computer Communication Networks Dingzhu Du 2008 The Steiner tree problem is one of the most important combinatorial optimization problems. It has a long history that can be traced back to the famous mathematician Fermat (1601-1665). This book studies three significant breakthroughs on the Steiner tree problem that were achieved in the 1990s, and some important applications of Steiner tree problems in computer communication networks researched in the past fifteen years. It not only covers some of the most recent developments in Steiner tree problems, but also discusses various combinatorial optimization methods, thus providing a balance between theory and practice.

Data Mining With Decision Trees: Theory And Applications (2nd Edition) Maimon Oded Z 2014-09-03 Decision trees have become one of the most powerful and popular approaches in knowledge discovery and data mining; it is the science of exploring large and complex bodies of data in order to discover useful patterns. Decision tree learning continues to evolve over time. Existing

methods are constantly being improved and new methods introduced.This 2nd Edition is dedicated entirely to the field of decision trees in data mining; to cover all aspects of this important technique, as well as improved or new methods and techniques developed after the publication of our first edition. In this new edition, all chapters have been revised and new topics brought in. New topics include Cost-Sensitive Active Learning, Learning with Uncertain and Imbalanced Data, Using Decision Trees beyond Classification Tasks, Privacy Preserving Decision Tree Learning, Lessons Learned from Comparative Studies, and Learning Decision Trees for Big Data. A walk-through guide to existing open-source data mining software is also included in this edition.This book invites readers to explore the many benefits in data mining that decision trees offer:

Information Processing and Management of Uncertainty in Knowledge-Based Systems. Applications Jesús Medina 2018-05-29 This three volume set (CCIS 853-855) constitutes the proceedings of the 17th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2017, held in Cádiz, Spain, in June 2018. The 193 revised full papers were carefully reviewed and selected from 383 submissions. The papers are organized in topical sections on advances on explainable artificial intelligence; aggregation operators, fuzzy metrics and applications; belief function theory and its applications; current techniques to model, process and describe time series; discrete models and computational intelligence; formal concept analysis and uncertainty; fuzzy implication functions; fuzzy logic and artificial intelligence problems; fuzzy mathematical analysis and applications; fuzzy methods in data mining and knowledge discovery; fuzzy transforms: theory and applications to data analysis and image processing; imprecise probabilities: foundations and applications; mathematical fuzzy logic, mathematical morphology; measures of comparison and entropies for fuzzy sets and their extensions; new trends in data aggregation; pre-aggregation functions and generalized forms of monotonicity; rough and fuzzy similarity modelling tools; soft computing for decision making in uncertainty; soft computing in information retrieval and sentiment analysis; tri-partitions and uncertainty; decision making modeling and applications; logical methods in mining knowledge from big data; metaheuristics and machine learning; optimization models for modern analytics; uncertainty in medicine; uncertainty in Video/Image Processing (UVIP).

World Congress of Medical Physics and Biomedical Engineering 2006 Sun I. Kim 2007-05-07 These proceedings of the World Congress 2006, the fourteenth conference in this series, offer a strong scientific program covering a wide range of issues and challenges which are currently present in Medical physics and Biomedical Engineering. About 2,500 peer reviewed contributions are presented in a six volume book, comprising 25 tracks, joint conferences and symposia, and including invited contributions from well known researchers in this field.

Information and Communication Technology and Applications Sanjay Misra 2021-02-13 This book constitutes revised selected papers from the Third International Conference on Information and Communication Technology and Applications, ICTA 2020, held in Minna, Nigeria, in November 2020. Due to the COVID-19 pandemic the conference was held online. The 67 full papers were carefully reviewed and selected from 234 submissions. The papers are organized in the topical sections on Artificial Intelligence, Big Data and Machine Learning; Information Security Privacy and Trust; Information Science and Technology.

Proceedings of the Third International Conference on Microelectronics, Computing and Communication Systems Vijay Nath 2019-05-23 The book presents high-quality papers from the Third International Conference on Microelectronics, Computing & Communication Systems (MCCS 2018). It discusses the latest technological trends and advances in MEMS and nanoelectronics, wireless communications, optical communication, instrumentation, signal processing, image processing, bioengineering, green energy, hybrid vehicles, environmental science, weather forecasting, cloud computing, renewable energy, RFID, CMOS sensors, actuators, transducers, telemetry systems, embedded systems, and sensor network applications. It includes papers based on original theoretical, practical and experimental simulations, development, applications, measurements, and testing. The applications and solutions discussed in the book provide excellent reference material for future product development.

Meta-Learning in Decision Tree Induction Krzysztof Gr?bczewski 2013-09-11 The book focuses on different variants of decision tree induction but also describes the meta-learning approach in general which is applicable to other types of machine learning algorithms. The book discusses different variants of decision tree induction and represents a useful source of information to readers wishing to review some of the techniques used in decision tree learning, as well as different ensemble methods that involve decision trees. It is shown that the knowledge of different components used within decision tree learning needs to be systematized to enable the system to generate and evaluate different variants of machine learning algorithms with the aim of identifying the top-most performers or potentially the best one. A unified view of decision tree learning enables to emulate different decision tree algorithms simply by setting certain parameters. As meta-learning requires running many different processes with the aim of obtaining performance results, a detailed description of the experimental methodology and evaluation framework is provided. Meta-learning is discussed in great detail in the second half of the book. The exposition starts by presenting a comprehensive review of many meta-learning approaches explored in the past described in literature, including for instance approaches that provide a ranking of algorithms. The approach described can be related to other work that exploits planning whose aim is to construct data mining workflows. The book stimulates interchange of ideas between different, albeit related, approaches.

Efficient Decision Support Systems Chiang Jao 2011-09-06 This series is directed to diverse managerial professionals who are leading the transformation of individual domains by using expert information and domain knowledge to drive decision support systems (DSSs). The series offers a broad range of subjects addressed in specific areas such as health care, business management, banking, agriculture, environmental improvement, natural resource and spatial management, aviation administration, and hybrid applications of information technology aimed to interdisciplinary issues. This book series is composed of three volumes: Volume 1 consists of general concepts and methodology of DSSs; Volume 2 consists of applications of DSSs in the biomedical domain; Volume 3 consists of hybrid applications of DSSs in multidisciplinary domains. The book is shaped decision support strategies in the new infrastructure that assists the readers in full use of the creative technology to manipulate input data and to transform information into useful decisions for decision makers.

Trends and Applications in Knowledge Discovery and Data Mining U Kang 2017-10-06 This book constitutes the thoroughly refereed post-workshop proceedings at PAKDD Workshops 2017, held in conjunction with PAKDD, the 21st Pacific-Asia Conference on Knowledge Discovery and Data Mining in May 2017 in Jeju, South Korea. The 17 revised papers presented were carefully reviewed and selected from 38 submissions. The workshops affiliated with PAKDD 2017 include: Workshop on Machine Learning for Sensory Data Analysis (MLSDA), Workshop on Biologically Inspired Data Mining Techniques (BDM), Pacific Asia Workshop on Intelligence and Security Informatics (PAISI), and Workshop on Data Mining in Business Process Management (DM-BPM).

Advanced Methodologies and Technologies in Business Operations and Management Khosrow-Pour, D.B.A., Mehdi 2018-09-14 Businesses consistently work on new projects, products, and workflows to remain competitive and successful in the modern business environment. To remain zealous, businesses must employ the most effective methods and tools in human resources, project management, and overall business plan execution as competitors work to succeed as well. Advanced Methodologies and Technologies in Business Operations and Management provides emerging research on business tools such as employee engagement, payout policies, and financial investing to promote operational success. While highlighting the challenges facing modern organizations, readers will learn how corporate social responsibility and utilizing artificial intelligence improve a company's culture and management. This book is an ideal resource for executives and managers, researchers, accountants, and financial investors seeking current research on business operations and management.

Handbook of Neural Computation Pijush Samui 2017-07-18 Handbook of Neural Computation explores neural computation applications, ranging from conventional fields of mechanical and civil

engineering, to electronics, electrical engineering and computer science. This book covers the numerous applications of artificial and deep neural networks and their uses in learning machines, including image and speech recognition, natural language processing and risk analysis. Edited by renowned authorities in this field, this work is comprised of articles from reputable industry and academic scholars and experts from around the world. Each contributor presents a specific research issue with its recent and future trends. As the demand rises in the engineering and medical industries for neural networks and other machine learning methods to solve different types of operations, such as data prediction, classification of images, analysis of big data, and intelligent decision-making, this book provides readers with the latest, cutting-edge research in one comprehensive text. Features high-quality research articles on multivariate adaptive regression splines, the minimax probability machine, and more Discusses machine learning techniques, including classification, clustering, regression, web mining, information retrieval and natural language processing Covers supervised, unsupervised, reinforced, ensemble, and nature-inspired learning methods

Trees, Knots, and Outriggers Frederick H. Damon 2016-10-01 Trees, Knots and Outriggers (Kaynen Muyuw) is the culmination of twenty-five years of work by Frederick H. Damon and his attention to cultural adaptations to the environment in Melanesia. Damon details the intricacies of indigenous knowledge and practice in his sweeping synthesis of symbolic and structuralist anthropology with recent developments in historical ecology. This book is a long conversation between the author's many Papua New Guinea informants, teachers and friends, and scientists in Australia, Europe and the United States, in which a spirit of adventure and discovery is palpable.

Condition Monitoring with Vibration Signals Asoke K. Nandi 2019-12-23 Provides an extensive, up-to-date treatment of techniques used for machine condition monitoring Clear and concise throughout, this accessible book is the first to be wholly devoted to the field of condition monitoring for rotating machines using vibration signals. It covers various feature extraction, feature selection, and classification methods as well as their applications to machine vibration datasets. It also presents new methods including machine learning and compressive sampling, which help to improve safety, reliability, and performance. Condition Monitoring with Vibration Signals: Compressive Sampling and Learning Algorithms for Rotating Machines starts by introducing readers to Vibration Analysis Techniques and Machine Condition Monitoring (MCM). It then offers readers sections covering: Rotating Machine Condition Monitoring using Learning Algorithms; Classification Algorithms; and New Fault Diagnosis Frameworks designed for MCM. Readers will learn signal processing in the time-frequency domain, methods for linear subspace learning, and the basic principles of the learning method Artificial Neural Network (ANN). They will also discover recent trends of deep learning in the field of machine condition monitoring, new feature learning frameworks based on compressive sampling, subspace learning techniques for machine condition monitoring, and much more. Covers the fundamental as well as the state-of-the-art approaches to machine condition monitoringguiding readers from the basics of rotating machines to the generation of knowledge using vibration signals Provides new methods, including machine learning and compressive sampling, which offer significant improvements in accuracy with reduced computational costs Features learning algorithms that can be used for fault diagnosis and prognosis Includes previously and recently developed dimensionality reduction techniques and classification algorithms Condition Monitoring with Vibration Signals: Compressive Sampling and Learning Algorithms for Rotating Machines is an excellent book for research students, postgraduate students, industrial practitioners, and researchers.

Recent Advances on Soft Computing and Data Mining Tutut Herawan 2014-05-29 This book constitutes the refereed proceedings of the First International Conference on Soft Computing and Data Mining, SCDM 2014, held in Universiti Tun Hussein Onn Malaysia, in June 16th-18th, 2014. The 65 revised full papers presented in this book were carefully reviewed and selected from 145 submissions, and organized into two main topical sections; Data Mining and Soft Computing. The goal of this book is to provide both theoretical concepts and, especially, practical techniques on these exciting fields of soft computing and data mining, ready to be applied in real-world applications. The exchanges of views

pertaining future research directions to be taken in this field and the resultant dissemination of the latest research findings makes this work of immense value to all those having an interest in the topics covered.

USDA Forest Service Research Paper SE. Southeastern Forest Experiment Station (Asheville, N.C.) 1972

Automatic Design of Decision-Tree Induction Algorithms Rodrigo C. Barros 2015-02-04 Presents a detailed study of the major design components that constitute a top-down decision-tree induction algorithm, including aspects such as split criteria, stopping criteria, pruning and the approaches for dealing with missing values. Whereas the strategy still employed nowadays is to use a 'generic' decision-tree induction algorithm regardless of the data, the authors argue on the benefits that a bias-fitting strategy could bring to decision-tree induction, in which the ultimate goal is the automatic generation of a decision-tree induction algorithm tailored to the application domain of interest. For such, they discuss how one can effectively discover the most suitable set of components of decision-tree induction algorithms to deal with a wide variety of applications through the paradigm of evolutionary computation, following the emergence of a novel field called hyper-heuristics. "Automatic Design of Decision-Tree Induction Algorithms" would be highly useful for machine learning and evolutionary computation students and researchers alike.

Computational Intelligence in Decision and Control Da Ruan 2008 FLINS, originally an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science, is now extended to Computational Intelligence for applied research. The contributions to the eighth edition in the series of FLINS conferences cover state-of-the-art research, development, and technology for computational intelligence systems in general, and for intelligent decision and control in particular.

Encyclopedia of Data Warehousing and Mining, Second Edition Wang, John 2008-08-31 There are more than one billion documents on the Web, with the count continually rising at a pace of over one million new documents per day. As information increases, the motivation and interest in data warehousing and mining research and practice remains high in organizational interest. The Encyclopedia of Data Warehousing and Mining, Second Edition, offers thorough exposure to the issues of importance in the rapidly changing field of data warehousing and mining. This essential reference source informs decision makers, problem solvers, and data mining specialists in business, academia, government, and other settings with over 300 entries on theories, methodologies, functionalities, and applications.

Improving Knowledge Discovery through the Integration of Data Mining Techniques Usman, Muhammad 2015-08-03 Data warehousing is an important topic that is of interest to both the industry and the knowledge engineering research communities. Both data mining and data warehousing technologies have similar objectives and can potentially benefit from each other's methods to facilitate knowledge discovery. Improving Knowledge Discovery through the Integration of Data Mining Techniques provides insight concerning the integration of data mining and data warehousing for enhancing the knowledge discovery process. Decision makers, academicians, researchers, advanced-level students, technology developers, and business intelligence professionals will find this book useful in furthering their research exposure to relevant topics in knowledge discovery.

Ecology and Management of Forest Soils Dan Binkley 2012-11-05 Forest soils are the foundation of the entire forest ecosystem and complex, long-term interactions between trees, soil animals, and the microbial community shape soils in was that are very distinct from agricultural soils. The composition, structure, and processes in forest soils at any given time reflect current conditions, as well as the legacies of decades (and even millennia) of interactions that shape each forest soil. Reciprocal interactions are fundamental; vegetation alters soil physical properties, which influence soil biology and chemistry, which in turn influence the growth and success of plants. These dynamic systems may be strongly influenced by intentional and unintentional management, ranging from fire to fertilization. Sustaining the long-term fertility of forest soils depends on insights about a diverse array of soil features and changes over space and time. Since the third edition of this successful book many new interests in

forest soils and their management have arisen, including the role of forest soils in sequestering carbon, and how management influences rates of carbon accumulation. This edition also expands the consideration of how soils are sampled and characterized, and how tree species differ in their influence on soil development. Clearly structured throughout, the book opens with the origins of forest soil science and ends with the application of soil science principles to land management. This new edition provides: A completely revised and updated Fourth Edition of this classic textbook in the field A coherent overview of the major issues surrounding the ecology and management of forest soils Global in scope with coverage of soil types ranging from the tropical rainforest soils of Latin America to the boreal forest soils of Siberia New chapters on Management: Carbon sequestration; Evidence-based approaches and applications of geostatistics, GIS and taxonomies A clear overview of each topic, informative examples/case studies, and an overall context for helping readers think clearly about forest soils An introduction to the literature of forest soil science and to the philosophy of forest soil science research This coherent overview of the major issues surrounding the ecology and management of forest soils will be particularly useful to students taking courses in soil science, forestry, agronomy, ecology, natural resource management, environmental management and conservation, as well as professionals in forestry dealing with the productivity of forests and functioning of watersheds.

Big Data Integration Theory Zoran Majki? 2014-01-23 This book presents a novel approach to database concepts, describing a categorical logic for database schema mapping based on views, within a framework for database integration/exchange and peer-to-peer. Database mappings, database programming languages, and denotational and operational semantics are discussed in depth. An analysis method is also developed that combines techniques from second order logic, data modeling, co-algebras and functorial categorial semantics. Features: provides an introduction to logics, co-algebras, databases, schema mappings and category theory; describes the core concepts of big data integration theory, with examples; examines the properties of the DB category; defines the categorial RDB machine; presents full operational semantics for database mappings; discusses matching and merging operators for databases, universal algebra considerations and algebraic lattices of the databases; explores the relationship of the database weak monoidal topos w.r.t. intuitionistic logic.

Decision Tree and Ensemble Learning Based on Ant Colony Optimization Jan Kozak 2018-06-20 This book not only discusses the important topics in the area of machine learning and combinatorial optimization, it also combines them into one. This was decisive for choosing the material to be included in the book and determining its order of presentation. Decision trees are a popular method of classification as well as of knowledge representation. At the same time, they are easy to implement as the building blocks of an ensemble of classifiers. Admittedly, however, the task of constructing a near-optimal decision tree is a very complex process. The good results typically achieved by the ant colony optimization algorithms when dealing with combinatorial optimization problems suggest the possibility of also using that approach for effectively constructing decision trees. The underlying rationale is that both problem classes can be presented as graphs. This fact leads to option of considering a larger spectrum of solutions than those based on the heuristic. Moreover, ant colony optimization algorithms can be used to advantage when building ensembles of classifiers. This book is a combination of a research monograph and a textbook. It can be used in graduate courses, but is also of interest to researchers, both specialists in machine learning and those applying machine learning methods to cope with problems from any field of R&D.

Computational Intelligence in Decision and Control

Advanced Data Mining and Applications Guojun Gan 2018-12-28 This book constitutes the refereed proceedings of the 14th International Conference on Advanced Data Mining and Applications, ADMA 2018, held in Nanjing, China in November 2018. The 23 full and 22 short papers presented in this volume were carefully reviewed and selected from 104 submissions. The papers were organized in topical sections named: Data Mining Foundations; Big Data; Text and Multimedia Mining; Miscellaneous Topics.

Advances in Artificial Intelligence Ziad Kobti 2007-06-22 This book constitutes the refereed

proceedings of the 20th Conference of the Canadian Society for Computational Studies of Intelligence, Canadian AI 2007, held in Montreal, Canada, in May 2007. The 46 revised full papers cover agents, bioinformatics, classification, constraint satisfaction, data mining, knowledge representation and reasoning, learning, natural language, and planning.

Computer Information Systems and Industrial Management Khalid Saeed 2014-10-25 This book constitutes the proceedings of the 13th IFIP TC 8 International Conference on Computer Information Systems and Industrial Management, CISIM 2014, held in Ho Chi Minh City, Vietnam, in November 2014. The 60 paper presented in this volume were carefully reviewed and selected from 98 submissions. They are organized in topical sections named: algorithms; biometrics and biometrics applications; data analysis and information retrieval; industrial management and other applications; modelling and optimization; networking; pattern recognition and image processing; and various aspects of computer security.

Evolutionary Decision Trees in Large-Scale Data Mining Marek Kretowski 2019-06-05 This book presents a unified framework, based on specialized evolutionary algorithms, for the global induction of various types of classification and regression trees from data. The resulting univariate or oblique trees are significantly smaller than those produced by standard top-down methods, an aspect that is critical for the interpretation of mined patterns by domain analysts. The approach presented here is extremely flexible and can easily be adapted to specific data mining applications, e.g. cost-sensitive model trees for financial data or multi-test trees for gene expression data. The global induction can be efficiently applied to large-scale data without the need for extraordinary resources. With a simple GPU-based acceleration, datasets composed of millions of instances can be mined in minutes. In the event that the size of the datasets makes the fastest memory computing impossible, the Spark-based implementation on computer clusters, which offers impressive fault tolerance and scalability potential, can be applied.