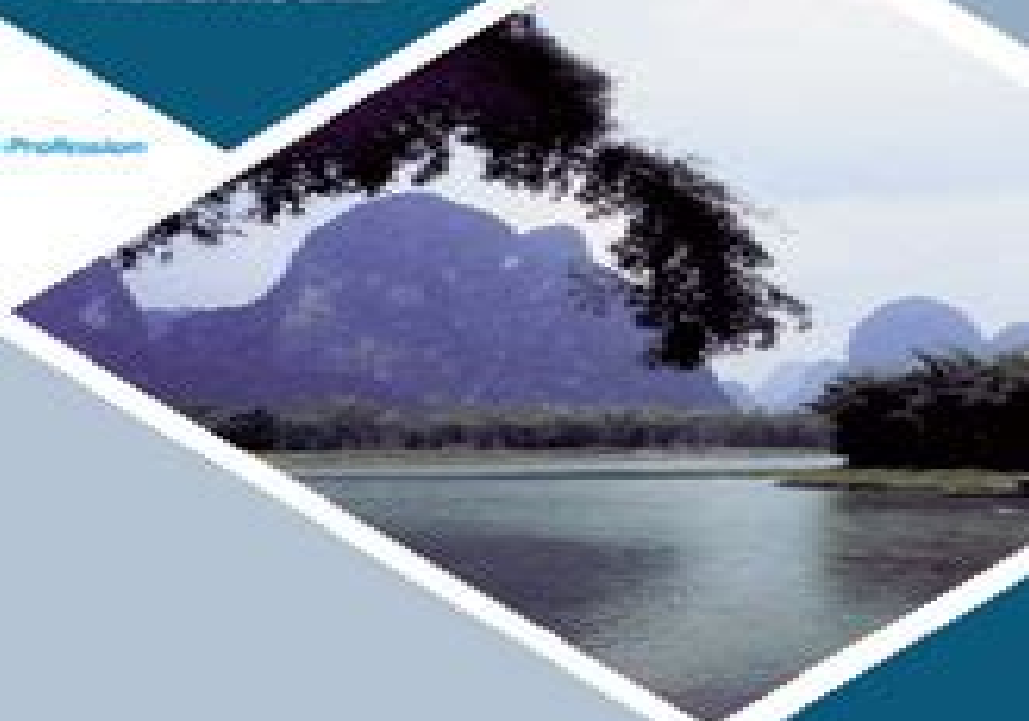




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Foundations of Multidimensional and Metric Data Structures Hanan Samet, 2006-08-08 Publisher Description

High Performance Discovery In Time Series Dennis Elliott Shasha, Yunyue Zhu, 2004-06-03 Time series data arriving in time order or a data stream can be found in fields such as physics finance music networking and medical instrumentation Designing fast scalable algorithms for analyzing single or multiple time series can lead to scientific discoveries medical diagnoses and perhaps profits High Performance Discovery in Time Series presents rapid discovery techniques for finding portions of time series with many events i e gamma ray scatterings and finding closely related time series i e highly correlated price and return histories or musical melodies A typical time series technique may compute a consensus time series from a collection of time series to use regression analysis for predicting future time points By contrast this book aims at efficient discovery in time series rather than prediction and its novelty lies in its algorithmic contributions and its simple practical algorithms and case studies It presumes familiarity with only basic calculus and some linear algebra Topics and Features Presents efficient algorithms for discovering unusual bursts of activity in large time series databases Describes the mathematics and algorithms for finding correlation relationships between thousands or millions of time series across fixed or moving windows Demonstrates strong relevant applications built on a solid scientific basis Outlines how readers can adapt the techniques for their own needs and goals Describes algorithms for query by humming gamma ray burst detection pairs trading and density detection Offers self contained descriptions of wavelets fast Fourier transforms and sketches as they apply to time series analysis This new monograph provides a technical survey of concepts and techniques for describing and analyzing large scale time series data streams It offers essential coverage of the topic for computer scientists physicists medical researchers financial mathematicians musicologists and researchers and professionals who must analyze massive time series In addition it can serve as an ideal text reference for graduate students in many data rich disciplines

High Performance Discovery In Time Series New York University, 2013-11-09 Overview and Goals Data arriving in time order or a data stream arises in fields ranging from physics to finance to medicine to music just to name a few Often the data comes from sensors in physics and medicine for example whose data rates continue to improve dramatically as sensor technology improves Further the number of sensors is increasing so correlating data between sensors becomes ever more critical in order to distill knowledge from the data On line response is desirable in many applications e g to aim a telescope at a burst of activity in a galaxy or to perform magnetic resonance based real time surgery These factors data size bursts correlation and fast response motivate this book Our goal is to help you design fast scalable algorithms for the analysis of single or multiple time series Not only will you find useful techniques and systems built from simple primitives but creative readers will find many other applications of these primitives and may see how to create new ones of their own Our goal then is to help research mathematicians and computer scientists find new algorithms and to help working scientists and financial

mathematicians design better faster software *Fundamentals of Data Warehouses* Matthias Jarke, Maurizio Lenzerini, Yannis Vassiliou, Panos Vassiliadis, 2002-11-26 This book presents the first comparative review of the state of the art and the best current practices of data warehouses It covers source and data integration multidimensional aggregation query optimization metadata management quality assessment and design optimization A conceptual framework is presented by which the architecture and quality of a data warehouse can be assessed and improved using enriched metadata management combined with advanced techniques from databases business modeling and artificial intelligence **Journal of Artificial Intelligence Research** Steven Minton, 1998-12 *Mobile Computing: Concepts, Methodologies, Tools, and Applications* Taniar, David, 2008-11-30 This multiple volume publication advances the emergent field of mobile computing offering research on approaches observations and models pertaining to mobile devices and wireless communications from over 400 leading researchers Provided by publisher **Digital-Forensics and Watermarking** Yun Qing Shi, Hyoung-Joong Kim, Fernando Pérez-González, 2014-07-08 This book constitutes the thoroughly refereed post proceedings of the 12th International Workshop on Digital Forensics and Watermarking IWDW 2013 held in Auckland New Zealand during October 2013 The 24 full and 13 poster papers presented together with 2 abstracts were carefully reviewed and selected from 55 submissions The papers are organized in topical sections on steganography and steganalysis visual cryptography reversible data hiding forensics watermarking anonymizing and plate recognition **Journal on Data Semantics XII**, 2009-06-19 Semantic caching Data warehousing and semantic data mining Spatial temporal multimedia and multimodal semantics Semantics in data visualization Semantic services for mobile users Supporting tools Applications of semantic driven approaches These topics are to be understood as specifically related to semantic issues Contributions submitted to the journal and dealing with semantics of data will be considered even if they are not from the topics in the list While the physical appearance of the journal issues is like the books from the well known Springer LNCS series the mode of operation is that of a journal Contributions can be freely submitted by authors and are reviewed by the Editorial Board Contributions may also be invited and nevertheless carefully reviewed as in the case for issues that contain extended versions of the best papers from major conferences addressing data semantics issues Special issues focusing on a specific topic are coordinated by guest editors once the proposal for a special issue is accepted by the Editorial Board Finally it is also possible that a journal issue be devoted to a single text The Editorial Board comprises an Editor in Chief with overall responsibility a Coeditor in Chief and several members The Editor in Chief has a four year mandate Members of the board have a three year mandate Mandates are renewable and new members may be elected at any time We are happy to welcome you to our readership and authorship and hope we will share this privileged contact for a long time **Interactive Knowledge Discovery and Data Mining in Biomedical Informatics** Andreas Holzinger, Igor Jurisica, 2014-06-17 One of the grand challenges in our digital world are the large complex and often weakly structured data sets and massive amounts of

unstructured information This big data challenge is most evident in biomedical informatics the trend towards precision medicine has resulted in an explosion in the amount of generated biomedical data sets Despite the fact that human experts are very good at pattern recognition in dimensions of 3 most of the data is high dimensional which makes manual analysis often impossible and neither the medical doctor nor the biomedical researcher can memorize all these facts A synergistic combination of methodologies and approaches of two fields offer ideal conditions towards unraveling these problems Human Computer Interaction HCI and Knowledge Discovery Data Mining KDD with the goal of supporting human capabilities with machine learning ppThis state of the art survey is an output of the HCI KDD expert network and features 19 carefully selected and reviewed papers related to seven hot and promising research areas Area 1 Data Integration Data Pre processing and Data Mapping Area 2 Data Mining Algorithms Area 3 Graph based Data Mining Area 4 Entropy Based Data Mining Area 5 Topological Data Mining Area 6 Data Visualization and Area 7 Privacy Data Protection Safety and Security

Enterprise Information Systems Joaquim Filipe, José Cordeiro, Jorge Cardoso, 2008-10-20 This book contains the best papers of the 9th International Conference on Enterprise Information Systems ICEIS 2007 held in the city of Funchal Madeira Portugal organized by the Institute for Systems and Technologies of Information Control and Communication INSTICC and the University of Madeira in collaboration with ACM SIGMIS and AAAI Furthermore the conference was sponsored by the Portuguese Foundation for Science and Technology FCT ICEIS has become a major point of contact between research scientists engineers and practitioners in the area of business applications of information systems This year five simultaneous tracks were held covering different aspects related to enterprise computing including Databases and Information Systems Integration Artificial Intelligence and Decision Support Systems Information Systems Analysis and Specification Software Agents and Internet Computing and Human Computer Interaction All tracks focused on real world applications and highlighted benefits of information systems and technology for industry and services thus making a bridge between academia and enterprise Following the success of 2006 ICEIS 2007 received 644 paper submissions from more than 40 countries In all 72 papers were published and presented as full papers i.e. completed work 8 pages in proceedings 30 min oral presentations 198 papers reflecting work in progress or position papers were accepted for short presentation and another 131 for poster presentation

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