

Advances In Knowledge Discovery And Data Mining American Association For Artificial Intelligence

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Scientific Data Mining and Knowledge Discovery Mohamed Medhat Gaber 2009-09-19 Mohamed Medhat Gaber "It is not my aim to surprise or shock you – but the simplest way I can summarise is to say that there are now in the world machines that think, that learn and that create. Moreover, their ability to do these things is going to increase rapidly until – in a visible future – the range of problems they can handle will be coextensive with the range to which the human mind has been applied" by Herbert A. Simon (1916-2001) 1 Overview This book suits both graduate students and researchers with a focus on discovering knowledge from scienti c data. The use of computational power for data analysis and knowledge discovery in scienti c disciplines has found its roots with the re- lution of high-performance computing systems. Computational science in physics, chemistry, and biology represents the rst step towards automation of data analysis tasks. The rational behind the developmentof computationalscience in different - eas was automating mathematical operations performed in those areas. There was no attention paid to the scienti c discovery process. Automated Scienti c Disc- ery (ASD) [1–3] represents the second natural step. ASD attempted to automate the process of theory discovery supported by studies in philosophy of science and cognitive sciences. Although early research articles have shown great successes, the area has not evolved due to many reasons. The most important reason was the lack of interaction between scientists and the automating systems.

Relational Data Mining Saso Dzeroski 2013-04-17 As the first book devoted to relational data mining, this coherently written multi-author monograph provides a thorough introduction and systematic overview of the area. The first part introduces the reader to the basics and principles of classical knowledge discovery in databases and inductive logic programming; subsequent chapters by leading experts assess the techniques in relational data mining in a principled and comprehensive way; finally, three chapters deal with advanced applications in various fields and refer the reader to resources for relational data mining. This book will become a valuable source of reference for R&D professionals active in relational data mining. Students as well as IT professionals and ambitious practitioners interested in learning about relational data mining will appreciate the book as a useful text and gentle introduction to this exciting new field.

Inductive Logic Programming Nada Lavrač 1997-09-03 This book constitutes the strictly refereed post-workshop proceedings of the 6th International Workshop on Inductive Logic Programming, ILP-96, held in Stockholm, Sweden, in August 1996. The 21 full papers were carefully reviewed and selected for inclusion in the book in revised version. Also included is the invited contribution "Inductive logic programming for natural language processing" by Raymond J. Mooney. Among the topics covered are natural language learning, drug design, NMR and ECG analysis, glaucoma diagnosis, efficiency measures for implementations and database interaction, program synthesis, proof encoding and learning in the absence of negative data, and least generalizations under implication ordering.

Advances in Knowledge Discovery and Data Mining David Cheung 2001-04-04 This book constitutes the refereed proceedings of the 5th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2001, held in Hong Kong, China in April 2001. The 38 revised full papers and 22 short papers presented were carefully reviewed and selected from a total of 152 submissions. The book offers topical sections on Web mining, text mining, applications and tools, concept hierarchies, feature selection, interestingness, sequence mining, spatial and temporal mining, association mining, classification and rule induction, clustering, and advanced topics and new methods.

Advances in Machine Learning and Data Mining for Astronomy Michael J. Way 2012-03-29 Advances in Machine Learning and Data Mining for Astronomy documents numerous successful collaborations among computer scientists, statisticians, and astronomers who illustrate the application of state-of-the-art machine learning and data mining techniques in astronomy. Due to the massive amount and complexity of data in most scientific disciplines

Advances in Knowledge Discovery and Data Mining James Bailey 2016-04-12 This two-volume set, LNAI 9651 and 9652, constitutes the thoroughly refereed proceedings of the 20th Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining, PAKDD 2016, held in Auckland, New Zealand, in April 2016. The 91 full papers were carefully reviewed and selected from 307 submissions. They are organized in topical sections named: classification; machine learning; applications; novel methods and algorithms; opinion mining and sentiment analysis; clustering; feature extraction and pattern mining; graph and network data; spatiotemporal and image data; anomaly detection and clustering; novel models and algorithms; and text mining and recommender systems.

Temporal Data Mining Theophano Mitsa 2010-03-10 Temporal data mining deals with the harvesting of useful information from temporal data. New initiatives in health care and business organizations have increased the importance of temporal information in data today. From basic data mining concepts to state-of-the-art advances, Temporal Data Mining covers the theory of this subject as well as its application in a variety of fields. It discusses the incorporation of temporality in databases as well as temporal data representation, similarity computation, data classification, clustering, pattern discovery, and prediction. The book also explores the use of temporal data mining in medicine and biomedical informatics, business and industrial applications, web usage mining, and spatiotemporal data mining. Along with various state-of-the-art algorithms, each chapter includes detailed references and short descriptions of relevant algorithms and techniques described in other references. In the appendices, the author explains how data mining fits the overall goal of an organization and how these data can be interpreted for the purpose of characterizing a population. She also provides programs written in the Java language that implement some of the algorithms presented in the first chapter. Check out the author's blog at <http://theophanomitsa.wordpress.com/>

Advances in Knowledge Discovery and Data Mining, Part I Mohammed J. Zaki 2010-06 This book constitutes the proceedings of the 14th Pacific-Asia Conference, PAKDD 2010, held in Hyderabad, India, in June 2010.

Information Visualization in Data Mining and Knowledge Discovery Usama M. Fayyad 2002 This text surveys research from the fields of data mining and information visualisation and presents a case for techniques by which information visualisation can be used to uncover real knowledge hidden away in large databases.

Soft Computing for Knowledge Discovery and Data Mining Oded Maimon 2007-10-25 Data Mining is the science and technology of exploring large and complex bodies of data in order to discover useful patterns. It is extremely important because it enables modeling and knowledge extraction from abundant data availability. This book introduces soft computing methods extending the envelope of problems that data mining can solve efficiently. It presents practical soft-computing approaches in data mining and includes various real-world case studies with detailed results.

Advances in Knowledge Discovery and Data Mining Dinh Phung 2018-06-18 This three-volume set, LNAI 10937, 10938, and 10939, constitutes the thoroughly refereed proceedings of the 22nd Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining, PAKDD 2018, held in Melbourne, VIC, Australia, in June 2018. The 164 full papers were carefully reviewed and selected from 592 submissions. The volumes present papers focusing on new ideas, original research results and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems and the emerging applications.

Data Mining and Knowledge Discovery Technologies Taniar, David 2008-01-31 As information technology continues to advance in massive increments, the bank of information available from personal, financial, and business electronic transactions and all other electronic documentation and data storage is growing at an exponential rate. With this wealth of information comes the opportunity and necessity to utilize this information to maintain competitive advantage and process information effectively in real-world situations. Data Mining and Knowledge Discovery Technologies presents researchers and practitioners in fields such as knowledge management, information science, Web engineering, and medical informatics, with comprehensive, innovative research on data mining methods, structures, tools, and methods, the knowledge discovery process, and data marts, among many other cutting-edge topics. **Advances in Knowledge Discovery and Data Mining** Zhi-Hua Zhou 2007-04-27 This book constitutes the refereed proceedings of the 11th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2007, held in Nanjing, China, May 2007. It covers new ideas, original research results and practical development experiences from all KDD-related areas including data mining, machine learning, data warehousing, data visualization, automatic scientific discovery, knowledge acquisition and knowledge-based systems.

Trends and Applications in Knowledge Discovery and Data Mining Mohadeseh Ganji 2018-12-12 This book constitutes the thoroughly refereed post-workshop proceedings at PAKDD Workshops 2018, held in conjunction with the 22nd Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2018, in Melbourne, Australia, in June 2018. The 32 revised papers presented were carefully reviewed and selected from 46 submissions. The workshops affiliated with PAKDD 2018 include: Workshop on Big Data Analytics for Social Computing, BDASC, Australasian Workshop on Machine Learning for Cyber-security, ML4Cyber, Workshop on Biologically-inspired Techniques for Knowledge Discovery and Data Mining, BDM, Pacific Asia Workshop on Intelligence and Security Informatics, PAISI, and Workshop on Data Mining for Energy Modeling and Optimization, DaMEMO.

Statistical Data Analytics Walter W. Piegorsch 2015-12-21 Solutions Manual to accompany Statistical Data Analytics: Foundations for Data Mining, Informatics, and Knowledge Discovery A comprehensive introduction to statistical methods for data mining and knowledge discovery. Extensive solutions using actual data (with sample R programming code) are provided, illustrating diverse informatic sources in genomics, biomedicine, ecological remote sensing, astronomy, socioeconomics, marketing, advertising and finance, among many others.

Data Mining and Knowledge Discovery for Big Data Wesley W. Chu 2013-09-24 The field of data mining has made significant and far-reaching advances over the past three decades. Because of its potential power for solving complex problems, data mining has been successfully applied to diverse areas such as business, engineering, social media, and biological science. Many of these applications search for patterns in complex structural information. In biomedicine for example, modeling complex biological systems requires linking knowledge across many levels of science, from genes to disease. Further, the data characteristics of the problems have also grown from static to dynamic and spatiotemporal, complete to incomplete, and centralized to distributed, and grow in their scope and size (this is known as big data). The effective integration of big data for decision-making also requires privacy preservation. The contributions to this monograph summarize the advances of data mining in the respective fields. This volume consists of nine chapters that address subjects ranging from mining data from opinion, spatiotemporal databases, discriminative subgraph patterns, path knowledge discovery, social media, and privacy issues to the subject of computation reduction via binary matrix factorization.

Advances in Knowledge Discovery and Data Mining Joshua Zhexue Huang 2011-05-09 The two-volume set LNAI 6634 and 6635 constitutes the refereed proceedings of the 15th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2011, held in Shenzhen, China in May 2011. The total of 32 revised full papers and 58 revised short papers were carefully reviewed and selected from 331 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD-related areas including data mining, machine learning, artificial intelligence and pattern recognition, data warehousing and databases, statistics, knowledge engineering, behavior sciences, visualization, and emerging areas such as social network analysis.

Knowledge Mining Using Intelligent Agents Satchidanaanda Dehuri 2011 Knowledge Mining Using Intelligent Agents explores the concept of knowledge discovery processes and enhances decision-making capability through the use of intelligent agents like ants, termites and honey bees. In order to provide readers with an integrated set of concepts and techniques for understanding knowledge discovery and its practical utility, this book blends two distinct disciplines data mining and knowledge discovery process, and intelligent agents-based computing (swarm intelligence and computational intelligence). For the more advanced reader, researchers, and decision/policy-makers are given an insight into emerging technologies and their possible hybridization, which can be used for activities like dredging, capturing, distributions and the utilization of knowledge in their domain of interest (i.e. business, policy-making, etc.). By studying the behavior of swarm intelligence, this book aims to integrate the computational intelligence paradigm and intelligent distributed agents architecture to optimize various engineering problems and efficiently represent knowledge from the large gamut of data.

Advances in Knowledge Discovery and Data Mining Thanaruk Theeramunkong 2009-04-20 ThePaci?c-AsiaConferenceonKnowledgeDiscoveryandData Mining hasbeen held every year from 1997. PAKDD 2009, the 13th in the series, was held in Bangkok, Thailand during April 27-30, 2008. PAKDD is a major international conference in the areas of data mining (DM) and knowledge discovery in database (KDD). It provides an international forum for researchers and industry practitioners to share their new ideas, original research results and prac- cal development experiences from all KDD-related areas including data mining, data warehousing, machine learning, databases, statistics, knowledge acqui- tion and automatic scienti?c discovery, data visualization, causal induction and knowledge-based systems. ForPAKDD2009,wereceived338researchpapersfromvariouscountriesand regions in Asia, Australia, North America, South America, Europe, and Africa. Every submission was rigorously reviewed by at least three reviewers with a doubleblindprotocol.Theinitialresultswere discussedamongthereviewersand?nally judged by the ProgramCommittee Chairs. When there was a con?ict, an additionalreviewwas providedbytheProgramCommitteeChairs.TheProgram Committee members were deeply involved in the highly selective process. As a result, only 39 papers (approximately 11.5% of the 338 submitted papers) were accepted as regular papers, 73 papers (21.6% of them) were accepted as short papers.

Advances in Knowledge Discovery and Data Mining Hady W. Lauw 2020 The two-volume set LNAI 12084 and 12085 constitutes the thoroughly refereed proceedings of the 24th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2020, which was due to be held in Singapore, in May 2020. The conference was held virtually due to the COVID-19 pandemic. The 135 full papers presented were carefully reviewed and selected from 628 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: recommender systems; classification; clustering; mining social networks; representation learning and embedding; mining behavioral data; deep learning; feature extraction and selection; human, domain, organizational and social factors in data mining; mining sequential data; mining imbalanced data; association; privacy and security; supervised learning; novel algorithms; mining multi-media/multi-dimensional data; application; mining graph and network data; anomaly detection and analytics; mining spatial, temporal, unstructured and semi-structured data; sentiment analysis; statistical/graphical model; multi-source/distributed/parallel/cloud computing.

Urban Informatics Wenzhong Shi 2021-04-06 This open access book is the first to systematically introduce the principles of urban informatics and its application to every aspect of the city that involves its functioning, control, management, and future planning. It introduces new models and tools being

developed to understand and implement these technologies that enable cities to function more efficiently - to become ‘smart’ and ‘sustainable’. The smart city has quickly emerged as computers have become ever smaller to the point where they can be embedded into the very fabric of the city, as well as being central to new ways in which the population can communicate and act. When cities are wired in this way, they have the potential to become sentient and responsive, generating massive streams of ‘big’ data in real time as well as providing immense opportunities for extracting new forms of urban data through crowdsourcing. This book offers a comprehensive review of the methods that form the core of urban informatics from various kinds of urban remote sensing to new approaches to machine learning and statistical modelling. It provides a detailed technical introduction to the wide array of tools information scientists need to develop the key urban analytics that are fundamental to learning about the smart city, and it outlines ways in which these tools can be used to inform design and policy so that cities can become more efficient with a greater concern for environment and equity.

Data Mining Krzysztof J. Cios 2007-10-05 This comprehensive textbook on data mining details the unique steps of the knowledge discovery process that prescribes the sequence in which data mining projects should be performed, from problem and data understanding through data preprocessing to deployment of the results. This knowledge discovery approach is what distinguishes Data Mining from other texts in this area. The book provides a suite of exercises and includes links to instructional presentations. Furthermore, it contains appendices of relevant mathematical material.

Advances in Distributed and Parallel Knowledge Discovery Hillol Kargupta 2000 This book presents introductions to DKD and PKD, extensive reviews of the field, and state-of-the-art techniques. Foreword by Vipin Kumar Knowledge discovery and data mining (KDD) deals with the problem of extracting interesting associations, classifiers, clusters, and other patterns from data. The emergence of network-based distributed computing environments has introduced an important new dimension to this problem–distributed sources of data. Traditional centralized KDD typically requires central aggregation of distributed data, which may not always be feasible because of limited network bandwidth, security concerns, scalability problems, and other practical issues. Distributed knowledge discovery (DKD) works with the merger of communication and computation by analyzing data in a distributed fashion. This technology is particularly useful for large heterogeneous distributed environments such as the Internet, intranets, mobile computing environments, and sensor-networks.When the data sets are large, scaling up the speed of the KDD process is crucial. Parallel knowledge discovery (PKD) techniques addresses this problem by using high-performance multiprocessor machines. This book presents introductions to DKD and PKD, extensive reviews of the field, and state-of-the-art techniques. Contributors Rakesh Agrawal, Khaled AlSabti, Stuart Bailey, Philip Chan, David Cheung, Vincent Cho, Joydeep Ghosh, Robert Grossman, Yi-ke Guo, John Hale, John Hall, Daryl Hershsberger, Ching-Tien Ho, Erik Johnson, Chris Jones, Chandrika Kamath, Hillol Kargupta, Charles Lo, Balinder Malhi, Ron Musick, Vincent Ng, Byung-Hoon Park, Srinivasan Parthasarathy, Andreas Prodromidis, Foster Provost, Jian Pun, Ashok Ramu, Sanjay Ranka, Mahesh Sreenivas, Salvatore Stolfo, Ramesh Subramonian, Janjao Sutiwaraphun, Kagan Tummer, Andrei Turinsky, Beat Wüthrich, Mohammed Zaki, Joshua Zhang

Advances in Knowledge Discovery and Data Mining Qiang Yang 2019-04-03 The three-volume set LNAI 11439, 11440, and 11441 constitutes the thoroughly refereed proceedings of the 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2019, held in Macau, China, in April 2019. The 137 full papers presented were carefully reviewed and selected from 542 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: classification and supervised learning; text and opinion mining; spatio-temporal and stream data mining; factor and tensor analysis; healthcare, bioinformatics and related topics; clustering and anomaly detection; deep learning models and applications; sequential pattern mining; weakly supervised learning; recommender system; social network and graph mining; data pre-processing and featureselection; representation learning and embedding; mining unstructured and semi-structured data; behavioral data mining; visual data mining; and knowledge graph and interpretable data mining.

Advances in Knowledge Discovery and Data Mining Vincent S. Tseng 2014-05-23 The two-volume set LNAI 8443 + LNAI 8444 constitutes the refereed proceedings of the 18th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2014, held in Tainan, Taiwan, in May 2014. The 40 full papers and the 60 short papers presented within these proceedings were carefully reviewed and selected from 371 submissions. They cover the general fields of pattern mining; social network and social media; classification; graph and network mining; applications; privacy preserving; recommendation; feature selection and reduction; machine learning; temporal and spatial data; novel algorithms; clustering; biomedical data mining; stream mining; outlier and anomaly detection; multi-sources mining; and unstructured data and text mining.

Knowledge Discovery and Data Mining: Challenges and Realities Zhu, Xingquan 2007-04-30 "This book provides a focal point for research and real-world data mining practitioners that advance knowledge discovery from low-quality data; it presents in-depth experiences and methodologies, providing theoretical and empirical guidance to users who have suffered from underlying low-quality data. Contributions also focus on interdisciplinary collaborations among data quality, data processing, data mining, data privacy, and data sharing"--Provided by publisher.

Advances in Knowledge Discovery and Management Fabrice Guillet 2010-06-11 During the last decade, the French-speaking scientific community developed a very strong research activity in the field of Knowledge Discovery and Management (KDM or EGC for "Extraction et Gestion des Connaissances" in French), which is concerned with, among others, Data Mining, Knowledge Discovery, Business Intelligence, Knowledge Engineering and SemanticWeb. The recent and novel research contributions collected in this book are extended and reworked versions of a selection of the best papers that were originally presented in French at the EGC 2009 Conference held in Strasbourg, France on January 2009. The volume is organized in four parts. Part I includes five papers concerned by various aspects of supervised learning or information retrieval. Part II presents five papers concerned with unsupervised learning issues. Part III includes two papers on data streaming and two on security while in Part IV the last four papers are concerned with ontologies and semantic.

Advances in Knowledge Discovery and Data Mining Kamal Karlapalem 2021-05-07 The 3-volume set LNAI 12712-12714 constitutes the proceedings of the 25th Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining, PAKDD 2021, which was held during May 11-14, 2021. The 157 papers included in the proceedings were carefully reviewed and selected from a total of 628 submissions. They were organized in topical sections as follows: Part I: Applications of knowledge discovery and data mining of specialized data; Part II: Classical data mining; data mining theory and principles; recommender systems; and text analytics; Part III: Representation learning and embedding, and learning from data.

Data Mining and Knowledge Discovery with Evolutionary Algorithms Alex A. Freitas 2013-11-11 This book integrates two areas of computer science, namely data mining and evolutionary algorithms. Both these areas have become increasingly popular in the last few years, and their integration is currently an active research area. In general, data mining consists of extracting knowledge from data. The motivation for applying evolutionary algorithms to data mining is that evolutionary algorithms are robust search methods which perform a global search in the space of candidate solutions. This book emphasizes the importance of discovering comprehensible, interesting knowledge, which is potentially useful for intelligent decision making. The text explains both basic concepts and advanced topics

Advances in Knowledge Discovery and Data Mining Qiang Yang 2019-04-03 The three-volume set LNAI 11439, 11440, and 11441 constitutes the thoroughly refereed proceedings of the 23rd Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2019, held in Macau, China, in April 2019. The 137 full papers presented were carefully reviewed and selected from 542 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: classification and supervised learning; text and opinion mining; spatio-temporal and stream data mining; factor and tensor analysis; healthcare, bioinformatics and related topics; clustering and anomaly detection; deep learning models and applications; sequential pattern mining; weakly supervised learning; recommender system; social network and graph mining; data pre-processing and feature selection; representation learning and embedding; mining unstructured and semi-structured data; behavioral data mining; visual data mining; and knowledge graph and interpretable data mining.

Trends and Applications in Knowledge Discovery and Data Mining Manish Gupta 2021-06-09 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) **Advanced Techniques in Knowledge Discovery and Data Mining** Nikhil Pal 2007-12-31 Clear and concise explanations to understand the learning paradigms. Chapters written by leading world experts.

Advances in Knowledge Discovery and Data Mining Jinho Kim 2017-04-25 This two-volume set, LNAI 10234 and 10235, constitutes the thoroughly refereed proceedings of the 21st Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining, PAKDD 2017, held in Jeju, South Korea, in May 2017. The 129 full papers were carefully reviewed and selected from 458 submissions. They are organized in topical sections named: classification and deep learning; social network and graph mining; privacy-preserving mining and security/risk applications; spatio-temporal and sequential data mining; clustering and anomaly detection; recommender system; feature selection; text and opinion mining; clustering and matrix factorization; dynamic, stream data mining; novel models and algorithms; behavioral data mining; graph clustering and community detection; dimensionality reduction.

Advances in Knowledge Discovery and Data Mining PACIFIC-ASIA CONFERENCE ON KNOWLEDGE DIS 2004-05-11 This book constitutes the refereed proceedings of the 8th Pacific-Asia Conference on Knowledge Discovery and Data mining, PAKDD 2004, held in Sydney, Australia in May 2004. The 50 revised full papers and 31 revised short papers presented were carefully reviewed and selected from a total of 238 submissions. The papers are organized in topical sections on classification; clustering; association rules; novel algorithms; event mining, anomaly detection, and intrusion detection; ensemble learning; Bayesian network and graph mining; text mining; multimedia mining; text mining and Web mining; statistical methods, sequential data mining, and time series mining; and biomedical data mining.

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). **Advances in Knowledge Discovery and Data Mining** Jinho Kim 2017-04-25 This two-volume set, LNAI 10234 and 10235, constitutes the thoroughly refereed proceedings of the 21st Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining, PAKDD 2017, held in Jeju, South Korea, in May 2017. The 129 full papers were carefully reviewed and selected from 458 submissions. They are organized in topical sections named: classification and deep learning; social network and graph mining; privacy-preserving mining and security/risk applications; spatio-temporal and sequential data mining; clustering and anomaly detection; recommender system; feature selection; text and opinion mining; clustering and matrix factorization; dynamic, stream data mining; novel models and algorithms; behavioral data mining; graph clustering and community detection; dimensionality reduction.

Advances in Knowledge Discovery and Data Mining Usama M. Fayyad 1996 Eight sections of this book span fundamental issues of knowledge discovery, classification and clustering, trend and deviation analysis, dependency derivation, integrated discovery systems, augmented database systems and application case studies. The appendices provide a list of terms used in the literature of the field of data mining and knowledge discovery in databases, and a list of online resources for the KDD researcher.

Constrained Clustering Sugato Basu 2008-08-18 Since the initial work on constrained clustering, there have been numerous advances in methods, applications, and our understanding of the theoretical properties of constraints and constrained clustering algorithms. Bringing these developments together, Constrained Clustering: Advances in Algorithms, Theory, and Applications presents an extensive collection of the latest innovations in clustering data analysis methods that use background knowledge encoded as constraints. Algorithms The first five chapters of this volume investigate advances in the use of instance-level, pairwise constraints for partitional and hierarchical clustering. The book then explores other types of constraints for clustering, including cluster size balancing, minimum cluster size, and cluster-level relational constraints. Theory It also describes variations of the traditional clustering under constraints problem as well as approximation algorithms with helpful performance guarantees. Applications The book ends by applying clustering with constraints to relational data, privacy-preserving data publishing, and video surveillance data. It discusses an interactive visual clustering approach, a distance metric learning approach, existential constraints, and automatically generated constraints. With contributions from industrial researchers and leading academic experts who pioneered the field, this volume delivers thorough coverage of the capabilities and limitations of constrained clustering methods as well as introduces new types of constraints and clustering algorithms.

Data Mining for Design and Manufacturing D. Braha 2013-03-14 Data Mining for Design and Manufacturing: Methods and Applications is the first book that brings together research and applications for data mining within design and manufacturing. The aim of the book is 1) to clarify the integration of data mining in engineering design and manufacturing, 2) to present a wide range of domains to which data mining can be applied, 3) to demonstrate the essential need for symbiotic collaboration of expertise in design and manufacturing, data mining, and information technology, and 4) to illustrate how to overcome central problems in design and manufacturing environments. The book also presents formal tools required to extract valuable information from design and manufacturing data, and facilitates interdisciplinary problem solving for enhanced decision making. Audience: The book is aimed at both academic and practising audiences. It can serve as a reference or textbook for senior or graduate level students in Engineering, Computer, and Management Sciences who are interested in data mining technologies. The book will be useful for practitioners interested in utilizing data mining techniques in design and manufacturing as well as for computer software developers engaged in developing data mining tools.

Advances in Knowledge Discovery and Data Mining Mohammed J. Zaki 2010