Accelerating Discovery Mining Unstructured Information For Hypothesis Generation Chapman Hallcrc Data Mining And Knowledge Discovery Series

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Grid Solutions for the Life Sciences : Proceedings of HealthGrid 2007 University Press Antwerp
Industrial Applications of Machine Learning shows how machine learning can be applied to address real-world problems in the fourth industrial revolution, and provides the required knowledge and tools to empower readers to build their own solutions based on theory and practice. The book introduces the fourth industrial revolution and its current impact on organizations and society. It explores machine learning fundamentals, and includes four case studies that address a real-world problem in the manufacturing or logistics domains, and approaches machine learning solutions from an application-oriented point of view. The book should be of special interest to researchers interested in real-world industrial problems. Features Describes the opportunities, challenges, issues, and trends offered by the fourth industrial revolution Provides a user-friendly introduction to machine learning with examples of cutting-edge applications in different industrial sectors Includes four case studies addressing real-world industrial problems solved with machine learning techniques A dedicated website for the book contains the datasets of the case studies for the reader's reproduction, enabling the groundwork for future problem-solving Uses of three of the most widespread software and programming languages within the engineering and data science communities, namely R, Python, and Weka
Data Science and Analytics with Python Lulu.com
Unstructured Mining Approaches to Solve Complex Scientific Problems As the volume of scientific data and literature increases exponentially, scientists need more powerful tools and methods to process and synthesize information and to formulate new hypotheses that are most likely to be both true and important. Accelerating Discovery: Mining Unstructured Information for Hypothesis Generation describes a novel approach to scientific research that uses unstructured data analysis as a generative tool for new hypotheses. The author develops a systematic process for leveraging heterogeneous structured and unstructured data sources, data mining, and computational architectures to make the discovery process faster and more effective. This process accelerates human creativity by allowing scientists and inventors to more readily analyze and comprehend the space of possibilities, compare alternatives, and discover entirely new approaches. Encompassing systematic and practical perspectives, the book provides the necessary motivation and strategies as well as a heterogeneous set of comprehensive, illustrative examples. It reveals the importance of heterogeneous data analytics in aiding scientific discoveries and furthers data science as a discipline.
Advances in Machine Learning and Data Mining for Astronomy Springer
Data-Driven Quality Improvement and Sustainability in Health Care: An Interprofessional Approach provides nurse leaders and healthcare administrators of all disciplines with a solid understanding of data and how to leverage data to improve outcomes, fuel innovation, and achieve sustained results. It sets the stage by examining the current state of the healthcare landscape; new imperatives to meet policy, regulatory, and consumer demands; and the role of data in administrative and clinical decision-making. It helps the professional identify the methods and tools that support thoughtful and thorough data analysis and offers practical application of data-driven processes that determine performance in healthcare operations, value- and performance-based contracts, and risk contracts. Misuse or inconsistent use of data leads to ineffective and errant decision-making. This text highlights common barriers and pitfalls related to data use and provide strategies for how to avoid these pitfalls. In addition, chapters feature key points, reflection questions, and real-life interprofessional case exemplars to help the professional draw distinctions and apply principles to their own practice. Key Features: Provides nurse leaders and other healthcare administrators with an understanding of the role of data in the current healthcare landscape and how to leverage data to drive innovative and sustainable change Offers frameworks, methodology, and tools to support quality improvement measures Demonstrates the application of data and how it shapes quality and safety initiatives through real-life case exemplars Highlights common barriers and pitfalls related to data use and provide strategies for how to avoid these pitfalls
Learning with Case Studies, Second Edition Springer
Winner of two first place AJN Book of the Year Awards! This award-winning resource uniquely integrates national goals with nursing practice to achieve safe, efficient quality of care through technology management. The heavily revised third edition emphasizes the importance of federal policy in digitally transforming the U.S. healthcare delivery system, addressing its evolution and current policy initiatives to engage consumers and promote interoperability of the IT infrastructure nationwide. It focuses on ways to optimize the massive U.S. investment in HIT infrastructure and examines usability, innovative methods of workflow redesign, and challenges with electronic clinical quality measures (eCQMs). Additionally, the text stresses documentation challenges that relate to usability issues with EHRs and sub-par adoption and implementation. The third edition also explores data science, secondary data analysis, and advanced analytic methods in greater depth, along with new information on robotics, artificial intelligence, and ethical considerations. Contributors include a broad array of notable health professionals, which reinforces the book's focus on interprofessionalism. Woven throughout are the themes of point-of-care applications, data management, and analytics, with an emphasis on the interprofessional team. Additionally, the text fosters an understanding of compensation regulations and factors. New to the Third Edition: Examines current policy initiatives to engage consumers and promote nationwide interoperability of the IT infrastructure Emphasizes usability, workflow redesign, and challenges with electronic clinical quality measures Covers emerging challenge proposed by CMS to incorporate social determinants of health Focuses on data science, secondary data analysis, citizen science, and advanced analytic methods Revised chapter on robotics with up-to-date content relating to the impact on nursing practice New information on artificial intelligence and ethical considerations New case studies and exercises to reinforce learning and specifics for managing public health during and after a pandemic COVID-19 pandemic-related lessons learned from data availability, data quality, and data use when trying to predict its impact on the health of communities Analytics that focus on health inequity and how to address it Expanded and more advanced coverage of interprofessional practice and education (IPE) Enhanced instructor package Key Features: Presents national standards and healthcare initiatives as a guiding structure throughout Advanced analytics is reflected in several chapters such as cybersecurity, genomics, robotics, and specifically exemplify how artificial intelligence (AI) and machine learning (ML) support related professional practice Addresses the new re-envisioned AACN essentials Includes chapter objectives, case studies, end-of-chapter exercises, and questions to reinforce understanding Aligned with QSEN graduate-level competencies and the expanded TIGER (Technology Informatics Guiding Education Reform) competencies.
Social Networks with Rich Edge Semantics Routledge
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
Studying Social Movements in Comparative Perspective Routledge
Data Warehousing in the Age of the Big Data will help you and your organization make the most of unstructured data with your existing data warehouse. As Big Data continues to revolutionize how we use data, it doesn't have to create more confusion. Expert author Krish Krishnan helps you make sense of how Big Data fits into the world of data warehousing in clear and concise detail. The book is presented in three distinct parts. Part 1 discusses Big Data, its technologies and use cases from early adopters. Part 2 addresses data warehousing, its shortcomings, and new architecture options, workloads, and integration techniques for Big Data and the data warehouse. Part 3 deals with data governance, data visualization, information life-cycle management, data scientists, and implementing a Big Data–ready data warehouse. Extensive appendixes include case studies from vendor implementations and a special segment on how we can build a healthcare information factory. Ultimately, this book will help you navigate through the complex layers of Big Data and data warehousing while providing you information on how to effectively think about using all these technologies and the architectures to design the next-generation data warehouse. Learn how to leverage Big Data by effectively integrating it into your data warehouse. Includes real-world examples and use cases that clearly demonstrate Hadoop, NoSQL, HBASE, Hive, and other Big Data technologies Understand how to optimize and tune your current data warehouse infrastructure and integrate newer infrastructure matching data processing workloads and requirements
Hearings Before a Subcommittee of the Committee on Appropriations, House of Representatives, One Hundred Twelfth Congress, Second Session BoD – Books on Demand
The rate at which toxicological data is generated is continually becoming more rapid and the volume of data generated is growing dramatically. This is due in part to advances in software solutions and cheminformatics approaches which increase the availability of open data from chemical, biological and toxicological and high throughput screening resources. However, the amplified pace and capacity of data generation achieved by these novel techniques presents challenges for organising and analysing data output. Big Data in Predictive Toxicology discusses these challenges as well as the opportunities of new techniques encountered in data science. It addresses the nature of toxicological big data, their storage, analysis and interpretation. It also details how these data can be applied in toxicity prediction, modelling and risk assessment. This title is of particular relevance to researchers and postgraduates working and studying in the fields of computational methods, applied and physical chemistry, cheminformatics, biological sciences, predictive toxicology and safety and hazard assessment.
Big Data Analytics Newnes
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.
On the Move to Meaningful Internet Systems: OTM 2019 Conferences Walter de Gruyter GmbH & Co KG
Parallel to the physical space in our world, there exists cyberspace. In the physical space, there are human and nature interactions that produce products and services. On the other hand, in cyberspace there are interactions between humans and computer that also produce products and services. Yet, the products and services in cyberspace don’t materialize—they are electronic, they are millions of bits and bytes that are being transferred over cyberspace infrastructure.
New Trends in Computational Collective Intelligence CRC Press
This book consists of 20 chapters in which the authors deal with different theoretical and practical aspects of new trends in Collective Computational Intelligence techniques. Computational Collective Intelligence methods and algorithms are one the current trending research topics from areas related to Artificial Intelligence, Soft Computing or Data Mining among others. Computational Collective Intelligence is a rapidly growing field that is most often understood as an AI sub-field dealing with soft computing methods which enable making group decisions and processing knowledge among autonomous units acting in distributed environments. Web-based Systems, Social Networks, and Multi-Agent Systems very often need these tools for working out consistent knowledge states, resolving conflicts and making decisions. The chapters included in this volume cover a selection of topics and new trends in several domains related to Collective Computational Intelligence: Language and Knowledge Processing, Data Mining Methods and Applications, Computer Vision, and Intelligent Computational Methods. This book will be useful for graduate and PhD students in computer science as well as for mature academics, researchers and practitioners interested in the methods and applications of collective computational intelligence in order to create new intelligent systems.
Nursing Informatics for the Advanced Practice Nurse, Third Edition CRC Press
This book constitutes the refereed proceedings of the Third Workshop on Human-Computer Interaction and Knowledge Discovery, HCI-KDD 2013, held in Maribor, Slovenia, in July 2013, at SouthCHI 2013. The 20 revised papers presented were carefully reviewed and selected from 68 submissions. The papers are organized in topical sections on human-computer interaction and knowledge discovery, knowledge discovery and smart homes, smart learning environments, and visualization data analytics.
Using Text-Mining to Interpret the Student Voice CRC Press
After the multidimensional financial crisis of 2008, the member states of the Eurozone imposed a set of economic policies to save their economies. Socially unpopular cuts contributed to the occurrence of violent movements that both opposed austerity policies and created animosity towards the politicians who implemented them. Combining qualitative and quantitative comparative analyses from anti-austerity movements in 14 Eurozone states from 2007 to 2015, Joanna Rak develops an original typology of patterns of a culture of political violence to explain why some anti-austerity movements turned to violence and others did not, despite having shared goals and political values. She uncovers the very nature of the differences and similarities between cultures of political violence, identifies their sources, and determines their differing results. Simultaneously, she opens a discussion on the exploratory and explanatory utility of the category of a culture of political violence in the Social Sciences. Theorizing Cultures of Political Violence in Times of Austerity casts new light on the scholarly debate on cultures of political violence and anti-austerity violent behavior, making it a compelling read for scholars of political sociology, political behavior, comparative politics, European politics, and sociology.
Exploratory Data Analysis Using R Elsevier
Focused on the mathematical foundations of social media analysis, Graph-Based Social Media Analysis provides a comprehensive introduction to the use of graph analysis in the study of social and digital media. It addresses an important scientific and technological challenge, namely the confluence of graph analysis and network theory with linear algebra, digital media, machine learning, big data analysis, and signal processing. Supplying an overview of graph-based social media analysis, the book provides readers with a clear understanding of social media structure. It uses graph theory, particularly the algebraic description and analysis of graphs, in social media studies. The book emphasizes the big data aspects of social and digital media. It presents various approaches to storing vast amounts of data online and retrieving that data in real-time. It demystifies complex social media phenomena, such as information diffusion, marketing and recommendation systems in social media, and evolving systems. It also covers emerging trends, such as big data analysis and social media evolution. Describing how to conduct proper analysis of the social and digital media markets, the book provides insights into processing, storing, and visualizing big social media data and social graphs. It includes coverage of graphs in social and digital media, graph and hyper-graph fundamentals, mathematical foundations coming from linear algebra, algebraic graph analysis, graph clustering, community detection, graph matching, web search based on ranking, label propagation and diffusion in social media, graph-based pattern recognition and machine learning, graph-based pattern classification and dimensionality reduction, and much more. This book is an ideal reference for scientists and engineers working in social media and digital media production and distribution. It is also suitable for use as a textbook in undergraduate or graduate courses on digital media, social media, or social networks.
Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations for 2005 CRC Press
Feature engineering plays a vital role in big data analytics. Machine learning and data mining algorithms cannot work without data. Little can be achieved if there are few features to represent the underlying data objects, and the quality of results of those algorithms largely depends on the quality of the available features. Feature Engineering for Machine Learning and Data Analytics provides a comprehensive introduction to feature engineering, including feature generation, feature extraction, feature transformation, feature selection, and feature analysis and evaluation. The book presents key concepts, methods, examples, and applications, as well as chapters on feature engineering for major data types such as texts, images, sequences, time series, graphs, streaming data, software engineering data, Twitter data, and social media data. It also contains generic feature generation approaches, as well as methods for generating tried-and-tested, hand-crafted, domain-specific features. The first chapter defines the concepts of features and feature engineering, offers an overview of the book, and provides pointers to topics not covered in this book. The next six chapters are devoted to feature engineering, including feature generation for specific data types. The subsequent four chapters cover generic approaches for feature engineering, namely feature selection, feature transformation based feature engineering, deep learning based feature engineering, and pattern based feature generation and engineering. The last three chapters discuss feature engineering for social bot detection, software management, and Twitter-based applications respectively. This book can be used as a reference for data analysts, big data scientists, data preprocessing workers, project managers, project developers, prediction modelers, professors, researchers, graduate students, and upper level undergraduate students. It can also be used as the primary text for courses on feature engineering, or as a supplement for courses on machine learning, data mining, and big data analytics.
Data-Driven Quality Improvement and Sustainability in Health Care World Scientific
Data has become a factor of production, like labor and steel, and is driving a new data-centered economy. The Data rEvolution is about data volume, variety, velocity and value. It is about new ways to organize and manage data for rapid processing using tools like Hadoop and MapReduce. It is about the explosion of new tools for "connecting the dots" and increasing knowledge, including link analysis, temporal analysis and predictive analytics. It is about a vision of "analytics for everyone" that puts sophisticated statistics into the hands of all. And, it is about using visual analytics to parse the data and literally see new relationships and insights on the fly. As the data and tools become democratized, we will see a new world of experimentation and creative problem-solving, where data comes from both inside and outside the organization. Your own data is not enough. This report is a must-read for IT and business leaders who want to maximize the value of data for their organization.
Mining Unstructured Information for Hypothesis Generation CRC Press
Data Mining with R: Learning with Case Studies, Second Edition uses practical examples to illustrate the power of R and data mining. Providing an extensive update to the best-selling first edition, this new edition is divided into two parts. The first part will feature introductory material, including a new chapter that provides an introduction to data mining, to complement the already existing introduction to R. The second part includes case studies, and the new edition strongly revises the R code of the case studies making it more up-to-date with recent packages that have emerged in R. The book does not assume any prior knowledge about R. Readers who are new to R and data mining should be able to follow the case studies, and they are designed to be self-contained so the reader can start anywhere in the document. The book is accompanied by a set of freely available R source files that can be obtained at the book’s web site. These files include all the code used in the case studies, and they facilitate the "do-it-yourself" approach followed in the book. Designed for users of data analysis tools, as well as researchers and developers, the book should be useful for anyone interested in entering the "world" of R and data mining. About the Author Luís Torgo is an associate professor in the Department of Computer Science at the University of Porto in Portugal. He teaches Data Mining in R in the NYU Stern School of Business’ MS in Business Analytics program. An active researcher in machine learning and data mining for more than 20 years, Dr. Torgo is also a researcher in the Laboratory of Artificial Intelligence and Data Analysis (LIAAD) of INESC Porto LA.
Algorithms and Applications CRC Press
" The main focus of this publication is on technologies, solutions and requirements that interest the grid and the life-science communities to foster the integration of grids into health. The proceedings are especially interesting for grid middleware and grid application developers, biomedical and health informatics users, and security and policy makers with a common focus on the application in the health domain. Topics in this publication are: State-of-the-art of the grid research and use at molecule, cell, organ, individual and population levels; and security and imaging. In security, data protection and pseudonymization are being discussed. In imaging, theres Globus MEDICUS, which federates DICOM devices through a grid architecture and KnowARC on facilitating grid networks for the biomedical research community. Finally, theres a report on the successful use of multimodal workflows in diabetic retinopathy research. "
Industrial Applications of Machine Learning CRC Press

While the term Big Data is open to varying interpretation, it is quite clear that the Volume, Velocity, and Variety (3Vs) of data have impacted every aspect of computational science and its applications. The volume of data is increasing at a phenomenal rate and a majority of it is unstructured. With big data, the volume is so large that processing it using traditional database and software techniques is difficult, if not impossible. The drivers are the ubiquitous sensors, devices, social networks and the all-pervasive web. Scientists are increasingly looking to derive insights from the massive quantity of data to create new knowledge. In common usage, Big Data has come to refer simply to the use of predictive analytics or other certain advanced methods to extract value from data, without any required magnitude thereon. Challenges include analysis, capture, curation, search, sharing, storage, transfer, visualization, and information privacy. While there are challenges, there are huge opportunities emerging in the fields of Machine Learning, Data Mining, Statistics, Human-Computer Interfaces and Distributed Systems to address ways to analyze and reason with this data. The edited volume focuses on the challenges and opportunities posed by "Big Data" in a variety of domains and how statistical techniques and innovative algorithms can help glean insights and accelerate discovery. Big data has the potential to help companies improve operations and make faster, more intelligent decisions. Review of big data research challenges from diverse areas of scientific endeavor Rich perspective on a range of data science issues from leading researchers Insight into the mathematical and statistical theory underlying the computational methods used to address big data analytics problems in a variety of domains

Innovations in Computational Intelligence and Computer Vision CRC Press

This volume constitutes the refereed proceedings of the Confederated International International Workshop on Enterprise Integration, Interoperability and Networking (EI2N), Fact Based Modeling (FBM), Industry Case Studies Program (ICSP), International Workshop on Methods, Evaluation, Tools and Applications for the Creation and Consumption of Structured Data for the e-Society (Meta4eS) and, 1st International Workshop on Security via Information Analytics and Applications (SIAnA 2019) held as part of OTM 2018 in October 2019 in Rhodes, Greece. As the three main conferences and the associated workshops all share the distributed aspects of modern computing systems, they experience the application pull created by the Internet and by the so-called Semantic Web, in particular developments of Big Data, increased importance of security issues, and the globalization of mobile-based technologies.

Interactive Knowledge Discovery and Data Mining in Biomedical Informatics Springer Nature

Accelerating DiscoveryMining Unstructured Information for Hypothesis GenerationCRC Press