

Data Mining Case Studies

DATA MINING: Predicting Tipping Points: By Dr. Philip Gordon, PhD DATA MINING: Predicting Tipping Points Data Mining Case Study meetup: Data Mining Overview Meta Brown: Data Mining for Dummies #DataTalk Confident Data Skills by Kirill Eremenko: 10 Minute Summary Ep. 111: "Semantic Modeling For Data" | Book Review | Swetlana AI Podcast This video includes key concepts of CRISP-DM and using it in a data mining case study of Airbnb. 5 Data Science Books for Beginner || Transform Your Business || Beginner Should Read Data Mining Techniques: For Marketing, Sales,... by Gordon S. Linoff · Audiobook preview Data mining and NLP in violence prevention - Step by step guide through a case study (Omdena) Real-World Big Data and Analytics Case Studies Best books on Data Mining Data Mining Techniques and Time Series Forecasting in Predicting Electricity Consumption □How companies are using Big Data analysis (case study based)□ | Qfuss x MyCaptain Webinar Case Study - Growth Through Data-Mining | Brad Stevens CEO Entreholic | Part 2 or 3 | Episode #321 Sentiment analysis with tidytext (R case study, 2021)

INTRODUCTION TO DATA MINING WITH CASE STUDIES

Innovative Applications in Data Mining

Predictive Data Mining

Dark Web

Introduction to Data Mining and Envelopment

Applied Data Mining

Data Mining and Learning Analytics

Graph Mining

Data Mining with Python

RapidMiner

Data Mining Techniques

NMR Case Studies

Commercial Data Mining

Applied Data Mining for Business and Industry

Data Mining and Medical Knowledge Management: Cases and Applications

Humanities Data Analysis

Applications of Data Management and Analysis

Data Science in R

Text Mining and Analysis

Data Mining Case Studies

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ALESSANDRA TANIYA

INTRODUCTION TO DATA MINING WITH CASE STUDIES Taylor & Francis

Data Mining with R: Learning with Case Studies, Second Edition uses practical examples to illustrate the power of R and data mining. Providing an extensive update to the best-selling first edition, this new edition is divided into two parts. The first part

will feature introductory material, including a new chapter that provides an introduction to data mining, to complement the already existing introduction to R. The second part includes case studies, and the new edition strongly revises the R code of the case studies making it more up-to-date with recent packages that have emerged in R. The book does not assume any prior knowledge about R. Readers who are new to R and data mining should be able to follow the case studies, and they are designed to be self-contained so the reader can start anywhere in the document. The book is accompanied by a set of freely available R

source files that can be obtained at the book's web site. These files include all the code used in the case studies, and they facilitate the "do-it-yourself" approach followed in the book. Designed for users of data analysis tools, as well as researchers and developers, the book should be useful for anyone interested in entering the "world" of R and data mining. About the Author Luís Torgo is an associate professor in the Department of Computer Science at the University of Porto in Portugal. He teaches Data Mining in R in the NYU Stern School of Business' MS in Business Analytics program. An active researcher in machine

learning and data mining for more than 20 years, Dr. Torgo is also a researcher in the Laboratory of Artificial Intelligence and Data Analysis (LIAAD) of INESC Porto LA.

Innovative Applications in Data Mining Mercury Learning and Information

NMR Case Studies: Data Analysis of Complicated Molecules provides a detailed discussion of the full logical flow associated with assigning the NMR spectra of complex molecules, also helping readers further develop their NMR spectral assignment skills. The robust case studies present the logic of each assignment, from beginning to end, fully exploring the available range of potential solutions. Readers will gain a better appreciation of various approaches and develop an intuitive sense for when this particular concept should be implemented, thus enhancing their skillsets and providing a host of methodologies potentially amenable to yielding correct assignments. Authored by a scientist with more than 20 years of experience in research and instruction, this book is the ideal reference for anyone in search of application-based content. The book addresses complicated molecules, including corticosteroids, biomolecules, polypeptides, and secondary metabolites. Features the nuclear magnetic resonance (NMR) spectra of a number of large and interesting molecules, ranging from corticosteroids, to secondary metabolites and large synthetically prepared molecules Uses case studies to pair the spectral signals from the various sites of each molecule to their molecular counterparts in a process called assignment Includes complex NMR problems, aiding readers in the development of NMR spectral assignment skills Features input from a leading scientist with over 20 years of research and instruction experience in the field

Predictive Data Mining SAS Institute

A practical guide to data-intensive humanities research using the Python programming language The use of quantitative methods in the humanities and related social sciences has increased considerably in recent years, allowing researchers to discover patterns in a vast range of source materials. Despite this growth, there are few resources addressed to students and scholars who wish to take advantage of these powerful tools. Humanities Data Analysis offers the first intermediate-level guide to quantitative data analysis for humanities students and scholars using the Python programming language. This practical textbook, which

assumes a basic knowledge of Python, teaches readers the necessary skills for conducting humanities research in the rapidly developing digital environment. The book begins with an overview of the place of data science in the humanities, and proceeds to cover data carpentry: the essential techniques for gathering, cleaning, representing, and transforming textual and tabular data. Then, drawing from real-world, publicly available data sets that cover a variety of scholarly domains, the book delves into detailed case studies. Focusing on textual data analysis, the authors explore such diverse topics as network analysis, genre theory, onomastics, literacy, author attribution, mapping, stylometry, topic modeling, and time series analysis. Exercises and resources for further reading are provided at the end of each chapter. An ideal resource for humanities students and scholars aiming to take their Python skills to the next level, Humanities Data Analysis illustrates the benefits that quantitative methods can bring to complex research questions. Appropriate for advanced undergraduates, graduate students, and scholars with a basic knowledge of Python Applicable to many humanities disciplines, including history, literature, and sociology Offers real-world case studies using publicly available data sets Provides exercises at the end of each chapter for students to test acquired skills Emphasizes visual storytelling via data visualizations

Dark Web CRC Press

Big data: It's unstructured, it's coming at you fast, and there's lots of it. In fact, the majority of big data is text-oriented, thanks to the proliferation of online sources such as blogs, emails, and social media. However, having big data means little if you can't leverage it with analytics. Now you can explore the large volumes of unstructured text data that your organization has collected with *Text Mining and Analysis: Practical Methods, Examples, and Case Studies Using SAS*. This hands-on guide to text analytics using SAS provides detailed, step-by-step instructions and explanations on how to mine your text data for valuable insight. Through its comprehensive approach, you'll learn not just how to analyze your data, but how to collect, cleanse, organize, categorize, explore, and interpret it as well. *Text Mining and Analysis* also features an extensive set of case studies, so you can see examples of how the applications work with real-world data from a variety of industries. Text analytics enables you to gain insights about your customers' behaviors and sentiments.

Leverage your organization's text data, and use those insights for making better business decisions with *Text Mining and Analysis. Introduction to Data Mining and Envelopment* CRC Press
Handbook of Statistical Analysis and Data Mining Applications, Second Edition, is a comprehensive professional reference book that guides business analysts, scientists, engineers and researchers, both academic and industrial, through all stages of data analysis, model building and implementation. The handbook helps users discern technical and business problems, understand the strengths and weaknesses of modern data mining algorithms and employ the right statistical methods for practical application. This book is an ideal reference for users who want to address massive and complex datasets with novel statistical approaches and be able to objectively evaluate analyses and solutions. It has clear, intuitive explanations of the principles and tools for solving problems using modern analytic techniques and discusses their application to real problems in ways accessible and beneficial to practitioners across several areas—from science and engineering, to medicine, academia and commerce. Includes input by practitioners for practitioners Includes tutorials in numerous fields of study that provide step-by-step instruction on how to use supplied tools to build models Contains practical advice from successful real-world implementations Brings together, in a single resource, all the information a beginner needs to understand the tools and issues in data mining to build successful data mining solutions Features clear, intuitive explanations of novel analytical tools and techniques, and their practical applications

APPLIED DATA MINING

Springer Science & Business Media
Data Mining with R CRC Press

DATA MINING AND LEARNING ANALYTICS

PHI Learning Pvt. Ltd.

The versatile capabilities and large set of add-on packages make R an excellent alternative to many existing and often expensive data mining tools. Exploring this area from the perspective of a practitioner, *Data Mining with R: Learning with Case Studies* uses practical examples to illustrate the power of R and data mining. Assuming no prior knowledge of R or data mining/statistical techniques, the book covers a diverse set of problems that pose

different challenges in terms of size, type of data, goals of analysis, and analytical tools. To present the main data mining processes and techniques, the author takes a hands-on approach that utilizes a series of detailed, real-world case studies: Predicting algae blooms Predicting stock market returns Detecting fraudulent transactions Classifying microarray samples With these case studies, the author supplies all necessary steps, code, and data. Web ResourceA supporting website mirrors the do-it-yourself approach of the text. It offers a collection of freely available R source files that encompass all the code used in the case studies. The site also provides the data sets from the case studies as well as an R package of several functions.

Graph Mining John Wiley & Sons

The increasing availability of data in our current, information overloaded society has led to the need for valid tools for its modelling and analysis. Data mining and applied statistical methods are the appropriate tools to extract knowledge from such data. This book provides an accessible introduction to data mining methods in a consistent and application oriented statistical framework, using case studies drawn from real industry projects and highlighting the use of data mining methods in a variety of business applications. Introduces data mining methods and applications. Covers classical and Bayesian multivariate statistical methodology as well as machine learning and computational data mining methods. Includes many recent developments such as association and sequence rules, graphical Markov models, lifetime value modelling, credit risk, operational risk and web mining. Features detailed case studies based on applied projects within industry. Incorporates discussion of data mining software, with case studies analysed using R. Is accessible to anyone with a basic knowledge of statistics or data analysis. Includes an extensive bibliography and pointers to further reading within the text. Applied Data Mining for Business and Industry, 2nd edition is aimed at advanced undergraduate and graduate students of data mining, applied statistics, database management, computer science and economics. The case studies will provide guidance to professionals working in industry on projects involving large volumes of data, such as customer relationship management, web design, risk management, marketing, economics and finance.

DATA MINING WITH PYTHON

John Wiley & Sons

With the rise in data science development, we now have many remarkable techniques and tools to extend data analysis from numeric and categorical data to textual data. Sifting through the open-ended responses from a survey, for example, was an arduous process when performed by hand. Using a case study approach, this book was written for business analysts who wish to increase their skills in extracting answers for text data in order to support business decision making. Most of the exercises use Excel, today's most common analysis tool, and R, a popular analytic computer environment. The techniques covered range from the most basic text analytics, such as key word analysis, to more sophisticated techniques, such as topic extraction and text similarity scoring. Companion files with numerous datasets are included for use with case studies and exercises. FEATURES:

Organized by tool or technique, with the basic techniques presented first and the more sophisticated techniques presented later Uses Excel and R for datasets in case studies and exercises Features the CRISP-DM data mining standard with early chapters for conducting the preparatory steps in data mining Companion files with numerous datasets and figures from the text. The companion files are available online by emailing the publisher with proof of purchase at info@merclearning.com.

RapidMiner John Wiley & Sons

The University of Arizona Artificial Intelligence Lab (AI Lab) Dark Web project is a long-term scientific research program that aims to study and understand the international terrorism (Jihadist) phenomena via a computational, data-centric approach. We aim to collect "ALL" web content generated by international terrorist groups, including web sites, forums, chat rooms, blogs, social networking sites, videos, virtual world, etc. We have developed various multilingual data mining, text mining, and web mining techniques to perform link analysis, content analysis, web metrics (technical sophistication) analysis, sentiment analysis, authorship analysis, and video analysis in our research. The approaches and methods developed in this project contribute to advancing the field of Intelligence and Security Informatics (ISI). Such advances will help related stakeholders to perform terrorism research and facilitate international security and peace. This monograph aims

to provide an overview of the Dark Web landscape, suggest a systematic, computational approach to understanding the problems, and illustrate with selected techniques, methods, and case studies developed by the University of Arizona AI Lab Dark Web team members. This work aims to provide an interdisciplinary and understandable monograph about Dark Web research along three dimensions: methodological issues in Dark Web research; database and computational techniques to support information collection and data mining; and legal, social, privacy, and data confidentiality challenges and approaches. It will bring useful knowledge to scientists, security professionals, counterterrorism experts, and policy makers. The monograph can also serve as a reference material or textbook in graduate level courses related to information security, information policy, information assurance, information systems, terrorism, and public policy.

DATA MINING TECHNIQUES

Morgan & Claypool Publishers

What does the Web look like? How can we find patterns, communities, outliers, in a social network? Which are the most central nodes in a network? These are the questions that motivate this work. Networks and graphs appear in many diverse settings, for example in social networks, computer-communication networks (intrusion detection, traffic management), protein-protein interaction networks in biology, document-text bipartite graphs in text retrieval, person-account graphs in financial fraud detection, and others. In this work, first we list several surprising patterns that real graphs tend to follow. Then we give a detailed list of generators that try to mirror these patterns. Generators are important, because they can help with "what if" scenarios, extrapolations, and anonymization. Then we provide a list of powerful tools for graph analysis, and specifically spectral methods (Singular Value Decomposition (SVD)), tensors, and case studies like the famous "pageRank" algorithm and the "HITS" algorithm for ranking web search results. Finally, we conclude with a survey of tools and observations from related fields like sociology, which provide complementary viewpoints. Table of Contents: Introduction / Patterns in Static Graphs / Patterns in Evolving Graphs / Patterns in Weighted Graphs / Discussion: The Structure of Specific Graphs / Discussion: Power

Laws and Deviations / Summary of Patterns / Graph Generators / Preferential Attachment and Variants / Incorporating Geographical Information / The RMat / Graph Generation by Kronecker Multiplication / Summary and Practitioner's Guide / SVD, Random Walks, and Tensors / Tensors / Community Detection / Influence/Virus Propagation and Immunization / Case Studies / Social Networks / Other Related Work / Conclusions

NMR Case Studies CRC Press

Many companies have invested in building large databases and data warehouses capable of storing vast amounts of information. This book offers business, sales and marketing managers a practical guide to accessing such information.

Commercial Data Mining IGI Global

The field of data mining provides techniques for automated discovery of valuable information from the accumulated data of computerized operations of enterprises. This book offers a clear and comprehensive introduction to both data mining theory and practice. It is written primarily as a textbook for the students of computer science, management, computer applications, and information technology. The book ensures that the students learn the major data mining techniques even if they do not have a strong mathematical background. The techniques include data pre-processing, association rule mining, supervised classification, cluster analysis, web data mining, search engine query mining, data warehousing and OLAP. To enhance the understanding of the concepts introduced, and to show how the techniques described in the book are used in practice, each chapter is followed by one or two case studies that have been published in scholarly journals. Most case studies deal with real business problems (for example, marketing, e-commerce, CRM). Studying the case studies provides the reader with a greater insight into the data mining techniques. The book also provides many examples, review questions, multiple choice questions, chapter-end exercises and a good list of references and Web resources especially those which are easy to understand and useful for students. A number of class projects have also been included.

APPLIED DATA MINING FOR BUSINESS AND INDUSTRY

Springer Science & Business Media

R and Data Mining introduces researchers, post-graduate students, and analysts to data mining using R, a free software

environment for statistical computing and graphics. The book provides practical methods for using R in applications from academia to industry to extract knowledge from vast amounts of data. Readers will find this book a valuable guide to the use of R in tasks such as classification and prediction, clustering, outlier detection, association rules, sequence analysis, text mining, social network analysis, sentiment analysis, and more. Data mining techniques are growing in popularity in a broad range of areas, from banking to insurance, retail, telecom, medicine, research, and government. This book focuses on the modeling phase of the data mining process, also addressing data exploration and model evaluation. With three in-depth case studies, a quick reference guide, bibliography, and links to a wealth of online resources, R and Data Mining is a valuable, practical guide to a powerful method of analysis. Presents an introduction into using R for data mining applications, covering most popular data mining techniques Provides code examples and data so that readers can easily learn the techniques Features case studies in real-world applications to help readers apply the techniques in their work

Data Mining and Medical Knowledge Management: Cases and Applications Springer

This volume introduces data mining through case studies of enrollment management. Six case studies employed data mining for solving real-life issues in enrollment yield, retention, transfer-outs, utilization of advanced-placement scores, and predicting graduation rates, among others. The authors furnish a tangible sense of data mining at work. The volume also demonstrates that data mining bears great potential to enhance institutional research. The opening chapter deciphers the similarities and differences between data mining and statistics, debunks the myths surrounding both data mining and traditional statistics, and points out the intrinsic conflict between statistical inference and the emerging need for individual pattern recognition and resulting customized treatment of students - the so-called new reality in applied institutional research. This is the 131st volume of New Directions for Institutional Research, a quarterly journal published by Jossey-Bass. Click here to see the entire list of titles for New Directions for Institutional Research.

Humanities Data Analysis Academic Press

Data mining can be defined as the process of selection,

exploration and modelling of large databases, in order to discover models and patterns. The increasing availability of data in the current information society has led to the need for valid tools for its modelling and analysis. Data mining and applied statistical methods are the appropriate tools to extract such knowledge from data. Applications occur in many different fields, including statistics, computer science, machine learning, economics, marketing and finance. This book is the first to describe applied data mining methods in a consistent statistical framework, and then show how they can be applied in practice. All the methods described are either computational, or of a statistical modelling nature. Complex probabilistic models and mathematical tools are not used, so the book is accessible to a wide audience of students and industry professionals. The second half of the book consists of nine case studies, taken from the author's own work in industry, that demonstrate how the methods described can be applied to real problems. Provides a solid introduction to applied data mining methods in a consistent statistical framework Includes coverage of classical, multivariate and Bayesian statistical methodology Includes many recent developments such as web mining, sequential Bayesian analysis and memory based reasoning Each statistical method described is illustrated with real life applications Features a number of detailed case studies based on applied projects within industry Incorporates discussion on software used in data mining, with particular emphasis on SAS Supported by a website featuring data sets, software and additional material Includes an extensive bibliography and pointers to further reading within the text Author has many years experience teaching introductory and multivariate statistics and data mining, and working on applied projects within industry A valuable resource for advanced undergraduate and graduate students of applied statistics, data mining, computer science and economics, as well as for professionals working in industry on projects involving large volumes of data - such as in marketing or financial risk management.

APPLICATIONS OF DATA MANAGEMENT AND ANALYSIS

Apress

This book explores the concepts of data mining and data warehousing, a promising and flourishing frontier in database systems, and presents a broad, yet in-depth overview of the field

of data mining. Data mining is a multidisciplinary field, drawing work from areas including database technology, artificial intelligence, machine learning, neural networks, statistics, pattern recognition, knowledge based systems, knowledge acquisition, information retrieval, high performance computing and data visualization.

Data Science in R Princeton University Press

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. *Text Mining and Analysis* Springer Addresses the impacts of data mining on education and reviews applications in educational research teaching, and learning This book discusses the insights, challenges, issues, expectations, and practical implementation of data mining (DM) within educational mandates. Initial series of chapters offer a general overview of DM, Learning Analytics (LA), and data collection models in the context of educational research, while also defining and discussing data mining's four guiding principles— prediction, clustering, rule association, and outlier detection. The next series of chapters showcase the pedagogical applications of Educational Data Mining (EDM) and feature case studies drawn from Business, Humanities, Health Sciences, Linguistics, and Physical Sciences education that serve to highlight the successes and some of the

limitations of data mining research applications in educational settings. The remaining chapters focus exclusively on EDM's emerging role in helping to advance educational research—from identifying at-risk students and closing socioeconomic gaps in achievement to aiding in teacher evaluation and facilitating peer conferencing. This book features contributions from international experts in a variety of fields. Includes case studies where data mining techniques have been effectively applied to advance teaching and learning Addresses applications of data mining in educational research, including: social networking and education; policy and legislation in the classroom; and identification of at-risk students Explores Massive Open Online Courses (MOOCs) to study the effectiveness of online networks in promoting learning and understanding the communication patterns among users and students Features supplementary resources including a primer on foundational aspects of educational mining and learning analytics Data Mining and Learning Analytics: Applications in Educational Research is written for both scientists in EDM and educators interested in using and integrating DM and LA to improve education and advance educational research.

Introduction to Data Mining and its Applications Academic Press This handbook on Artificial Intelligence (AI) in healthcare consists of two volumes. The first volume is dedicated to advances and applications of AI methodologies in specific healthcare problems, while the second volume is concerned with general practicality issues and challenges and future prospects in the healthcare context. The advent of digital and computing technologies has created a surge in the development of AI methodologies and their penetration to a variety of activities in our daily lives in recent years. Indeed, researchers and practitioners have designed and developed a variety of AI-based systems to help advance health and well-being of humans. In this first volume, we present a number of latest studies in AI-based tools and techniques from two broad categories, viz., medical signal, image, and video processing as well as healthcare information and data analytics in Part 1 and Part 2, respectively. These selected studies offer readers practical knowledge and understanding pertaining to the recent advances and applications of AI in the healthcare sector.

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