

Data Mining In Agriculture Springer Optimization And Its Applications

This volume comprises the proceedings of the Industrial Conference on Data Mining (ICDM 2009) held in Leipzig (www.data-mining-forum.de). For this edition the Program Committee received 130 submissions. After the peer review process, we accepted 32 high-quality papers for oral presentation that are included in this book. The topics range from theoretical aspects of data mining to applications of data mining, such as on multimedia data, in marketing, finance and telecommunication, in medicine and agriculture, and in process control, industry and society. Ten papers were selected for poster presentations that are published in the ICDM Poster Proceedings Volume by ibai-publishing (www.ibai-publishing.org). In conjunction with ICDM two workshops were run focusing on special hot application-oriented topics in data mining. The workshop Data Mining in Marketing DMM 2009 was run for the second time. The papers are published in a separate workshop book "Advances in Data Mining on Marketing" by ibai-publishing (www.ibai-publishing.org). The

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

Workshop on Case-Based Reasoning for Multimedia Data CBR-MD ran for the second year. The papers are published in a special issue of the International Journal of Transactions on Case-Based Reasoning (www.ibai-publishing.org/journal/cbr).

Key features: Unique in its combination of serving as an introduction to spatial statistics and to modeling agricultural and ecological data using R Provides exercises in each chapter to facilitate the book's use as a course textbook or for self-study Adds new material on generalized additive models, point pattern analysis, and new methods of Bayesian analysis of spatial data. Includes a completely revised chapter on the analysis of spatiotemporal data featuring recently introduced software and methods Updates its coverage of R software including newly introduced packages Spatial Data Analysis in Ecology and Agriculture Using R, 2nd Edition provides practical instruction on the use of the R programming language to analyze spatial data arising from research in ecology, agriculture, and environmental science. Readers have praised the book's practical coverage of spatial statistics, real-world examples, and user-friendly approach in presenting and explaining R code, aspects

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

maintained in this update. Using data sets from cultivated and uncultivated ecosystems, the book guides the reader through the analysis of each data set, including setting research objectives, designing the sampling plan, data quality control, exploratory and confirmatory data analysis, and drawing scientific conclusions. Additional material to accompany the book, on both analyzing satellite data and on multivariate analysis, can be accessed at <https://www.plantsciences.ucdavis.edu/plant/additionaltopics.htm>

.
Through expanded intelligence, the use of robotics has fundamentally transformed a variety of fields, including manufacturing, aerospace, medical, social services, and agriculture. Providing successful techniques in robotic design allows for increased autonomous mobility, which leads to a greater productivity level. Novel Design and Applications of Robotics Technologies provides innovative insights into the state-of-the-art technologies in the design and development of robotic technologies and their real-world applications. The content within this publication represents the work of

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

interactive learning, microrobot swarms, and service robots. It is a vital reference source for computer engineers, robotic developers, IT professionals, academicians, and researchers seeking coverage on topics centered on the application of robotics to perform tasks in various disciplines.

This book constitutes refereed proceedings of the First International Conference on Smart Technologies, Systems and Applications, held in Quito, Ecuador, in December 2019. The 27 full papers and 3 short papers presented were carefully reviewed and selected from 90 submissions. The papers of this volume are organized in topical sections on smart technologies; smart systems; smart trends and applications.

6th Pacific-Asia Conference, PAKDD 2002, Taipei, Taiwan, May 6-8, 2002. Proceedings

Data Mining for Systems Biology

Data Science in Agriculture and Natural Resource Management

Artificial Intelligence and IoT-Based Technologies for

Sustainable Farming and Smart Agriculture

Frontiers in Environmental Science - Editor's Picks 2021

IoT and Analytics for Agriculture

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

The post-genomic revolution is witnessing the generation of petabytes of data annually, with deep implications ranging across evolutionary theory, developmental biology, agriculture, and disease processes. *Data Mining for Systems Biology: Methods and Protocols*, surveys and demonstrates the science and technology of converting an unprecedented data deluge to new knowledge and biological insight. The volume is organized around two overlapping themes, network inference and functional inference. Written in the highly successful *Methods in Molecular Biology*TM series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible protocols, and key tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, *Data Mining for Systems Biology: Methods and Protocols* also seeks to aid researchers in the further development of databases, mining and visualization systems that are central to the paradigm altering discoveries being made with increasing frequency. K-Means is arguably the most popular clustering algorithm; this is why it is of great interest to tackle its shortcomings. The drawback in the heart of this project is that this algorithm gives the same level of relevance to all the features in a dataset. This can have disastrous consequences when the

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

features are taken from a database just because they are available. To address the issue of unequal relevance of the features we use a three-stage extension of the generic K-Means in which a third step is added to the usual two steps in a K-Means iteration: feature weighting update. We extend the generic K-Means to what we refer to as Minkowski Weighted K-Means method. We apply the developed approaches to problems in distinguishing between different mental tasks over high-dimensional EEG data.

Since agriculture is one of the key parameters in assessing the gross domestic product (GDP) of any country, it has become crucial to transition from traditional agricultural practices to smart agriculture. New agricultural technologies provide numerous opportunities to maximize crop yield by recognizing and analyzing diseases and other natural variables that may affect it. Therefore, it is necessary to understand how computer-assisted technologies can best be utilized and adopted in the conversion to smart agriculture. Modern Techniques for Agricultural Disease Management and Crop Yield Prediction is an essential publication that widens the spectrum of computational methods that can aid in agriculture disease management, weed detection, and crop yield prediction. Featuring coverage on a wide

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

range of topics such as soil and crop sensors, swarm robotics, and weed detection, this book is ideally designed for environmentalists, farmers, botanists, agricultural engineers, computer engineers, scientists, researchers, practitioners, and students seeking current research on technology and techniques for agricultural diseases and predictive trends. Data Mining in Agriculture represents a comprehensive effort to provide graduate students and researchers with an analytical text on data mining techniques applied to agriculture and environmental related fields. This book presents both theoretical and practical insights with a focus on presenting the context of each data mining technique rather intuitively with ample concrete examples represented graphically and with algorithms written in MATLAB®.

Advanced Data Mining Techniques

CAiSE 2020 International Workshops, Grenoble, France, June 8–12, 2020, Proceedings

Handbook of Research on Big Data Clustering and Machine Learning
IJCACI 2020

Advances in Data Mining. Applications and Theoretical Aspects
Methods and Protocols

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

The main goal of this book is to provide a state of the art of hybrid metaheuristics. The book provides a complete background that enables readers to design and implement hybrid metaheuristics to solve complex optimization problems (continuous/discrete, mono-objective/multi-objective, optimization under uncertainty) in a diverse range of application domains. Readers learn to solve large scale problems quickly and efficiently combining metaheuristics with complementary metaheuristics, mathematical programming, constraint programming and machine learning. Numerous real-world examples of problems and solutions demonstrate how hybrid metaheuristics are applied in such fields as networks, logistics and transportation, bio-medical, engineering design, scheduling.

Deep Learning for Sustainable Agriculture reviews the fundamental concepts of gathering, processing and analyzing different deep learning models, along with a review of methods that can be used in this direction. The book also covers novel deep learning techniques for effective agriculture data management with standards laid by international organizations in related fields. The book is centered around evolving novel intelligent/deep learning models to solve the mitigation of agriculture. There are several deep learning models known that are used for weather forecasting, plant disease detection,

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

underground water detection, quality of soil, and many more issues in agriculture. Introduces the novel deep learning models needed to address sustainable solutions for issues related to agriculture Provides reviews on the latest intelligent technologies and algorithms related to the state-of-the-art methodologies of monitoring and mitigation of sustainable agriculture Offers perspectives for the design, development and commissioning of intelligent applications

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.

This volume is the second (II) of four under the main themes of Digitizing Agriculture and Information and Communication Technologies (ICT). The four

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

volumes cover rapidly developing processes including Sensors (I), Data (II), Decision (III), and Actions (IV). Volumes are related to “ digital transformation ” within agricultural production and provision systems, and in the context of Smart Farming Technology and Knowledge-based Agriculture. Content spans broadly from data mining and visualization to big data analytics and decision making, alongside with the sustainability aspects stemming from the digital transformation of farming. The four volumes comprise the outcome of the 12th EFITA Congress, also incorporating chapters that originated from select presentations of the Congress. The first part of this book (II) focuses on data technologies in relation to agriculture and presents three key points in data management, namely, data collection, data fusion, and their uses in machine learning and artificial intelligent technologies. Part 2 is devoted to the integration of these technologies in agricultural production processes by presenting specific applications in the domain. Part 3 examines the added value of data management within agricultural products value chain. The book provides an exceptional reference for those researching and working in or adjacent to agricultural production, including engineers in machine learning and AI, operations management, decision analysis, information analysis, to name just a few. Specific advances covered in the volume: Big data

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

management from heterogenous sources Data mining within large data sets
Data fusion and visualization IoT based management systems Data Knowledge
Management for converting data into valuable information Metadata and data
standards for expanding knowledge through different data platforms AI -
based image processing for agricultural systems Data - based agricultural
business Machine learning application in agricultural products value chain
ECSM 2019 6th European Conference on Social Media

Proceedings of 8th Computer Science On-line Conference 2019, Vol. 1

Proceedings of International Joint Conference on Advances in Computational
Intelligence

Modern Techniques for Agricultural Disease Management and Crop Yield
Prediction

Proceedings of the 1st International Conference on Smart Machine Intelligence
and Real-Time Computing (SmartCom 2020), 26-27 June 2020, Pauri, Garhwal,
Uttarakhand, India

Periodic Pattern Mining

*Agriculture has been an enduring human tradition key to survival and civilization.
However, after the advent of industrialization and agricultural growth, the industry
has been met with several challenges including pollution, land use, and food*

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

insecurity. With the agricultural industry contributing to pollution and emissions, many have found it imperative to investigate the causes and seek out solutions. The Research Anthology on Strategies for Achieving Agricultural Sustainability discusses the issues that the agricultural industry currently faces and the technological opportunities that can be explored to help protect and predict crop growth and achieve more resilient agricultural processes. It analyzes the impact of agricultural pollution and food insecurity on a global scale, but also proposes solutions to promote agricultural sustainability. Covering topics such as bio-farming, smart farming, and population growth, this book is an indispensable resource for government officials, agricultural scientists, farmers, students and professors of higher education, activist groups, researchers, and academicians.

This book features selected research papers presented at the International Conference on Advances in Information Communication Technology and Computing (AICTC 2019), held at the Government Engineering College Bikaner, Bikaner, India, on 8-9 November 2019. It covers ICT-based approaches in the areas ICT for energy efficiency, life cycle assessment of ICT, green IT, green information systems, environmental informatics, energy informatics, sustainable HCI and computational sustainability.

This book aims to address emerging challenges in the field of agriculture and natural resource management using the principles and applications of data science (DS). The

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

book is organized in three sections, and it has fourteen chapters dealing with specialized areas. The chapters are written by experts sharing their experiences very lucidly through case studies, suitable illustrations and tables. The contents have been designed to fulfil the needs of geospatial, data science, agricultural, natural resources and environmental sciences of traditional universities, agricultural universities, technological universities, research institutes and academic colleges worldwide. It will help the planners, policymakers and extension scientists in planning and sustainable management of agriculture and natural resources. The authors believe that with its uniqueness the book is one of the important efforts in the contemporary cyber-physical systems.

This book constitutes the thoroughly refereed proceedings of the international workshops associated with the 32nd International Conference on Advanced Information Systems Engineering, CAiSE 2020, which was planned to take place in Grenoble, France, during June 8-12, 2020. Due to the Coronavirus pandemic the conference was held virtually. The workshops included in this book are: KET4DF, The Second International Workshop on Key Enabling Technologies for Digital Factories ISESL, The First International Workshop on Information Systems Engineering for Smarter Life The total of 8 full and 3 short papers presented in this volume were carefully reviewed and selected from 20 submissions. The book also contains one invited talk.

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

Feature Weighting for Clustering

Deep Learning for Sustainable Agriculture

Machine Learning and Artificial Intelligence for Agricultural Economics

Computational Methods for Agricultural Research: Advances and Applications

Fundamentals and Practices

Advances in Modeling Agricultural Systems

The eventual aim when applying digital technologies in agriculture is to replace or reduce the human labor required for agricultural production. Large amounts of heterogeneous data are essential for integration studies of automated agriculture, and the digitalization of agriculture is helping to fulfill the demand for this data, but management of the data gathered presents its own challenges. That is where the Intelligent Environment (IE) paradigm comes into play to guide the design of the systems, techniques and algorithms able to analyze the data and provide recommendations for farmers, managers and other stakeholders. This book, Agriculture and Environment Perspectives in Intelligent Systems, is divided into 5

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

chapters. Chapter 1 explores the use of intelligent systems in Controlled Environment Agriculture (CEA) facilities; Chapter 2 reviews the adoption of intelligent systems in the research field of biomonitoring; Chapter 3 proposes an intelligent system to acquire and pre-process data for precision agriculture applications; Chapter 4 illustrates the use of intelligent algorithms to make more efficient use of scarce resources such as water; and Chapter 5 focuses on the generation of intelligent models to predict frosts in crops in south-eastern Spain. There is still a need to bridge the gap between the needs of farmers, environmental managers and stakeholders and the solutions offered by information and communication technology. This book will be of interest to all those working in the field. This book covers the fundamental concepts of data mining, to demonstrate the potential of gathering large sets of data, and analyzing these data sets to gain useful business understanding. The book is organized in three parts. Part I introduces concepts. Part II describes and demonstrates

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

basic data mining algorithms. It also contains chapters on a number of different techniques often used in data mining. Part III focuses on business applications of data mining. This book constitutes the refereed proceedings of the 14th Industrial Conference on Advances in Data Mining, ICDM 2014, held in St. Petersburg, Russia, in July 2014. The 16 revised full papers presented were carefully reviewed and selected from various submissions. The topics range from theoretical aspects of data mining to applications of data mining, such as in multimedia data, in marketing, in medicine and agriculture and in process control, industry and society.

This book gathers outstanding research papers presented at the International Joint Conference on Advances in Computational Intelligence (IJCACI 2020), organized by Daffodil International University (DIU) and Jahangirnagar University (JU) in Bangladesh and South Asian University (SAU) in India. These proceedings present novel contributions in the areas of computational intelligence

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

and offer valuable reference material for advanced research. The topics covered include collective intelligence, soft computing, optimization, cloud computing, machine learning, intelligent software, robotics, data science, data security, big data analytics, and signal and natural language processing.

Agriculture and Environment Perspectives in Intelligent Systems

9th Industrial Conference, ICDM 2009, Leipzig, Germany, July 20 - 22, 2009. Proceedings

*Software Engineering Methods in Intelligent Algorithms
PAKDD 2021 Workshops, WSPA, MLMEIN, SDPRA, DARAI, and
AI4EPT, Delhi, India, May 11, 2021 Proceedings*

Proceedings of AICTC 2019

This book constitutes the refereed proceedings of the 6th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2002, held in Taipei, Taiwan, in May 2002. The 32 revised full papers and 20 short papers presented together

with 4 invited contributions were carefully reviewed and selected from a total of 128 submissions. The papers are organized in topical sections on association rules; classification; interestingness; sequence mining; clustering; Web mining; semi-structure and concept mining; data warehouse and data cube; bio-data mining; temporal mining; and outliers, missing data, and causation.

The field of SMART technologies is an interdependent discipline. It involves the latest burning issues ranging from machine learning, cloud computing, optimisations, modelling techniques, Internet of Things, data analytics, and Smart Grids among others, that are all new fields. It is an applied and multi-disciplinary subject with a focus on Specific, Measurable, Achievable, Realistic & Timely system operations combined with Machine intelligence & Real-Time computing. It is not possible for any one person to comprehensively cover all aspects relevant to SMART Computing in a limited-extent work. Therefore, these conference proceedings address various issues through the deliberations by distinguished Professors and

researchers. The SMARTCOM 2020 proceedings contain tracks dedicated to different areas of smart technologies such as Smart System and Future Internet, Machine Intelligence and Data Science, Real-Time and VLSI Systems, Communication and Automation Systems. The proceedings can be used as an advanced reference for research and for courses in smart technologies taught at graduate level.

"This book brings computing solutions to ancient practices and modern concerns, sowing the seeds for a sustainable, constant food supply, utilizing cutting-edge computational techniques"--Provided by publisher.

Agriculture has experienced a dramatic change during the past decades. The change has been structural and technological. Structural changes can be seen in the size of current farms; not long ago, agricultural production was organized around small farms, whereas nowadays the agricultural landscape is dominated by large farms. Large farms have better means of applying new technologies, and therefore technological advances have been a driving force in changing the farming

structure. New technologies continue to emerge, and their mastery and use in requires that farmers gather more information and make more complex technological choices. In particular, the advent of the Internet has opened vast opportunities for communication and business opportunities within the agricultural community. But at the same time, it has created another class of complex issues that need to be addressed sooner rather than later. Farmers and agricultural researchers are faced with an overwhelming amount of information they need to analyze and synthesize to successfully manage all the facets of agricultural production. This daunting challenge requires new and complex approaches to farm management. A new type of agricultural management system requires active cooperation among multidisciplinary and multi-institutional teams and refining of existing and creation of new analytical theories with potential use in agriculture. Therefore, new management agricultural systems must combine the newest achievements in many scientific domains such as agronomy, economics, mathematics, and computer science, to

name a few.

Information and Communication Technologies for

Agriculture—Theme II: Data

Agricultural Automation

Data Mining in Agriculture

Novel Design and Applications of Robotics Technologies

Advances in Knowledge Discovery and Data Mining

Advances and Applications

This book presents software engineering methods in the context of the intelligent systems. It discusses real-world problems and exploratory research describing novel approaches and applications of software engineering, software design and algorithms. The book constitutes the refereed proceedings of the Software Engineering Methods in Intelligent Algorithms Section of the 8th Computer Science On-line Conference 2019 (CSOC 2019), held on-line in April 2019.

"This book presents high quality research on the design and implementation of information systems in the fields of agronomics, mathematics, economics, computer science, and the environment, offering holistic approaches to the design, development, and implementation of

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

complex agricultural and environmental information systems"--Provided by publisher.

As organizations continue to develop, there is an increasing need for technological methods that can keep up with the rising amount of data and information that is being generated. Machine learning is a tool that has become powerful due to its ability to analyze large amounts of data quickly. Machine learning is one of many technological advancements that is being implemented into a multitude of specialized fields. An extensive study on the execution of these advancements within professional industries is necessary. The Handbook of Research on Big Data Clustering and Machine Learning is an essential reference source that synthesizes the analytic principles of clustering and machine learning to big data and provides an interface between the main disciplines of engineering/technology and the organizational, administrative, and planning abilities of management. Featuring research on topics such as project management, contextual data modeling, and business information systems, this book is ideally designed for engineers, economists, finance officers, marketers, decision makers, business professionals, industry practitioners, academicians, students, and researchers seeking coverage on the implementation of big data and machine learning within specific

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

professional fields.

This book provides an introduction to the field of periodic pattern mining, reviews state-of-the-art techniques, discusses recent advances, and reviews open-source software. Periodic pattern mining is a popular and emerging research area in the field of data mining. It involves discovering all regularly occurring patterns in temporal databases. One of the major applications of periodic pattern mining is the analysis of customer transaction databases to discover sets of items that have been regularly purchased by customers. Discovering such patterns has several implications for understanding the behavior of customers. Since the first work on periodic pattern mining, numerous studies have been published and great advances have been made in this field. The book consists of three main parts: introduction, algorithms, and applications. The first chapter is an introduction to pattern mining and periodic pattern mining. The concepts of periodicity, periodic support, search space exploration techniques, and pruning strategies are discussed. The main types of algorithms are also presented such as periodic-frequent pattern growth, partial periodic pattern-growth, and periodic high-utility itemset mining algorithm. Challenges and research opportunities are reviewed. The chapters that follow present state-of-the-art techniques for discovering

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

periodic patterns in (1) transactional databases, (2) temporal databases, (3) quantitative temporal databases, and (4) big data. Then, the theory on concise representations of periodic patterns is presented, as well as hiding sensitive information using privacy-preserving data mining techniques. The book concludes with several applications of periodic pattern mining, including applications in air pollution data analytics, accident data analytics, and traffic congestion analytics.

**Spatial Data Analysis in Ecology and Agriculture Using R
First International Conference, SmartTech-IC 2019, Quito, Ecuador,
December 2-4, 2019, Proceedings**

Distance Geometry

**Prognostic Data Analytics to Serve Small Scale Farmers Worldwide
Theory, Algorithms, and Applications
Computer Science**

*Agricultural automation is the core technology for computer-aided agricultural production management and implementation. An integration of equipment, infotronics, and precision farming technologies, it creates viable solutions for challenges facing the food, fiber, feed, and fuel needs of the human race now and into the future. Agricultural Automat
This book presents recent findings on virtually every aspect of wireless IoT and analytics for agriculture. It discusses IoT-based monitoring systems for analyzing the crop environment, and*

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

methods for improving the efficiency of decision-making based on the analysis of harvest statistics. In turn, it addresses the latest innovations, trends, and concerns, as well as practical challenges encountered and solutions adopted in the fields of IoT and analytics for agriculture. In closing, it explores a range of applications, including: intelligent field monitoring, intelligent data processing and sensor technologies, predictive analysis systems, crop monitoring, and weather data-enabled analysis in IoT agro-systems.

This book constitutes the refereed proceedings of five workshops that were held in conjunction with the 25th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2021, in Delhi, India, in May 2021. The 17 revised full papers presented were carefully reviewed and selected from a total of 39 submissions.. The five workshops were as follows: Workshop on Smart and Precise Agriculture (WSPA 2021) PAKDD 2021 Workshop on Machine Learning for Measurement Informatics (MLMEIN 2021) The First Workshop and Shared Task on Scope Detection of the Peer Review Articles (SDPRA 2021) The First International Workshop on Data Assessment and Readiness for AI (DARAI 2021) The First International Workshop on Artificial Intelligence for Enterprise Process Transformation (AI4EPT 2021)

*Data Mining in Agriculture Springer Science & Business Media
Trends and Applications in Knowledge Discovery and Data Mining
Smart Technologies, Systems and Applications*

14th Industrial Conference, ICDM 2014, St. Petersburg, Russia, July 16-20, 2014, Proceedings

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

Smart Computing

Wikibook of Health Informatics

New Technologies for Constructing Complex Agricultural and Environmental Systems

This volume is a collection of research surveys on the Distance Geometry Problem (DGP) and its applications. It will be divided into three parts: Theory, Methods and Applications. Each part will contain at least one survey and several research papers. The first part, Theory, will deal with theoretical aspects of the DGP, including a new class of problems and the study of its complexities as well as the relation between DGP and other related topics, such as: distance matrix theory, Euclidean distance matrix completion problem, multispherical structure of distance matrices, distance geometry and geometric algebra, algebraic distance geometry theory, visualization of K-dimensional structures in the plane, graph rigidity, and theory of discretizable DGP: symmetry and complexity. The second part, Methods, will discuss mathematical and computational properties of methods developed to the problems considered in the first chapter including continuous methods (based on Gaussian and hyperbolic smoothing, difference of convex functions, semidefinite programming, branch-and-bound), discrete methods (based on branch-and-prune, geometric build-up, graph rigidity), and also heuristics methods (based on simulated annealing, genetic algorithms, tabu search,

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

variable neighborhood search). Applications will comprise the third part and will consider applications of DGP to NMR structure calculation, rational drug design, molecular dynamics simulations, graph drawing and sensor network localization. This volume will be the first edited book on distance geometry and applications. The editors are in correspondence with the major contributors to the field of distance geometry, including important research centers in molecular biology such as Institut Pasteur in Paris.

As technology continues to saturate modern society, agriculture has started to adopt digital computing and data-driven innovations. This emergence of “smart” farming has led to various advancements in the field, including autonomous equipment and the collection of climate, livestock, and plant data. As connectivity and data management continue to revolutionize the farming industry, empirical research is a necessity for understanding these technological developments.

Artificial Intelligence and IoT-Based Technologies for Sustainable Farming and Smart Agriculture provides emerging research exploring the theoretical and practical aspects of critical technological solutions within the farming industry. Featuring coverage on a broad range of topics such as crop monitoring, precision livestock farming, and agronomic data processing, this book is ideally designed for farmers, agriculturalists, product managers, farm holders,

Read Book Data Mining In Agriculture Springer Optimization And Its Applications

manufacturers, equipment suppliers, industrialists, governmental professionals, researchers, academicians, and students seeking current research on technological applications within agriculture and farming.

Hybrid Metaheuristics

Research Anthology on Strategies for Achieving Agricultural Sustainability

Theory, Methods, and Applications

Advances in Data Mining: Applications and Theoretical Aspects

Advances in Information Communication Technology and Computing

Encyclopedia of Data Warehousing and Mining, Second Edition