

Business Intelligence Data Mining And Optimization For Decision Making

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Foundations of Predictive Analytics - James Wu 2012-02-15

Drawing on the authors' two decades of experience in applied modeling and data mining, *Foundations of Predictive Analytics* presents the fundamental background required for analyzing data and building models for many practical applications, such as consumer behavior modeling, risk and marketing analytics, and other areas. It also discusses a variety of practical topics that are frequently missing from similar texts. The book begins with the statistical and linear algebra/matrix foundation of modeling methods, from distributions to cumulant and copula functions to Cornish-Fisher expansion and other useful but hard-to-find statistical techniques. It then describes common and unusual linear methods as well as popular nonlinear modeling approaches, including additive models, trees, support vector machine, fuzzy systems, clustering, naïve Bayes, and neural nets. The authors go on to cover methodologies used in time series and forecasting, such as ARIMA, GARCH, and survival analysis. They also present a range of optimization techniques and explore several special topics, such as Dempster-Shafer theory. An in-depth collection of the most important fundamental material on predictive analytics, this self-contained book provides the necessary information for understanding various techniques for exploratory data analysis and modeling. It explains the algorithmic details behind each technique (including underlying assumptions and mathematical formulations) and shows how to prepare and encode data, select variables, use model goodness measures, normalize odds, and perform reject inference. **Web Resource** The book's website at www.DataMinerXL.com offers the DataMinerXL software for building predictive models. The site also includes more examples and information on modeling.

Cognitive Social Mining Applications in Data Analytics and Forensics - Haldorai, Anandakumar 2018-12-14

Recently, there has been a rapid increase in interest regarding social network analysis in the data mining community. Cognitive radios are expected to play a major role in meeting this exploding traffic demand on social networks due to their ability to sense the environment, analyze outdoor parameters, and then make decisions for dynamic time, frequency, space, resource allocation, and management to improve the utilization of mining the social data. *Cognitive Social Mining Applications in Data Analytics and Forensics* is an essential reference source that reviews cognitive radio concepts and examines their applications to social mining using a machine learning approach so that an adaptive and intelligent mining is achieved. Featuring research on topics such as data mining, real-time ubiquitous social mining services, and cognitive computing, this book is ideally designed for social network analysts, researchers, academicians, and industry professionals.

Data Mining and Business Intelligence - Stephan Kudyba 2001-01-01

Annotation Provides an overview of data mining technology and how it is applied in a business environment. Material is not written in a technical style, but rather addresses the applied methodology behind implementing data mining techniques in the corporate environment. Explains how the technology evolved, overviews the methodologies that comprise the data mining spectrum, and looks at everyday business applications for data mining, in areas such as marketing and advertising promotions and pricing policies using econometric-based modeling, and using the Internet to help improve an organization's performance. Kudyba is an economic consultant. Hoptroff is an independent consultant with experience in data mining software. Annotation c. Book News, Inc., Portland, OR (booknews.com).

Data Science for Business - Foster Provost 2013-07-27

Written by renowned data science experts Foster Provost and Tom Fawcett, *Data Science for Business* introduces the fundamental

principles of data science, and walks you through the "data-analytic thinking" necessary for extracting useful knowledge and business value from the data you collect. This guide also helps you understand the many data-mining techniques in use today. Based on an MBA course Provost has taught at New York University over the past ten years, *Data Science for Business* provides examples of real-world business problems to illustrate these principles. You'll not only learn how to improve communication between business stakeholders and data scientists, but also how to participate intelligently in your company's data science projects. You'll also discover how to think data-analytically, and fully appreciate how data science methods can support business decision-making. Understand how data science fits in your organization—and how you can use it for competitive advantage. Treat data as a business asset that requires careful investment if you're to gain real value. Approach business problems data-analytically, using the data-mining process to gather good data in the most appropriate way. Learn general concepts for actually extracting knowledge from data. Apply data science principles when interviewing data science job candidates.

Swarm Intelligence in Data Mining - Ajith Abraham 2006-09-06

This volume examines the application of swarm intelligence in data mining, addressing the issues of swarm intelligence and data mining using novel intelligent approaches. The book comprises 11 chapters including an introduction reviewing fundamental definitions and important research challenges. Important features include a detailed overview of swarm intelligence and data mining paradigms, focused coverage of timely, advanced data mining topics, state-of-the-art theoretical research and application developments and contributions by pioneers in the field.

Computational Intelligence in Data Mining - Himansu Sekhar Behera 2018-07-03

The International Conference on "Computational Intelligence in Data Mining" (ICCIDM), after three successful versions, has reached to its fourth version with a lot of aspiration. The best selected conference papers are reviewed and compiled to form this volume. The proceedings discuss the latest solutions, scientific results and methods in solving intriguing problems in the fields of data mining, computational intelligence, big data analytics, and soft computing. The volume presents a sneak preview into the strengths and weakness of trending applications and research findings in the field of computational intelligence and data mining along with related field.

Handbook of Research on Advanced Data Mining Techniques and Applications for Business Intelligence - Trivedi, Shrawan Kumar 2017-02-14

The development of business intelligence has enhanced the visualization of data to inform and facilitate business management and strategizing. By implementing effective data-driven techniques, this allows for advance reporting tools to cater to company-specific issues and challenges. The *Handbook of Research on Advanced Data Mining Techniques and Applications for Business Intelligence* is a key resource on the latest advancements in business applications and the use of mining software solutions to achieve optimal decision-making and risk management results. Highlighting innovative studies on data warehousing, business activity monitoring, and text mining, this publication is an ideal reference source for research scholars, management faculty, and practitioners.

Data Mining and Analysis - Mohammed J. Zaki 2014-05-12

A comprehensive overview of data mining from an algorithmic perspective, integrating related concepts from machine learning and statistics.

Machine Learning and Data Mining for Sports Analytics - Ulf Brefeld

2020-12-09

This book constitutes the refereed post-conference proceedings of the 7th International Workshop on Machine Learning and Data Mining for Sports Analytics, MLSA 2020, colocated with ECML/PKDD 2020, in Ghent, Belgium, in September 2020. Due to the COVID-19 pandemic the conference was held online. The 11 papers presented were carefully reviewed and selected from 22 submissions. The papers present a variety of topics within the area of sports analytics, including tactical analysis, outcome predictions, data acquisition, performance optimization, and player evaluation.

Data Mining for Business Intelligence - Galit Shmueli 2006-12-11

Learn how to develop models for classification, prediction, and customer segmentation with the help of Data Mining for Business Intelligence In today's world, businesses are becoming more capable of accessing their ideal consumers, and an understanding of data mining contributes to this success. Data Mining for Business Intelligence, which was developed from a course taught at the Massachusetts Institute of Technology's Sloan School of Management, and the University of Maryland's Smith School of Business, uses real data and actual cases to illustrate the applicability of data mining intelligence to the development of successful business models. Featuring XLMiner, the Microsoft Office Excel add-in, this book allows readers to follow along and implement algorithms at their own speed, with a minimal learning curve. In addition, students and practitioners of data mining techniques are presented with hands-on, business-oriented applications. An abundant amount of exercises and examples are provided to motivate learning and understanding. Data Mining for Business Intelligence: Provides both a theoretical and practical understanding of the key methods of classification, prediction, reduction, exploration, and affinity analysis Features a business decision-making context for these key methods Illustrates the application and interpretation of these methods using real business cases and data This book helps readers understand the beneficial relationship that can be established between data mining and smart business practices, and is an excellent learning tool for creating valuable strategies and making wiser business decisions.

Business Intelligence and Data Mining - Anil Maheshwari 2014-12-31

"This book is a splendid and valuable addition to this subject. The whole book is well written and I have no hesitation to recommend that this can be adapted as a textbook for graduate courses in Business Intelligence and Data Mining." Dr. Edi Shivaji, Des Moines, Iowa "As a complete novice to this area just starting out on a MBA course I found the book incredibly useful and very easy to follow and understand. The concepts are clearly explained and make it an easy task to gain an understanding of the subject matter." -- Mr. Craig Domoney, South Africa. Business Intelligence and Data Mining is a conversational and informative book in the exploding area of Business Analytics. Using this book, one can easily gain the intuition about the area, along with a solid toolset of major data mining techniques and platforms. This book can thus be gainfully used as a textbook for a college course. It is also short and accessible enough for a busy executive to become a quasi-expert in this area in a couple of hours. Every chapter begins with a case-let from the real world, and ends with a case study that runs across the chapters.

Encyclopedia of Organizational Knowledge, Administration, and Technology - Khosrow-Pour D.B.A., Mehdi 2020-09-29

For any organization to be successful, it must operate in such a manner that knowledge and information, human resources, and technology are continually taken into consideration and managed effectively. Business concepts are always present regardless of the field or industry - in education, government, healthcare, not-for-profit, engineering, hospitality/tourism, among others. Maintaining organizational awareness and a strategic frame of mind is critical to meeting goals, gaining competitive advantage, and ultimately ensuring sustainability. The Encyclopedia of Organizational Knowledge, Administration, and Technology is an inaugural five-volume publication that offers 193 completely new and previously unpublished articles authored by leading experts on the latest concepts, issues, challenges, innovations, and opportunities covering all aspects of modern organizations. Moreover, it is comprised of content that highlights major breakthroughs, discoveries, and authoritative research results as they pertain to all aspects of organizational growth and development including methodologies that can help companies thrive and analytical tools that assess an organization's internal health and performance. Insights are offered in key topics such as organizational structure, strategic leadership, information technology management, and business analytics, among others. The knowledge compiled in this publication is designed for

entrepreneurs, managers, executives, investors, economic analysts, computer engineers, software programmers, human resource departments, and other industry professionals seeking to understand the latest tools to emerge from this field and who are looking to incorporate them in their practice. Additionally, academicians, researchers, and students in fields that include but are not limited to business, management science, organizational development, entrepreneurship, sociology, corporate psychology, computer science, and information technology will benefit from the research compiled within this publication.

Data Science and Analytics with Python - Jesus Rogel-Salazar 2018-02-05

Data Science and Analytics with Python is designed for practitioners in data science and data analytics in both academic and business environments. The aim is to present the reader with the main concepts used in data science using tools developed in Python, such as SciKit-learn, Pandas, Numpy, and others. The use of Python is of particular interest, given its recent popularity in the data science community. The book can be used by seasoned programmers and newcomers alike. The book is organized in a way that individual chapters are sufficiently independent from each other so that the reader is comfortable using the contents as a reference. The book discusses what data science and analytics are, from the point of view of the process and results obtained. Important features of Python are also covered, including a Python primer. The basic elements of machine learning, pattern recognition, and artificial intelligence that underpin the algorithms and implementations used in the rest of the book also appear in the first part of the book. Regression analysis using Python, clustering techniques, and classification algorithms are covered in the second part of the book. Hierarchical clustering, decision trees, and ensemble techniques are also explored, along with dimensionality reduction techniques and recommendation systems. The support vector machine algorithm and the Kernel trick are discussed in the last part of the book. About the Author Dr. Jesús Rogel-Salazar is a Lead Data scientist with experience in the field working for companies such as AKQA, IBM Data Science Studio, Dow Jones and others. He is a visiting researcher at the Department of Physics at Imperial College London, UK and a member of the School of Physics, Astronomy and Mathematics at the University of Hertfordshire, UK. He obtained his doctorate in physics at Imperial College London for work on quantum atom optics and ultra-cold matter. He has held a position as senior lecturer in mathematics as well as a consultant in the financial industry since 2006. He is the author of the book Essential Matlab and Octave, also published by CRC Press. His interests include mathematical modelling, data science, and optimization in a wide range of applications including optics, quantum mechanics, data journalism, and finance.

Studyguide for Business Intelligence - Cram101 Textbook Reviews 2013-05

Never HIGHLIGHT a Book Again Virtually all testable terms, concepts, persons, places, and events are included. Cram101 Textbook Outlines gives all of the outlines, highlights, notes for your textbook with optional online practice tests. Only Cram101 Outlines are Textbook Specific. Cram101 is NOT the Textbook. Accompanys: 9780521673761

Business Intelligence - Carlo Vercellis 2011-08-10

Business intelligence is a broad category of applications and technologies for gathering, providing access to, and analyzing data for the purpose of helping enterprise users make better business decisions. The term implies having a comprehensive knowledge of all factors that affect a business, such as customers, competitors, business partners, economic environment, and internal operations, therefore enabling optimal decisions to be made. Business Intelligence provides readers with an introduction and practical guide to the mathematical models and analysis methodologies vital to business intelligence. This book: Combines detailed coverage with a practical guide to the mathematical models and analysis methodologies of business intelligence. Covers all the hot topics such as data warehousing, data mining and its applications, machine learning, classification, supply optimization models, decision support systems, and analytical methods for performance evaluation. Is made accessible to readers through the careful definition and introduction of each concept, followed by the extensive use of examples and numerous real-life case studies. Explains how to utilise mathematical models and analysis models to make effective and good quality business decisions. This book is aimed at postgraduate students following data analysis and data mining courses. Researchers looking for a systematic and broad coverage of topics in operations research and mathematical models for decision-making will

find this an invaluable guide.

Big Data Analytics Methods - Peter Ghavami 2019-12-16

Big Data Analytics Methods unveils secrets to advanced analytics techniques ranging from machine learning, random forest classifiers, predictive modeling, cluster analysis, natural language processing (NLP), Kalman filtering and ensembles of models for optimal accuracy of analysis and prediction. More than 100 analytics techniques and methods provide big data professionals, business intelligence professionals and citizen data scientists insight on how to overcome challenges and avoid common pitfalls and traps in data analytics. The book offers solutions and tips on handling missing data, noisy and dirty data, error reduction and boosting signal to reduce noise. It discusses data visualization, prediction, optimization, artificial intelligence, regression analysis, the Cox hazard model and many analytics using case examples with applications in the healthcare, transportation, retail, telecommunication, consulting, manufacturing, energy and financial services industries. This book's state of the art treatment of advanced data analytics methods and important best practices will help readers succeed in data analytics.

Integration Challenges for Analytics, Business Intelligence, and Data Mining - Azevedo, Ana 2020-12-11

As technology continues to advance, it is critical for businesses to implement systems that can support the transformation of data into information that is crucial for the success of the company. Without the integration of data (both structured and unstructured) mining in business intelligence systems, invaluable knowledge is lost. However, there are currently many different models and approaches that must be explored to determine the best method of integration. Integration Challenges for Analytics, Business Intelligence, and Data Mining is a relevant academic book that provides empirical research findings on increasing the understanding of using data mining in the context of business intelligence and analytics systems. Covering topics that include big data, artificial intelligence, and decision making, this book is an ideal reference source for professionals working in the areas of data mining, business intelligence, and analytics; data scientists; IT specialists; managers; researchers; academicians; practitioners; and graduate students.

Data Mining: Concepts and Techniques - Jiawei Han 2011-06-09

Data Mining: Concepts and Techniques provides the concepts and techniques in processing gathered data or information, which will be used in various applications. Specifically, it explains data mining and the tools used in discovering knowledge from the collected data. This book is referred as the knowledge discovery from data (KDD). It focuses on the feasibility, usefulness, effectiveness, and scalability of techniques of large data sets. After describing data mining, this edition explains the methods of knowing, preprocessing, processing, and warehousing data. It then presents information about data warehouses, online analytical processing (OLAP), and data cube technology. Then, the methods involved in mining frequent patterns, associations, and correlations for large data sets are described. The book details the methods for data classification and introduces the concepts and methods for data clustering. The remaining chapters discuss the outlier detection and the trends, applications, and research frontiers in data mining. This book is intended for Computer Science students, application developers, business professionals, and researchers who seek information on data mining. Presents dozens of algorithms and implementation examples, all in pseudo-code and suitable for use in real-world, large-scale data mining projects Addresses advanced topics such as mining object-relational databases, spatial databases, multimedia databases, time-series databases, text databases, the World Wide Web, and applications in several fields Provides a comprehensive, practical look at the concepts and techniques you need to get the most out of your data

Machine Learning and Data Mining for Sports Analytics - Ulf Brefeld 2019-04-06

This book constitutes the refereed post-conference proceedings of the 5th International Workshop on Machine Learning and Data Mining for Sports Analytics, MLSA 2018, colocated with ECML/PKDD 2018, in Dublin, Ireland, in September 2018. The 12 full papers presented together with 4 challenge papers were carefully reviewed and selected from 24 submissions. The papers present a variety of topics, covering the team sports American football, basketball, ice hockey, and soccer, as well as the individual sports cycling and martial arts. In addition, four challenge papers are included, reporting on how to predict pass receivers in soccer.

Real-world Data Mining - Dursun Delen 2015

As business becomes increasingly complex and global, decision-makers

must act more rapidly and accurately, based on the best available evidence. Modern data mining and analytics is indispensable for doing this. Real-World Data Mining demystifies current best practices, showing how to use data mining and analytics to uncover hidden patterns and correlations, and leverage these to improve all business decision-making. Drawing on extensive experience as a researcher, practitioner, and instructor, Dr. Dursun Delen delivers an optimal balance of concepts, techniques and applications. Without compromising either simplicity or clarity, Delen provides enough technical depth to help readers truly understand how data mining technologies work. Coverage includes: data mining processes, methods, and techniques; the role and management of data; tools and metrics; text and web mining; sentiment analysis; and integration with cutting-edge Big Data approaches. Throughout, Delen's conceptual coverage is complemented with application case studies (examples of both successes and failures), as well as simple, hands-on tutorials.

Adaptive Business Intelligence - Zbigniew Michalewicz 2006-12-02

Adaptive business intelligence systems combine prediction and optimization techniques to assist decision makers in complex, rapidly changing environments. These systems address fundamental questions: What is likely to happen in the future? What is the best course of action? Adaptive Business Intelligence explores elements of data mining, predictive modeling, forecasting, optimization, and adaptability. The book explains the application of numerous prediction and optimization techniques, and shows how these concepts can be used to develop adaptive systems. Coverage includes linear regression, time-series forecasting, decision trees and tables, artificial neural networks, genetic programming, fuzzy systems, genetic algorithms, simulated annealing, tabu search, ant systems, and agent-based modeling.

Encyclopedia of Business Analytics and Optimization - Wang, John 2014-02-28

As the age of Big Data emerges, it becomes necessary to take the five dimensions of Big Data- volume, variety, velocity, volatility, and veracity- and focus these dimensions towards one critical emphasis - value. The Encyclopedia of Business Analytics and Optimization confronts the challenges of information retrieval in the age of Big Data by exploring recent advances in the areas of knowledge management, data visualization, interdisciplinary communication, and others. Through its critical approach and practical application, this book will be a must-have reference for any professional, leader, analyst, or manager interested in making the most of the knowledge resources at their disposal.

Optimization Based Data Mining: Theory and Applications - Yong Shi 2011-05-16

Optimization techniques have been widely adopted to implement various data mining algorithms. In addition to well-known Support Vector Machines (SVMs) (which are based on quadratic programming), different versions of Multiple Criteria Programming (MCP) have been extensively used in data separations. Since optimization based data mining methods differ from statistics, decision tree induction, and neural networks, their theoretical inspiration has attracted many researchers who are interested in algorithm development of data mining. Optimization based Data Mining: Theory and Applications, mainly focuses on MCP and SVM especially their recent theoretical progress and real-life applications in various fields. These include finance, web services, bio-informatics and petroleum engineering, which has triggered the interest of practitioners who look for new methods to improve the results of data mining for knowledge discovery. Most of the material in this book is directly from the research and application activities that the authors' research group has conducted over the last ten years. Aimed at practitioners and graduates who have a fundamental knowledge in data mining, it demonstrates the basic concepts and foundations on how to use optimization techniques to deal with data mining problems.

DATA MINING - K. P. SOMAN 2006-01-01

Data Mining is an emerging technology that has made its way into science, engineering, commerce and industry as many existing inference methods are obsolete for dealing with massive datasets that get accumulated in data warehouses. This comprehensive and up-to-date text aims at providing the reader with sufficient information about data mining methods and algorithms so that they can make use of these methods for solving real-world problems. The authors have taken care to include most of the widely used methods in data mining with simple examples so as to make the text ideal for classroom learning. To make the theory more comprehensible to the students, many illustrations have been used, and this in turn explains how certain parameters of interest change as the algorithm proceeds. Designed as a textbook for the

undergraduate and postgraduate students of computer science, information technology, and master of computer applications, the book can also be used for MBA courses in Data Mining in Business, Business Intelligence, Marketing Research, and Health Care Management. Students of Bioinformatics will also find the text extremely useful. CD-ROM INCLUDE' The accompanying CD contains Large collection of datasets. Animation on how to use WEKA and ExcelMiner to do data mining.

Marketing and Smart Technologies - Álvaro Rocha 2020

This book includes selected papers presented at the International Conference on Marketing and Technologies (ICMarkTech 2019), held at Maieutica Academic Campus (University Institute of Maia & Polytechnic Institute of Maia) in Maia, Portugal, from 27 to 29 November 2019. It covers up-to-date cutting-edge research on artificial intelligence applied in marketing, virtual and augmented reality in marketing, business intelligence databases and marketing, data mining and big data, marketing data science, web marketing, e-commerce and v-commerce, social media and networking, geomarketing and IoT, marketing automation and inbound marketing, machine learning applied to marketing, customer data management and CRM, and neuromarketing technologies.

Data Mining for Business Analytics - Galit Shmueli 2019-10-14

Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python presents an applied approach to data mining concepts and methods, using Python software for illustration Readers will learn how to implement a variety of popular data mining algorithms in Python (a free and open-source software) to tackle business problems and opportunities. This is the sixth version of this successful text, and the first using Python. It covers both statistical and machine learning algorithms for prediction, classification, visualization, dimension reduction, recommender systems, clustering, text mining and network analysis. It also includes: A new co-author, Peter Gedeck, who brings both experience teaching business analytics courses using Python, and expertise in the application of machine learning methods to the drug-discovery process A new section on ethical issues in data mining Updates and new material based on feedback from instructors teaching MBA, undergraduate, diploma and executive courses, and from their students More than a dozen case studies demonstrating applications for the data mining techniques described End-of-chapter exercises that help readers gauge and expand their comprehension and competency of the material presented A companion website with more than two dozen data sets, and instructor materials including exercise solutions, PowerPoint slides, and case solutions Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python is an ideal textbook for graduate and upper-undergraduate level courses in data mining, predictive analytics, and business analytics. This new edition is also an excellent reference for analysts, researchers, and practitioners working with quantitative methods in the fields of business, finance, marketing, computer science, and information technology. "This book has by far the most comprehensive review of business analytics methods that I have ever seen, covering everything from classical approaches such as linear and logistic regression, through to modern methods like neural networks, bagging and boosting, and even much more business specific procedures such as social network analysis and text mining. If not the bible, it is at the least a definitive manual on the subject." —Garth M. James, University of Southern California and co-author (with Witten, Hastie and Tibshirani) of the best-selling book An Introduction to Statistical Learning, with Applications in R

Data Mining in Dynamic Social Networks and Fuzzy Systems -

Bhatnagar, Vishal 2013-06-30

Many organizations, whether in the public or private sector, have begun to take advantage of the tools and techniques used for data mining. Utilizing data mining tools, these organizations are able to reveal the hidden and unknown information from available data. Data Mining in Dynamic Social Networks and Fuzzy Systems brings together research on the latest trends and patterns of data mining tools and techniques in dynamic social networks and fuzzy systems. With these improved modern techniques of data mining, this publication aims to provide insight and support to researchers and professionals concerned with the management of expertise, knowledge, information, and organizational development.

RapidMiner - Markus Hofmann 2016-04-19

Powerful, Flexible Tools for a Data-Driven World As the data deluge continues in today's world, the need to master data mining, predictive analytics, and business analytics has never been greater. These

techniques and tools provide unprecedented insights into data, enabling better decision making and forecasting, and ultimately the solution of increasingly complex problems. Learn from the Creators of the RapidMiner Software Written by leaders in the data mining community, including the developers of the RapidMiner software, RapidMiner: Data Mining Use Cases and Business Analytics Applications provides an in-depth introduction to the application of data mining and business analytics techniques and tools in scientific research, medicine, industry, commerce, and diverse other sectors. It presents the most powerful and flexible open source software solutions: RapidMiner and RapidAnalytics. The software and their extensions can be freely downloaded at www.RapidMiner.com. Understand Each Stage of the Data Mining Process The book and software tools cover all relevant steps of the data mining process, from data loading, transformation, integration, aggregation, and visualization to automated feature selection, automated parameter and process optimization, and integration with other tools, such as R packages or your IT infrastructure via web services. The book and software also extensively discuss the analysis of unstructured data, including text and image mining. Easily Implement Analytics Approaches Using RapidMiner and RapidAnalytics Each chapter describes an application, how to approach it with data mining methods, and how to implement it with RapidMiner and RapidAnalytics. These application-oriented chapters give you not only the necessary analytics to solve problems and tasks, but also reproducible, step-by-step descriptions of using RapidMiner and RapidAnalytics. The case studies serve as blueprints for your own data mining applications, enabling you to effectively solve similar problems.

Data Mining for Business Analytics - Galit Shmueli 2016-04-18

An applied approach to data mining and predictive analytics with clear exposition, hands-on exercises, and real-life case studies. Readers will work with all of the standard data mining methods using the Microsoft® Office Excel® add-in XLMiner® to develop predictive models and learn how to obtain business value from Big Data. Featuring updated topical coverage on text mining, social network analysis, collaborative filtering, ensemble methods, uplift modeling and more, the Third Edition also includes: Real-world examples to build a theoretical and practical understanding of key data mining methods End-of-chapter exercises that help readers better understand the presented material Data-rich case studies to illustrate various applications of data mining techniques Completely new chapters on social network analysis and text mining A companion site with additional data sets, instructors material that include solutions to exercises and case studies, and Microsoft PowerPoint® slides <https://www.dataminingbook.com> Free 140-day license to use XLMiner for Education software Data Mining for Business Analytics: Concepts, Techniques, and Applications in XLMiner®, Third Edition is an ideal textbook for upper-undergraduate and graduate-level courses as well as professional programs on data mining, predictive modeling, and Big Data analytics. The new edition is also a unique reference for analysts, researchers, and practitioners working with predictive analytics in the fields of business, finance, marketing, computer science, and information technology. Praise for the Second Edition "...full of vivid and thought-provoking anecdotes... needs to be read by anyone with a serious interest in research and marketing." - Research Magazine "Shmueli et al. have done a wonderful job in presenting the field of data mining - a welcome addition to the literature." - ComputingReviews.com "Excellent choice for business analysts...The book is a perfect fit for its intended audience." - Keith McCormick, Consultant and Author of SPSS Statistics For Dummies, Third Edition and SPSS Statistics for Data Analysis and Visualization Galit Shmueli, PhD, is Distinguished Professor at National Tsing Hua University's Institute of Service Science. She has designed and instructed data mining courses since 2004 at University of Maryland, Statistics.com, The Indian School of Business, and National Tsing Hua University, Taiwan. Professor Shmueli is known for her research and teaching in business analytics, with a focus on statistical and data mining methods in information systems and healthcare. She has authored over 70 journal articles, books, textbooks and book chapters. Peter C. Bruce is President and Founder of the Institute for Statistics Education at www.statistics.com. He has written multiple journal articles and is the developer of Resampling Stats software. He is the author of Introductory Statistics and Analytics: A Resampling Perspective, also published by Wiley. Nitin R. Patel, PhD, is Chairman and cofounder of Cytel, Inc., based in Cambridge, Massachusetts. A Fellow of the American Statistical Association, Dr. Patel has also served as a Visiting Professor at the Massachusetts Institute of Technology and at Harvard University. He is a

Fellow of the Computer Society of India and was a professor at the Indian Institute of Management, Ahmedabad for 15 years.

Fundamentals of Business Intelligence - Wilfried Grossmann
2015-06-02

This book presents a comprehensive and systematic introduction to transforming process-oriented data into information about the underlying business process, which is essential for all kinds of decision-making. To that end, the authors develop step-by-step models and analytical tools for obtaining high-quality data structured in such a way that complex analytical tools can be applied. The main emphasis is on process mining and data mining techniques and the combination of these methods for process-oriented data. After a general introduction to the business intelligence (BI) process and its constituent tasks in chapter 1, chapter 2 discusses different approaches to modeling in BI applications. Chapter 3 is an overview and provides details of data provisioning, including a section on big data. Chapter 4 tackles data description, visualization, and reporting. Chapter 5 introduces data mining techniques for cross-sectional data. Different techniques for the analysis of temporal data are then detailed in Chapter 6. Subsequently, chapter 7 explains techniques for the analysis of process data, followed by the introduction of analysis techniques for multiple BI perspectives in chapter 8. The book closes with a summary and discussion in chapter 9. Throughout the book, (mostly open source) tools are recommended, described and applied; a more detailed survey on tools can be found in the appendix, and a detailed code for the solutions together with instructions on how to install the software used can be found on the accompanying website. Also, all concepts presented are illustrated and selected examples and exercises are provided. The book is suitable for graduate students in computer science, and the dedicated website with examples and solutions makes the book ideal as a textbook for a first course in business intelligence in computer science or business information systems. Additionally, practitioners and industrial developers who are interested in the concepts behind business intelligence will benefit from the clear explanations and many examples.

Win with Advanced Business Analytics - Jean-Paul Isson 2012-09-25
Plain English guidance for strategic business analytics and bigdata implementation In today's challenging economy, business analytics and big data have become more and more ubiquitous. While some businesses don't even know where to start, others are struggling to move from beyond basic reporting. In some instances management and executives do not see the value of analytics or have a clear understanding of business analytics vision mandate and benefits. Win with Advanced Analytics focuses on integrating multiple types of intelligence, such as web analytics, customer feedback, competitive intelligence, customer behavior, and industry intelligence into your business practice. Provides the essential concept and framework to implement business analytics Written clearly for a nontechnical audience Filled with case studies across a variety of industries Uniquely focuses on integrating multiple types of big data intelligence into your business Companies now operate on a global scale and are inundated with a large volume of data from multiple locations and sources: B2B data, B2C data, traffic data, transactional data, third party vendor data, macroeconomic data, etc. Packed with case studies from multiple countries across a variety of industries, Win with Advanced Analytics provides a comprehensive framework and applications of how to leverage business analytics/big data to outpace the competition.

Outlines and Highlights for Business Intelligence - Cram101
Textbook Reviews 2011-07-01

Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 Just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780470511398 9780470511381 .

Business Modeling and Data Mining - Dorian Pyle 2003-05-17
Business Modeling and Data Mining demonstrates how real world business problems can be formulated so that data mining can answer them. The concepts and techniques presented in this book are the essential building blocks in understanding what models are and how they can be used practically to reveal hidden assumptions and needs, determine problems, discover data, determine costs, and explore the whole domain of the problem. This book articulately explains how to understand both the strategic and tactical aspects of any business problem, identify where the key leverage points are and determine where quantitative techniques of analysis -- such as data mining -- can

yield most benefit. It addresses techniques for discovering how to turn colloquial expression and vague descriptions of a business problem first into qualitative models and then into well-defined quantitative models (using data mining) that can then be used to find a solution. The book completes the process by illustrating how these findings from data mining can be turned into strategic or tactical implementations. · Teaches how to discover, construct and refine models that are useful in business situations · Teaches how to design, discover and develop the data necessary for mining · Provides a practical approach to mining data for all business situations · Provides a comprehensive, easy-to-use, fully interactive methodology for building models and mining data · Provides pointers to supplemental online resources, including a downloadable version of the methodology and software tools.

Business Intelligence - Carlo Verzellis 2009-04-20

Business intelligence is a broad category of applications and technologies for gathering, providing access to, and analyzing data for the purpose of helping enterprise users make better business decisions. The term implies having a comprehensive knowledge of all factors that affect a business, such as customers, competitors, business partners, economic environment, and internal operations, therefore enabling optimal decisions to be made. Business Intelligence provides readers with an introduction and practical guide to the mathematical models and analysis methodologies vital to business intelligence. This book: Combines detailed coverage with a practical guide to the mathematical models and analysis methodologies of business intelligence. Covers all the hot topics such as data warehousing, data mining and its applications, machine learning, classification, supply optimization models, decision support systems, and analytical methods for performance evaluation. Is made accessible to readers through the careful definition and introduction of each concept, followed by the extensive use of examples and numerous real-life case studies. Explains how to utilise mathematical models and analysis models to make effective and good quality business decisions. This book is aimed at postgraduate students following data analysis and data mining courses. Researchers looking for a systematic and broad coverage of topics in operations research and mathematical models for decision-making will find this an invaluable guide.

Using Open Source Platforms for Business Intelligence - Lyndsay Wise 2012-11-23

Open Source BI solutions have many advantages over traditional proprietary software, from offering lower initial costs to more flexible support and integration options; but, until now, there has been no comprehensive guide to the complete offerings of the OS BI market. Writing for IT managers and business analysts without bias toward any BI suite, industry insider Lyndsay Wise covers the benefits and challenges of all available open source BI systems and tools, enabling readers to identify the solutions and technologies that best meet their business needs. Wise compares and contrasts types of OS BI and proprietary tools on the market, including Pentaho, JasperSoft, RapidMiner, SpagoBI, BIRT, and many more. Real-world case studies and project templates clarify the steps involved in implementing open source BI, saving new users the time and trouble of developing their own solutions from scratch. For business managers who are hard pressed to identify the best BI solutions and software for their companies, this book provides a practical guide to evaluating the ROI of open source versus traditional BI deployments. The only book to provide complete coverage of all open source BI systems and tools specifically for business managers, without bias toward any OS BI suite A practical, step-by-step guide to implementing OS BI solutions that maximize ROI Comprehensive coverage of all open source systems and tools, including architectures, data integration, support, optimization, data mining, data warehousing, and interoperability Case studies and project templates enable readers to evaluate the benefits and tradeoffs of all OS BI options without having to spend time developing their own solutions from scratch

Getting Started with Business Analytics - David Roi Hardoon 2013-03-26

Assuming no prior knowledge or technical skills, Getting Started with Business Analytics: Insightful Decision-Making explores the contents, capabilities, and applications of business analytics. It bridges the worlds of business and statistics and describes business analytics from a non-commercial standpoint. The authors demystify the main concepts and terminologies and give many examples of real-world applications. The first part of the book introduces business data and recent technologies that have promoted fact-based decision-making. The authors look at how business intelligence differs from business analytics. They also discuss

the main components of a business analytics application and the various requirements for integrating business with analytics. The second part presents the technologies underlying business analytics: data mining and data analytics. The book helps you understand the key concepts and ideas behind data mining and shows how data mining has expanded into data analytics when considering new types of data such as network and text data. The third part explores business analytics in depth, covering customer, social, and operational analytics. Each chapter in this part incorporates hands-on projects based on publicly available data. Helping you make sound decisions based on hard data, this self-contained guide provides an integrated framework for data mining in business analytics. It takes you on a journey through this data-rich world, showing you how to deploy business analytics solutions in your organization.

Decision Trees for Business Intelligence and Data Mining - Barry De Ville 2006

This example-driven guide illustrates the application and operation of decision trees in data mining, business intelligence, business analytics, prediction, and knowledge discovery. It explains in detail the use of decision trees as a data mining technique and how this technique complements and supplements other business intelligence applications.

Business Intelligence - Mohamed Fakir 2021-05-15

This book constitutes the proceedings of the 6th International Conference on Business Intelligence, CBI 2021, which took place in Beni Mellal, Morocco, during May 27-29, 2021. The 26 full and 6 poster papers included in this book were carefully reviewed and selected from a total of 60 submissions. They were organized in topical sections as follows: decision support, information systems and NLP; big data, datamining, Web services and Web semantics; optimization and decision support; signal, image and vision computing; networking, cloud computing and networking architectures in cloud.

Artificial Intelligence and Data Mining in Healthcare - Malek Masmoudi 2021

This book presents recent work on healthcare management and engineering using artificial intelligence and data mining techniques. Specific topics covered in the contributed chapters include predictive mining, decision support, capacity management, patient flow optimization, image compression, data clustering, and feature selection.

The content will be valuable for researchers and postgraduate students in computer science, information technology, industrial engineering, and applied mathematics.

Predictive Analytics and Data Mining - Vijay Kotu 2014-11-27

Put Predictive Analytics into Action Learn the basics of Predictive Analysis and Data Mining through an easy to understand conceptual framework and immediately practice the concepts learned using the open source RapidMiner tool. Whether you are brand new to Data Mining or working on your tenth project, this book will show you how to analyze data, uncover hidden patterns and relationships to aid important decisions and predictions. Data Mining has become an essential tool for any enterprise that collects, stores and processes data as part of its operations. This book is ideal for business users, data analysts, business analysts, business intelligence and data warehousing professionals and for anyone who wants to learn Data Mining. You'll be able to: 1. Gain the necessary knowledge of different data mining techniques, so that you can select the right technique for a given data problem and create a general purpose analytics process. 2. Get up and running fast with more than two dozen commonly used powerful algorithms for predictive analytics using practical use cases. 3. Implement a simple step-by-step process for predicting an outcome or discovering hidden relationships from the data using RapidMiner, an open source GUI based data mining tool Predictive analytics and Data Mining techniques covered: Exploratory Data Analysis, Visualization, Decision trees, Rule induction, k-Nearest Neighbors, Naïve Bayesian, Artificial Neural Networks, Support Vector machines, Ensemble models, Bagging, Boosting, Random Forests, Linear regression, Logistic regression, Association analysis using Apriori and FP Growth, K-Means clustering, Density based clustering, Self Organizing Maps, Text Mining, Time series forecasting, Anomaly detection and Feature selection. Implementation files can be downloaded from the book companion site at www.LearnPredictiveAnalytics.com Demystifies data mining concepts with easy to understand language Shows how to get up and running fast with 20 commonly used powerful techniques for predictive analysis Explains the process of using open source RapidMiner tools Discusses a simple 5 step process for implementing algorithms that can be used for performing predictive analytics Includes practical use cases and examples