Business Intelligence Data Mining And Optimization For Decision Making

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.
Includes bibliographical references and index.
Data mining is well on its way to becoming a recognized discipline in the overlapping areas of IT, statistics, machine learning, and AI. Practical Data Mining for Business presents a user-friendly approach to data mining methods, covering the typical uses to which it is applied. The methodology is complemented by case studies to create a versatile reference book, allowing readers to look for specific methods as well as for specific applications. The book is formatted to allow statisticians, computer scientists, and economists to cross-reference from a particular application or method to sectors of interest.
The explosion of Web-based data has created a demand among executives and technologists for methods to identify, gather, analyze, and utilize data that may be of value to corporations and organizations. The emergence of data mining, and the larger field of Web mining, has businesses lost within a confusing maze of mechanisms and strategies for obta
One day a man walked into Asgard Inc. and changed the company forever. Unlike anyone who came before, he remembered and understood data as naturally as a fish swims in water. The CEO was shocked at how well the man knew the company. He started posing questions to this man. Who are my best customers? Why is this product struggling? Where is my greatest growth happening? The man answered these and more. Using his understanding of data, he identified key new markets, he discovered the best places to invest capital, and he even predicted the future. Overnight Asgard Inc. changed. Where before the CEO relied on limited information and gut feelings, now true knowledge guided his actions. The CEO took the man's hand in gratitude and asked, "Who are you?" and he replied, "I am Business Intelligence." Business Intelligence(BI) is shrouded in mystery for a lot of us but it doesn't need to stay that way. Business Intelligence in Plain Language is a systematic exploration of this complicated tool. I'll teach you about what it does, how it works, and most importantly how you can benefit from it. In this book you will learn about: Business Intelligence Data Mining Data Warehousing Data Discovery Big Data Outlier Detection Pattern Recognition Predictive Modeling Data Transformation and much more This book is your practical guide to understanding and implementing Business Intelligence.
Uncovering and analyzing data associated with the current business environment is essential in maintaining a competitive edge. As such, making informed decisions based on this data is crucial to managers across industries. Integration of Data Mining in Business Intelligence Systems investigates the incorporation of data mining into business technologies used in the decision making process. Emphasizing cutting-edge research and relevant concepts in data discovery and analysis, this book is a comprehensive reference source for policymakers, academicians, researchers, students, technology developers, and professionals interested in the application of data mining techniques and practices in business information systems.
Customer and Business Analytics: Applied Data Mining for Business Decision Making Using R explains and demonstrates, via the accompanying open-source software, how advanced analytical tools can address various business problems. It also gives insight into some of the challenges faced when deploying these tools. Extensively classroom-tested, the tex
There is an ongoing data explosion transpiring that will make previous creations, collections, and storage of data look trivial. Big Data, Mining, and Analytics: Components of Strategic Decision Making ties together big data, data mining, and analytics to explain how readers can leverage them to extract valuable insights from their data. Facilitati
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.
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).
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.

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.

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

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: The Savvy Managers Guide, Second Edition, discusses the objectives and practices for designing and deploying a business intelligence (BI) program. It looks at the basics of a BI program, from the value of information and the mechanics of planning for success to data model infrastructure, data preparation, data analysis, integration, knowledge discovery, and the actual use of discovered knowledge. Organized into 21 chapters, this book begins with an overview of the kind of knowledge that can be exposed and exploited through the use of BI. It then proceeds with a discussion of information use in the context of how value is created within an organization, how BI can improve the ways of doing business, and organizational preparedness for exploiting the results of a BI program. It also looks at some of the critical factors to be taken into account in the planning and execution of a successful BI program. In addition, the reader is introduced to considerations for developing the BI roadmap, the platforms for analysis such as data warehouses, and the concepts of business metadata. Other chapters focus on data preparation and data discovery, the business rules approach, and data mining techniques and predictive analytics. Finally, emerging technologies such as text analytics and sentiment analysis are considered. This book will be valuable to data management and BI professionals, including senior and middle-level managers, Chief Information Officers and Chief Data Officers, senior business executives and business staff members, database or software engineers, and business analysts. Guides managers through developing, administering, or simply understanding business intelligence technology Keeps pace with the changes in best practices, tools, methods and processes used to transform an organization's data into actionable knowledge Contains a handy, quick-reference to technologies and terminology

This proceedings volume brings together the results of a corporate discussion on research, academic teaching and education in the field of business and economics in the context of globalization. The contributions examine leadership and sustainability, quality and governance and the internationalization of higher education. With a particular focus on business education and business schools, the book discusses the labor market and modernization as well as contemporary trends and challenges. By including both

academic papers and contributions from industry, it forges research links between academia, business and industry.
Microsoft Data Mining approaches data mining from the particular perspective of IT professionals using Microsoft data management technologies. The author explains the new data mining capabilities in Microsoft's SQL Server 2000 database, Commerce Server, and other products, details the Microsoft OLE DB for Data Mining standard, and gives readers best practices for using all of them. The book bridges the previously specialized field of data mining with the new technologies and methods that are quickly making it an important mainstream tool for companies of all sizes. Data mining refers to a set of technologies and techniques by which IT professionals search large databases of information (such as those contained by SQL Server) for patterns and trends. Traditionally important in finance, telecommunication, and other information-intensive fields, data mining increasingly helps companies better understand and serve their customers by revealing buying patterns and related interests. It is becoming a foundation for e-commerce and knowledge management. Unique book on a hot data management topic Part of Digital Press's SQL Server and data mining clusters Author is an expert on both traditional and Microsoft data mining technologies
A comprehensive overview of data mining from an algorithmic perspective, integrating related concepts from machine learning and statistics.
This book is written to address the issues relating to data gathering, data warehousing, and data analysis, all of which are useful when working with large amounts of data. Using practical examples of market intelligence, this book is designed to inspire and inform readers on how to conduct market intelligence by leveraging data and technology, supporting smart decision making. The book explains some suitable methodologies for data analysis that are based on robust statistical methods. For illustrative purposes, the author uses real-life data for all the examples in this book. In addition, the book discusses the concepts, techniques, and applications of digital media and mobile data mining. Hence, this book is a guide tool for policy makers, academics, and practitioners whose areas of interest are statistical inference, applied statistics, applied mathematics, business mathematics, quantitative techniques, and economic and social statistics.
Data Mining and Data Visualization focuses on dealing with large-scale data, a field commonly referred to as data mining. The book is divided into three sections. The first deals with an introduction to statistical aspects of data mining and machine learning and includes applications to text analysis, computer intrusion detection, and hiding of information in digital files. The second section focuses on a variety of statistical methodologies that have proven to be effective in data mining applications. These include clustering, classification, multivariate density estimation, tree-based methods, pattern recognition, outlier detection, genetic algorithms, and dimensionality reduction. The third section focuses on data visualization and covers issues of visualization of high-dimensional data, novel graphical techniques with a focus on human factors, interactive graphics, and data visualization using virtual reality. This book represents a thorough cross section of internationally renowned thinkers who are inventing methods for dealing with a new data paradigm. Distinguished contributors who are international experts in aspects of data mining Includes data mining approaches to non-numerical data mining including text data, Internet traffic data, and geographic data Highly topical discussions reflecting current thinking on contemporary technical issues, e.g. streaming data Discusses taxonomy of dataset sizes, computational complexity, and scalability usually ignored in most discussions Thorough discussion of data visualization issues blending statistical, human factors, and computational insights
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.
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 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
Data Mining for Business Analytics: Concepts, Techniques, and Applications in XLMiner®, Third Edition presents 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.

This book targets business and IT professionals who need an introduction to business intelligence and data warehousing fundamentals through a simple question / answer format. Topics include evolution and fundamentals, characteristics and process, architecture and objects, metadata, data conversion, ETL, data storage, infrastructure, data access, data marts, implementation approaches, planning, design, Inmon vs. Kimball, multi-dimensionality, OLAP, facts and dimensions, common mistakes and tips, trends, etc.

"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.

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 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.

Offering seven techniques for transforming data into decisions, this text covers these approaches in depth, for both the business decision-maker and the technologist. It shows how to enhance organizational intelligence, both human and artificial. It presents detailed up-to-date coverage of all major AI techniques, including genetic algorhithms, rule-based systems, fuzzy logic, case-based systems and machine learning algorhithms. The book discusses OLAP and data warehousing systems, and shows how to select the most appropriate tool for each business challenge. It includes detailed checklists of key organizational and technical issues, seven detailed case studies, a common methodology, and new analysis techniques.

In 2004, the Government Accountability Office provided a report detailing approximately 200 government-based data-mining projects. While there is comfort in knowing that there are many effective systems, that comfort isn't worth much unless we can determine that these systems are being effectively and responsibly employed. Written by one of the most

respected consultants in the area of data mining and security, Data Mining for Intelligence, Fraud & Criminal Detection: Advanced Analytics & Information Sharing Technologies reviews the tangible results produced by these systems and evaluates their effectiveness. While CSI-type shows may depict information sharing and analysis that are accomplished with the push of a button, this sort of proficiency is more fiction than reality. Going beyond a discussion of the various technologies, the author outlines the issues of information sharing and the effective interpretation of results, which are critical to any integrated homeland security effort. Organized into three main sections, the book fully examines and outlines the future of this field with an insider's perspective and a visionary's insight. Section 1 provides a fundamental understanding of the types of data that can be used in current systems. It covers approaches to analyzing data and clearly delineates how to connect the dots among different data elements Section 2 provides real-world examples derived from actual operational systems to show how data is used, manipulated, and interpreted in domains involving human smuggling, money laundering, narcotics trafficking, and corporate fraud Section 3 provides an overview of the many information-sharing systems, organizations, and task forces as well as data interchange formats. It also discusses optimal information-sharing and analytical architectures Currently, there is very little published literature that truly defines real-world systems. Although politics and other factors all play into how much one agency is willing to support the sharing of its resources, many now embrace the wisdom of that path. This book will provide those individuals with an understanding of what approaches are currently available and how they can be most effectively employed.

This manager's guide to customer-centric business intelligence teaches data mining in an accessible way, explaining how it drives next-generation customer relationship strategies. Readers learn how to find patterns such as customer buying habits within their huge stores of data.

There are a number of books on computational intelligence (CI), but they tend to cover a broad range of CI paradigms and algorithms rather than provide an in-depth exploration in learning and adaptive mechanisms. This book sets its focus on CI based architectures, modeling, case studies and applications in big data analytics, and business intelligence. The intended audiences of this book are scientists, professionals, researchers, and academicians who deal with the new challenges and advances in the specific areas mentioned above. Designers and developers of applications in these areas can learn from other experts and colleagues through this book.

Customer and Business Analytics: Applied Data Mining for Business Decision Making Using R explains and demonstrates, via the accompanying open-source software, how advanced analytical tools can address various business problems. It also gives insight into some of the challenges faced when deploying these tools. Extensively classroom-tested, the text is ideal for students in customer and business analytics or applied data mining as well as professionals in small- to medium-sized organizations. The book offers an intuitive understanding of how different analytics algorithms work. Where necessary, the authors explain the underlying mathematics in an accessible manner. Each technique presented includes a detailed tutorial that enables hands-on experience with real data. The authors also discuss issues often encountered in applied data mining projects and present the CRISP-DM process model as a practical framework for organizing these projects. Showing how data mining can improve the performance of organizations, this book and its R-based software provide the skills and tools needed to successfully develop advanced analytics capabilities.

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." —Gareth 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

Technological developments in recent years have been tremendous. This evolution is visible in companies through technological equipment, computerized procedures, and management practices associated with technologies. One of the management practices that is visible is related to business intelligence and analytics (BI&A). Concepts such as data warehousing, key performance indicators (KPIs), data mining, and dashboards are changing the business arena. This book aims to promote research related to these new trends that open up a new field of research in the small and medium enterprises (SMEs) area. Features Focuses on the more recent research findings occurring in the fields of BI&A Conveys

how companies in the developed world are facing today's technological challenges Shares knowledge and insights on an international scale Provides different options and strategies to manage competitive organizations Addresses several dimensions of BI&A in favor of SMEs

Do you want to understand what big data is all about, but you don't get all the hype? Are you intrigued by the idea of building a career around big data and data science, but you just don't understand it? If so, this book could be what you are looking for.

Collecting, analyzing, and extracting valuable information froma large amount of data requires easily accessible, robust,computational and analytical tools. Data Mining and BusinessAnalytics with R utilizes the open source software R for theanalysis, exploration, and simplification of large high-dimensionaldata sets. As a result, readers are provided with the neededguidance to model and interpret complicated data and become adeptat building powerful models for prediction and classification. Highlighting both underlying concepts and practicalcomputational skills, Data Mining and Business Analytics withR begins with coverage of standard linear regression and theimportance of parsimony in statistical modeling. The book includesimportant topics such as penalty-based variable selection (LASSO);logistic regression; regression and classification trees;clustering; principal components and partial least squares; and theanalysis of text and network data. In addition, the bookpresents: • A thorough discussion and extensive demonstration of thetheory behind the most useful data mining tools • Illustrations of how to use the outlined concepts inreal-world situations • Readily available additional data sets and related Rcode allowing readers to apply their own analyses to the discussedmaterials • Numerous exercises to help readers with computing skillsand deepen their understanding of the material Data Mining and Business Analytics with R is an excellentgraduate-level textbook for courses on data mining and businessanalytics. The book is also a valuable reference for practitionerswho collect and analyze data in the fields of finance, operationsmanagement, marketing, and the information sciences.