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Foundations of Multidimensional and Metric Data Structures-Hanan Samet 2006-08-22

Publisher Description

Foundations of Multidimensional and Metric Data Structures- 2012

Foundations of Data Science-Avrim Blum 2020-01-31

Covers mathematical and algorithmic foundations of data science: machine learning, high-dimensional geometry, and analysis of large networks.

Querying XML-Jim Melton 2011-04-08

XML has become the lingua franca for representing business data, for exchanging information between business partners and applications, and for adding structure– and sometimes meaning—to text-based documents. XML offers some special challenges and opportunities in the area of search: querying XML can produce very precise, fine-grained results, if you know how to express and execute those queries. For software developers and systems architects: this book teaches the most useful approaches to querying XML documents and repositories. This book will also help managers and project leaders grasp how “querying XML fits into the larger context of querying and XML. Querying XML provides a comprehensive background from fundamental concepts (What is XML?) to data models (the Infoset, PSVI, XQuery Data Model), to APIs (querying XML from SQL or Java) and more. * Presents the concepts clearly, and demonstrates them with illustrations and examples; offers a thorough mastery of the subject area in a single book. * Provides comprehensive coverage of XML query languages, and the concepts needed to understand them completely (such as the XQuery Data Model). * Shows how to query XML documents and data using: XPath (the XML Path Language); XQuery, soon to be the new W3C Recommendation for querying XML; XQuery's companion XQueryX; and SQL, featuring the SQL/XML * Includes an extensive set of XQuery, XPath, SQL, Java, and other examples, with links to downloadable code and data samples.

Mathematics for Machine Learning-Marc Peter Deisenroth 2020-03-31

Distills key concepts from linear algebra, geometry, matrices, calculus, optimization, probability and statistics that are used in machine learning.

Deep Learning with PyTorch-Eli Stevens 2020-08-04

Every other day we hear about new ways to put deep learning to good use: improved medical imaging, accurate credit card fraud detection, long range weather forecasting, and more. PyTorch puts these superpowers in your hands, providing a comfortable Python experience that gets you started quickly and then grows with you as you—and your deep learning skills—become more sophisticated. Deep Learning with PyTorch will make that journey engaging and fun. Summary Every other day we hear about new ways to put deep learning to good use: improved medical imaging, accurate credit card fraud detection, long range weather forecasting, and more. PyTorch puts these superpowers in your hands, providing a comfortable Python experience that gets you started quickly and then grows with you as you—and your deep learning skills—become more sophisticated. Deep Learning with PyTorch will make that journey engaging and fun. Foreword by Soumith Chintala, Cocreator of PyTorch. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Although many deep learning tools use Python, the PyTorch library is truly Pythonic. Instantly familiar to anyone who knows PyData tools like NumPy and scikit-learn, PyTorch simplifies deep learning without sacrificing advanced features. It’s excellent for building quick models, and it scales smoothly from laptop to enterprise. Because companies like Apple, Facebook, and JPMorgan Chase rely on PyTorch, it’s a great skill to have as you expand your career options. It’s easy to get started with PyTorch. It minimizes cognitive overhead without sacrificing the access to advanced features, meaning you can focus on what matters the most - building and training the latest and greatest deep learning models and contribute to making a dent in the world. PyTorch is also a snap to scale and extend, and it partners well with other Python tooling. PyTorch has been adopted by hundreds of deep learning practitioners and several first-class players like FAIR, OpenAI, FastAI and Purdue. About the book Deep Learning with PyTorch teaches you to create neural networks and deep learning systems with PyTorch. This practical book quickly gets you to work building a real-world example from scratch: a tumor image classifier. Along the way, it covers best practices for the entire DL pipeline, including the PyTorch Tensor API, loading data in Python, monitoring training, and visualizing results. After covering the basics, the book will take you on a journey through larger projects. The centerpiece of the book is a neural network designed for cancer detection. You'll discover ways for training networks with limited inputs and start processing data to get some results. You'll sift through the unreliable initial results and focus on how to diagnose and fix the problems in your neural network. Finally, you'll look at ways to improve your results by training with augmented data, make improvements to the model architecture, and perform other fine tuning. What's inside Training deep neural networks Implementing modules and loss functions Utilizing pretrained models from PyTorch Hub Exploring code samples in Jupyter Notebooks About the reader For Python programmers with an interest in machine learning. About the author Eli Stevens had roles from software engineer to CTO, and is currently working on machine learning in the self-driving-car industry. Luca Antiga is cofounder of an AI engineering company and an AI tech startup, as well as a former PyTorch contributor. Thomas Viehmann is a PyTorch core developer and machine learning trainer and consultant. consultant based in Munich, Germany and a PyTorch core developer. Table of Contents PART 1 - CORE PYTORCH 1 Introducing deep learning and the PyTorch Library 2 Pretrained networks 3 It starts with a tensor 4 Real-world data representation using tensors 5 The mechanics of learning 6 Using a neural network to fit the data 7 Telling birds from airplanes: Learning from images 8 Using convolutions to generalize

PART 2 - LEARNING FROM IMAGES IN THE REAL WORLD: EARLY DETECTION OF LUNG CANCER 9 Using PyTorch to fight cancer 10 Combining data sources into a unified dataset 11 Training a classification model to detect suspected tumors 12 Improving training with metrics and augmentation 13 Using segmentation to find suspected nodules 14 End-to-end nodule analysis, and where to go next PART 3 - DEPLOYMENT 15 Deploying to production

Compact Data Structures-Gonzalo Navarro 2016-09-08

This practical, applications-oriented book describes essential tools for efficiently handling massive amounts of data.

The Algorithmic Foundations of Differential Privacy-Cynthia Dwork 2014

The problem of privacy-preserving data analysis has a long history spanning multiple disciplines. As electronic data about individuals becomes increasingly detailed, and as technology enables ever more powerful collection and curation of these data, the need increases for a robust, meaningful, and mathematically rigorous definition of privacy, together with a computationally rich class of algorithms that satisfy this definition. Differential Privacy is such a definition. The Algorithmic Foundations of Differential Privacy starts out by motivating and discussing the meaning of differential privacy, and proceeds to explore the fundamental techniques for achieving differential privacy, and the application of these techniques in creative combinations, using the query-release problem as an ongoing example. A key point is that, by rethinking the computational goal, one can often obtain far better results than would be achieved by methodically replacing each step of a non-private computation with a differentially private implementation. Despite some powerful computational results, there are still fundamental limitations. Virtually all the algorithms discussed herein maintain differential privacy against adversaries of arbitrary computational power -- certain algorithms are computationally intensive, others are efficient. Computational complexity for the adversary and the algorithm are both discussed. The monograph then turns from fundamentals to applications other than query-release, discussing differentially private methods for mechanism design and machine learning. The vast majority of the literature on differentially private algorithms considers a single, static, database that is subject to many analyses. Differential privacy in other models, including distributed databases and computations on data streams, is discussed. The Algorithmic Foundations of Differential Privacy is meant as a thorough introduction to the problems and techniques of differential privacy, and is an invaluable reference for anyone with an interest in the topic.

Multidimensional Scaling-Joseph B. Kruskal 1978

Outlines a set of techniques that enable a researcher to discuss the "hidden structure" of large data bases. These techniques use proximities, measures which indicate how similar or different objects are, to find a configuration of points which reflects the structure in the data.

Software Measurement-Reiner Dumke 2013-11-11

Software developers are faced with the challenge of making software systems and products of ever greater quality and safety, while at the same time being faced with the growing pressure of costs reduction in order to gain and maintain competitive advantages. As in any scientific and engineering discipline, reliable measurement is essential for talking on such a challenge. "Software measurement is an excellent abstraction mechanism for learning what works and what doesn't" (Victor Basili). Measurement of both software process and products provides a large amount of basic information for the evaluation of the software development processes or the software products themselves. Examples of recent successes in software measurement span multiple areas, such as evaluation of new development methods and paradigms, quality and management improvement programs, tool-supporting initiatives and company wide measurement programs. The German Computer Science Interest (GI) Group of Software Metrics and the Canadian Interest Group in Software Metrics (CIM) have attended to these concerns in the recent years. Research initiatives were directed initially to the definition of software metrics and then to validation of the software metrics themselves. This was followed by more and more investigation into practical applications of software metrics and by critical analysis of the benefits and weaknesses of software measurement programs. Key findings in this area of software engineering have been published in some important books, such as Dumke and Zuse's Theory and Practice of Software Measurement, Ebert and Dumke's Software Metrics in Practice and Lehner, Dumke and Abran's Software Metrics.

Brownian Motion-Peter Mörters 2010-03-25

This eagerly awaited textbook covers everything the graduate student in probability wants to know about Brownian motion, as well as the latest research in the area. Starting with the construction of Brownian motion, the book then proceeds to sample path properties like continuity and nowhere differentiability. Notions of fractal dimension are introduced early and are used throughout the book to describe fine properties of Brownian paths. The relation of Brownian motion and random walk is explored from several viewpoints, including a development of the theory of Brownian local times from random walk embeddings. Stochastic integration is introduced as a tool and an accessible treatment of the potential theory of Brownian motion clears the path for an extensive treatment of intersections of Brownian paths. An investigation of exceptional points on the Brownian path and an appendix on SLE processes, by Oded Schramm and Wendelin Werner, lead directly to recent research themes.

Multidimensional Preference Scaling-Gordon G. Bechtel 1976

Uniform Central Limit Theorems-R. M. Dudley 1999-07-28

This treatise by an acknowledged expert includes several topics not found in any previous book.

Statistical Parametric Mapping: The Analysis of Functional Brain Images-William D. Penny 2011-04-28

In an age where the amount of data collected from brain imaging is increasing constantly, it is of critical importance to analyse those data within an accepted framework to ensure proper integration and comparison of the information collected. This book describes the ideas and procedures that underlie the analysis of signals produced by the brain. The aim is to understand how the brain works, in terms of its functional architecture and dynamics. This book provides the background and methodology for the analysis of all types of brain imaging data, from functional magnetic resonance imaging to magnetoencephalography. Critically, Statistical Parametric Mapping provides a widely accepted conceptual framework which allows treatment of all these different modalities. This rests on an understanding of the brain's functional anatomy and the way that measured signals are caused experimentally. The book takes the reader from the basic concepts underlying the analysis of neuroimaging data to cutting edge approaches that would be difficult to find in any other source. Critically, the material is presented in an incremental way so that the reader can understand the precedents for each new development. This book will be particularly useful to neuroscientists engaged in any form of brain mapping; who have to contend with the real-world problems of data analysis and understanding the techniques they are using. It is primarily a scientific treatment and a didactic introduction to the analysis of brain imaging data. It can be used as both a textbook for students and scientists starting to use the techniques, as well as a reference for practicing neuroscientists. The book also serves as a companion to the software packages that have been developed for brain imaging data analysis. An essential reference and companion for users of the SPM software Provides a complete description of the concepts and procedures entailed by the analysis of brain images Offers full didactic treatment of the basic mathematics behind the analysis of brain imaging data Stands as a compendium of all the advances in neuroimaging data analysis over the past decade Adopts an easy to understand

and incremental approach that takes the reader from basic statistics to state of the art approaches such as Variational Bayes Structured treatment of data analysis issues that links different modalities and models Includes a series of appendices and tutorial-style chapters that makes even the most sophisticated approaches accessible

Handbook on Constructing Composite Indicators: Methodology and User Guide-OECD 2008-08-22

A guide for constructing and using composite indicators for policy makers, academics, the media and other interested parties. In particular, this handbook is concerned with indicators which compare and rank country performance.

Artificial Intelligence-David L. Poole 2017-09-25

Artificial Intelligence presents a practical guide to AI, including agents, machine learning and problem-solving simple and complex domains.

Introduction to Information Retrieval-Christopher D. Manning 2008-07-07

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

The Content Analysis Guidebook-Kimberly A. Neuendorf 2016-05-30

Content analysis is one of the most important but complex research methodologies in the social sciences. In this thoroughly updated Second Edition of The Content Analysis Guidebook, author Kimberly Neuendorf provides an accessible core text for upper-level undergraduates and graduate students across the social sciences. Comprising step-by-step instructions and practical advice, this text unravels the complicated aspects of content analysis.

Statistics for Marketing and Consumer Research-Mario Mazzocchi 2008-05-22

Balancing simplicity with technical rigour, this practical guide to the statistical techniques essential to research in marketing and related fields, describes each method as well as showing how they are applied. The book is accompanied by two real data sets to replicate examples and with exercises to solve, as well as detailed guidance on the use of appropriate software including: - 750 powerpoint slides with lecture notes and step-by-step guides to run analyses in SPSS (also includes screenshots) - 136 multiple choice questions for tests This is augmented by in-depth discussion of topics including: - Sampling - Data management and statistical packages - Hypothesis testing - Cluster analysis - Structural equation modelling

Numerical Geometry, Grid Generation and Scientific Computing-Vladimir A. Garanzha 2019-10-10

The focus of these conference proceedings is on research, development, and applications in the fields of numerical geometry, scientific computing and numerical simulation, particularly in mesh generation and related problems. In addition, this year’s special focus is on Voronoi diagrams and their applications, celebrating the 150th birthday of G.F. Voronoi. In terms of content, the book strikes a balance between engineering algorithms and mathematical foundations. It presents an overview of recent advances in numerical geometry, grid generation and adaptation in terms of mathematical foundations, algorithm and software development and applications. The specific topics covered include: quasi-conformal and quasi-isometric mappings, hyperelastic deformations, multidimensional generalisations of the equidistribution principle, discrete differential geometry, spatial and metric encodings, Voronoi-Delaunay theory for tilings and partitions, duality in mathematical programming and numerical geometry, mesh-based optimisation and optimal control methods. Further aspects examined include iterative solvers for variational problems and algorithm and software development. The applications of the methods discussed are multidisciplinary and include problems from mathematics, physics, biology, chemistry, material science, and engineering.

Analysis of Multidimensional Poverty-Louis-Marie Asselin 2009-08-29

Poverty is a paradoxical state. Recognizable in the eld for any sensitive observer who travels in remote rural areas and urban slums and meets marginalized people in a given society, poverty still remains a challenge to conceptual formalization and to measurement that is consistent with such formalization. The analysis of poverty is multidisciplinary. It goes from ethics to economics, from political science to human biology, and any type of measurement rests on mathematics. Moreover, poverty is multifaceted according to the types of deprivation, and it is also gender and age speci c. A vector of variables is required, which raises a substantial problem for individual and group comparisons necessary to equity analysis. Multidimension- ity also complicates the aggregation necessary to perform the ef ciency analysis of policies. In the case of income poverty, these two problems, equity and ef ciency, have bene ted from very signi cant progress in the eld of economics. Similar achievements are still to come in the area of multidimensional poverty. Within this general background, this book has a very modest and narrow-scoped objective. It proposes an operational methodology for measuring multidimensional poverty, independent from the conceptual origin, the size and the qualitative as well as the quantitative nature of the primary indicators used to describe the poverty of an individual, a household or a sociodemographic entity.

Geometric Algebra for Computer Science-Leo Dorst 2010-07-26

Until recently, almost all of the interactions between objects in virtual 3D worlds have been based on calculations performed using linear algebra. Linear algebra relies heavily on coordinates, however, which can make many geometric programming tasks very specific and complex-often a lot of effort is required to bring about even modest performance enhancements. Although linear algebra is an efficient way to specify low-level computations, it is not a suitable high-level language for geometric programming. Geometric Algebra for Computer Science presents a compelling alternative to the limitations of linear algebra. Geometric algebra, or GA, is a compact, time-effective, and performance-enhancing way to represent the geometry of 3D objects in computer programs. In this book you will find an introduction to GA that will give you a strong grasp of its relationship to linear algebra and its significance for your work. You will learn how to use GA to represent objects and perform geometric operations on them. And you will begin mastering proven techniques for making GA an integral part of your applications in a way that simplifies your code without slowing it down. * The first book on Geometric Algebra for programmers in computer graphics and entertainment computing * Written by leaders in the field providing essential information on this new technique for 3D graphics * This full colour book includes a website with GAViewer, a program to experiment with GA

Foundations of Signal Processing-Martin Vetterli 2014-09-04

This comprehensive and accessible textbook introduces students to the basics of modern signal processing techniques.

Discriminants, Resultants, and Multidimensional Determinants-Israel M. Gelfand 2009-05-21

"This book revives and vastly expands the classical theory of resultants and discriminants. Most of the main new results of the book have been published earlier in more than a dozen joint papers of the authors. The book nicely complements these original papers with many examples illustrating both old and new results of the theory."—Mathematical Reviews

Algorithmic Foundations of Robotics X-Emilio Frazzoli 2013-02-14

Algorithms are a fundamental component of robotic systems. Robot algorithms process inputs from sensors that provide noisy and partial data, build geometric and physical models of the world, plan high-and low-level actions at different time horizons, and execute these actions on actuators with limited precision. The design and analysis of robot algorithms raise a unique combination of questions from many elds, including control theory, computational geometry and topology, geometrical and physical modeling, reasoning under uncertainty, probabilistic algorithms, game theory, and theoretical computer science. The Workshop on Algorithmic Foundations of Robotics (WAFR) is a single-track meeting of leading researchers in the eld of robot algorithms. Since its inception in 1994, WAFR has been held every other year, and has provided one of the premiere venues for the publication of some of the eld's most important and lasting contributions. This books contains the proceedings of the tenth WAFR, held on June 13{15 2012 at the Massachusetts Institute of Technology. The 37 papers included in this book cover a broad range of topics, from fundamental theoretical issues in robot motion planning, control, and perception, to novel applications.

Accelerate-Nicole Forsgren PhD 2018-03-27

Winner of the Shingo Publication Award Accelerate your organization to win in the marketplace. How can we apply technology to drive business value? For years, we've been told that the performance of software delivery teams doesn't matter—that it can't provide a competitive advantage to our companies. Through four years of groundbreaking research to include data collected from the State of DevOps reports conducted with Puppet, Dr. Nicole Forsgren, Jez Humble, and Gene Kim set out to find a way to measure software delivery performance—and what drives it—using rigorous statistical methods. This book presents both the findings and the science behind that research, making the information accessible for readers to apply in their own organizations. Readers will discover how to measure the performance of their teams, and what capabilities they should invest in to drive higher performance. This book is ideal for management at every level.

Metric Structures for Riemannian and Non-Riemannian Spaces-Mikhail Gromov 2007-06-25

This book is an English translation of the famous "Green Book" by Lafontaine and Pansu (1979). It has been enriched and expanded with new material to reflect recent progress. Additionally, four appendices, by Gromov on Levy's inequality, by Pansu on "quasiconvex" domains, by Katz on systoles of Riemannian manifolds, and by Semmes overviewing analysis on metric spaces with measures, as well as an extensive bibliography and index round out this unique and beautiful book.

Bibliometrics and Research Evaluation-Yves Gingras 2016-10-07

Why bibliometrics is useful for understanding the global dynamics of science but generate perverse effects when applied inappropriately in research evaluation and university rankings. The research evaluation market is booming. “Ranking,” “metrics,” “h-index,” and “impact factors” are reigning buzzwords. Government and research administrators want to evaluate everything—teachers, professors, training programs, universities—using quantitative indicators. Among the tools used to measure “research excellence,” bibliometrics—aggregate data on publications and citations—has become dominant. Bibliometrics is hailed as an “objective” measure of research quality, a quantitative measure more useful than “subjective” and intuitive evaluation methods such as peer review that have been used since scientific papers were first published in the seventeenth century. In this book, Yves Gingras offers a spirited argument against an unquestioning reliance on bibliometrics as an indicator of research quality. Gingras shows that bibliometric rankings have no real scientific validity, rarely measuring what they pretend to. Although the study of publication and citation patterns, at the proper scales, can yield insights on the global dynamics of science over time, ill-defined quantitative indicators often generate perverse and unintended effects on the direction of research. Moreover, abuse of bibliometrics occurs when data is manipulated to boost rankings. Gingras looks at the politics of evaluation and argues that using numbers can be a way to control scientists and diminish their autonomy in the evaluation process. Proposing precise criteria for establishing the validity of indicators at a given scale of analysis, Gingras questions why universities are so eager to let invalid indicators influence their research strategy.

Similarity Search and Applications-Nora Reyes 2021-10-21

This book constitutes the refereed proceedings of the 14th International Conference on Similarity Search and Applications, SISAP 2021, held in Dortmund, Germany, in September/October 2021. The conference was held virtually due to the COVID-19 pandemic.The 23 full papers presented together with 5 short and 3 doctoral symposium papers were carefully reviewed and selected from 50 submissions. The papers are organized in the topical sections named: Similarity Search and Retrieval; Intrinsic Dimensionality; Clustering and Classification; Applications of Similarity Search; Similarity Search in Graph-Structured Data; Doctoral Symposium.

Foundations of Augmented Cognition-Dylan D. Schmorrow 2015-07-07

This book constitutes the proceedings of the 9th International Conference on the Foundations of Augmented Cognition, AC 2015, held as part of the 17th International Conference on Human-Computer Interaction, HCII 2015, which took place in Los Angeles, CA, USA, in August 2015. HCII 2015 received a total of 4843 submissions, of which 1462 papers and 246 posters were accepted for publication after a careful reviewing process. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The 78 papers presented in the AC 2015 proceedings address the following major topics: cognitive performance and work load, BCI and operational neuroscience, cognition, perception and emotion measurement, adaptive and tutoring training, applications of augmented cognition.

Fundamentals of Database Indexing and Searching-Arnab Bhattacharya 2014-12-02

Fundamentals of Database Indexing and Searching presents well-known database searching and indexing techniques. It focuses on similarity search queries, showing how to use distance functions to measure the notion of dissimilarity. After defining database queries and similarity search queries, the book organizes the most common and representative index structures according to their characteristics. The author first describes low-dimensional index structures, memory-based index structures, and hierarchical disk-based index structures. He then outlines useful distance measures and index structures that use the distance information to efficiently solve similarity search queries. Focusing on the difficult dimensionality phenomenon, he also presents several indexing methods that specifically deal with high-dimensional spaces. In addition, the book covers data reduction techniques, including embedding, various data transforms, and histograms. Through numerous real-world examples, this book explores how to effectively index and search for information in large collections of data. Requiring only a basic computer science background, it is accessible to practitioners and advanced undergraduate students.

Similarity Search and Applications-Nieves Brisaboa 2013-08-30

This book constitutes the refereed proceedings of the 6th International Conference on Similarity Search and Applications, SISAP 2013, held in A Coruña, Spain, in October 2013. The 19 full papers, 6 short papers and 2 demo papers, presented were carefully reviewed and selected from 44 submissions. The papers are organized in topical sections on new scenarios and approaches; improving similarity search methods and techniques; metrics and evaluation; applications and specific domains; and implementation and engineering solutions.

Swarm Intelligence for Multi-objective Problems in Data Mining-Carlos Coello Coello 2009-10-01

The purpose of this book is to collect contributions that are at the intersection of multi-objective optimization, swarm intelligence (specifically, particle swarm optimization and ant colony optimization) and data mining.

Feature Extraction-Isabelle Guyon 2008-11-16

This book is both a reference for engineers and scientists and a teaching resource, featuring tutorial chapters and research papers on feature extraction. Until now there has been insufficient consideration of feature selection algorithms, no unified presentation of leading methods, and no systematic comparisons.

Foundations of Effective Influence Operations-Eric Victor Larson 2009

The authors aim to assist the U.S. Army in understanding "influence operations," capabilities that may allow the United States to effectively influence the attitudes and behavior of particular foreign audiences while minimizing or avoiding combat. The book identifies approaches, methodologies, and tools that may be useful in planning, executing, and assessing influence operations.

Database and Expert Systems Applications-Sourav S. Bhowmick 2008-08-18

This book constitutes the refereed proceedings of the 19th International Conference on Database and Expert Systems Applications, DEXA 2008, held in Turin, Italy, in September 2008. The 74 revised full papers presented together with 1 invited paper were carefully reviewed and selected from 208 submissions. The papers are organized in topical sections on data privacy; temporal, spatial and high dimensional databases; semantic Web and ontologies; query processing; Web and information retrieval; mobile data and information; data and information streams; data mining algorithms; multimedia databases; data mining systems, data warehousing, OLAP; data and information semantics; XML databases; applications of database, information, and decision support systems; and schema, process and knowledge modelling and evolution.

Measuring and Improving Social Impacts-Marc J. Epstein 2017-09-08

Identifying, measuring and improving social impact is a significant challenge for corporate and private foundations, charities, NGOs and corporations. How best to balance possible social and environmental benefits (and costs) against one another? How does one bring clarity to multiple possibilities and opportunities? Based on years of work and new field studies from around the globe, the authors have written a book for managers that is grounded in the best academic and managerial research.It is a practical guide that describes the steps needed for identifying, measuring and improving social impact. This approach is useful in maximizing the impact of different types of investments, including grants and donations, impact investments, and commercial investments.With numerous examples of actual organizational approaches, research into more than fifty organizations, and extensive practical guidance and best practices, Measuring and Improving Social Impacts fills a critical gap.

Computational Science and Its Applications - ICCSA 2010-David Taniar 2010-03-16

The four-volume set LNCS 6016 - 6019 constitutes the refereed proceedings of the International Conference on Computational Science and Its Applications, ICCSA 2010, held in Fukuoka, Japan, in March 2010. The four volumes contain papers presenting a wealth of original research results in the field of computational science, from foundational issues in computer science and mathematics to advanced applications in virtually all sciences making use of computational techniques. The topics of the fully refereed papers are structured according to the five major conference themes: computational methods, algorithms and scientific application, high performance computing and networks, geometric modelling, graphics and visualization, advanced and emerging applications, and information systems and technologies. Moreover, submissions from more than 30 special sessions and workshops contribute to this publication. These cover These cover topics such as geographical analysis, urban modeling, spatial statistics, wireless and ad hoc networking, logical, scientific and computational aspects of pulse phenomena in transitions, high-performance computing and information visualization, sensor network and its applications, molecular simulations structures and processes, collective evolutionary systems, software engineering processes and applications, molecular simulations structures and processes, internet communication security, security and privacy in pervasive computing environments, and mobile communications.

Dimension Reduction-Christopher J. C. Burges 2010

Dimension reduction is the mapping of data to a lower dimensional space such that uninformative variance in the data is discarded, or such that a subspace in which the data lives is detected. Dimension reduction has a long history as a method for data visualization, and for extracting key low dimensional features (for example, the two-dimensional orientation of an object, from its high dimensional image representation). In some cases the desired low dimensional features depend on the task at hand. Apart from teaching us about the data, dimension reduction can lead us to better models for inference. Dimension Reduction: A Guided Tour covers many well-known, and some less well-known, methods for dimension reduction for which the inferred variables are continuous. It describes the mathematics and key ideas underlying the methods, and provides some links to the literature for those interested in pursuing a topic further.

SOFSEM 2012: Theory and Practice of Computer Science-Mária Bieliková 2012-01-09

This book constitutes the refereed proceedings of the 38th Conference on Current Trends in Theory and Practice of Computer Science, SOFSEM 2012, held in Špindlerův Mlýn, Czech Republic, in January 2012. The 43 revised papers presented in this volume were carefully reviewed and selected from 121 submissions. The book also contains 11 invited talks, 10 of which are in full-paper length. The contributions are organized in topical sections named: foundations of computer science; software and Web engineering; cryptography, security, and verification; and artificial intelligence.