Analytics In A Big Data World Bart Baesens Pdf

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Web Scraping for Data Science with Python - Seppe vanden Broucke 2017-11-30
Get Started with Web Scraping using Python! Congratulations! By picking up this book, you've set the first steps into the exciting world of web scraping. For those who are not familiar with programming or the deeper workings of the web, web scraping often looks like a black art: the ability to write a program that sets off on its own to explore the Internet and collect data is seen as a magical and exciting ability to possess. In this book, we set out to provide a concise and modern guide to web scraping, using Python as our programming language, without glossing over important details or best practices. In addition, this book is written with a data science audience in mind. We're data scientists ourselves, and have very often found web scraping to be a powerful tool to have in your arsenal, as many data science projects start with the first step of obtaining an appropriate data set, so why not utilize the treasure trove of information the web provides. As such, we've strived to offer a guide that: Is concise and to the point, whilst also being thorough Is geared towards data scientists: we'll show you how web scraping fits into the data science workflow Takes a "code first" approach to get you up to speed quickly without too much boilerplate text Is modern by using well-established best practices and Python packages only Shows how to handle the web of today, including JavaScript, cookies, and common web scraping mitigation techniques Includes a thorough managerial and legal discussion regarding web scraping Provides lots of pointers for further reading and learning Includes many larger, fully worked out examples Chapter Overview Nine chapters are included in this book. In Chapter 1, we provide a brief overview on web scraping and real-life use cases and make sure your Python environment is set up correctly. In Chapter 2, you'll learn the basics regarding HTTP, the core piece of technology behind the web, and the requests Python library. In Chapter 3, we start working with HTML and CSS sites, using the Beautiful Soup library. Chapter 4 returns to HTTP, exploring it more detail. Chapter 5 introduces the Selenium library, which you'll use to scrape JavaScript-heavy websites. Chapter 6 explains web crawling in detail. In Chapter 7, an in-depth discussion regarding managerial and legal concerns is provided. Chapter 8 recaps best practices and provides pointers to other tools. Chapter 9 includes fourteen, fully worked out web scraping examples bringing everything you've learned together, and illustrates various interesting data science oriented use cases.

Fraud Analytics with SAS - 2019-06-21
SAS software provides many different techniques to monitor in real time and investigate your data, and several groundbreaking papers have been written to demonstrate how to use these techniques. Topics covered illustrate the power of SAS solutions that are available as tools for fraud analytics, highlighting a variety of domains, including money laundering, financial crime, and terrorism. Also available free as a PDF from: sas.com/books.

Adoption of Data Analytics in Higher Education Learning and Teaching - Dirk Ifenthaler 2020-08-10
The book aims to advance global knowledge and practice in applying data science to transform higher education learning and teaching to improve personalization, access and effectiveness of education for all. Currently, higher education institutions and involved stakeholders can derive multiple benefits from educational data mining and learning analytics by using different data analytics strategies to produce summative, real-time, and predictive or prescriptive insights and recommendations. Educational data mining refers to the process of extracting useful information out of a large collection of complex

educational datasets while learning analytics emphasizes insights and responses to real-time learning processes based on educational information from digital learning environments, administrative systems, and social platforms. This volume provides insight into the emerging paradigms, frameworks, methods and processes of managing change to better facilitate organizational transformation toward implementation of educational data mining and learning analytics. It features current research exploring the (a) theoretical foundation and empirical evidence of the adoption of learning analytics, (b) technological infrastructure and staff capabilities required, as well as (c) case studies that describe current practices and experiences in the use of data analytics in higher education.

Privacy, Big Data, and the Public Good - Julia Lane 2014-06-09
Massive amounts of data on human beings can now be analyzed. Pragmatic purposes abound, including selling goods and services, winning political campaigns, and identifying possible terrorists. Yet 'big data' can also be harnessed to serve the public good: scientists can use big data to do research that improves the lives of human beings, improves government services, and reduces taxpayer costs. In order to achieve this goal, researchers must have access to this data - raising important privacy questions. What are the ethical and legal requirements? What are the rules of engagement? What are the best ways to provide access while also protecting confidentiality? Are there reasonable mechanisms to compensate citizens for privacy loss? The goal of this book is to answer some of these questions. The book's authors paint an intellectual landscape that includes legal, economic, and statistical frameworks. The authors also identify new practical approaches that simultaneously maximize the utility of data access while minimizing information risk.

Minding the Machines - Jeremy Adamson 2021-06-25
Organize, plan, and build an exceptional data analytics team within your organization In Minding the Machines: Building and Leading Data Science and Analytics Teams, AI and analytics strategy expert Jeremy Adamson delivers an accessible and insightful roadmap to structuring and leading a successful analytics team. The book explores the tasks, strategies, methods, and frameworks necessary for an organization beginning their first foray into the analytics space or one that is rebooting its team for the umpteenth time in search of success. In this book, you'll discover: A focus on the three pillars of strategy, process, and people and their role in the iterative and ongoing effort of building an analytics team Repeated emphasis on three guiding principles followed by successful analytics teams: start early, go slow, and fully commit The importance of creating clear goals and objectives when creating a new analytics unit in an organization Perfect for executives, managers, team leads, and other business leaders tasked with structuring and leading a successful analytics team, Minding the Machines is also an indispensable resource for data scientists and analysts who seek to better understand how their individual efforts fit into their team's overall results.

Big Data and Learning Analytics in Higher Education - Ben Kei Daniel 2016-08-27
This book focuses on the uses of big data in the context of higher education. The book describes a wide range of administrative and operational data gathering processes aimed at assessing institutional performance and progress in order to predict future performance, and identifies potential issues related to academic programming, research, teaching and learning. Big data refers to data which is fundamentally too big and complex and moves too fast for the processing capacity of conventional database systems. The

value of big data is the ability to identify useful data and turn it into useable information by identifying patterns and deviations from patterns.

Exploring the Boundaries of Big Data - Bart van der Sloot 2016
Though the exact nature and delineation of Big Data is still unclear, it seems likely that Big Data will have an enormous impact on our daily lives. 'Exploring the Boundaries of Big Data' serves as preparatory work for The Netherlands Scientific Council for Government Policy's advice to the Dutch government, which has asked the Council to address questions regarding Big Data, security and privacy. It is divided into five parts, each part engaging with a different perspective on Big Data: the technical, empirical, legal, regulatory and international perspective.

Managing Model Risk - Bart Baesens 2021-06-30
Get up to speed on identifying and tackling model risk! Managing Model Risk provides data science practitioners, business professionals and analytics managers with a comprehensive guide to understand and tackle the fundamental concept of analytical model risk in terms of data, model specification, model development, model validation, model operationalization, model security and model management. Providing state of the art industry and research insights based on the author''s extensive experience, this illustrated textbook has a well-balanced theory-practice focus and covers all essential topics. Key Features: Extensive coverage of important trending topics and their risk impact on analytical models, starting from the raw data up until the operationalization, security and management. Various examples and case studies to highlight the topics discussed. Key references to background literature for further clarification. An online website with various add-ons and recent developments: www.managingmodelriskbook.com. What Makes this Book Different? This book is based on both authors having worked in analytics for more than 30 years combined, both in industry and academia. Both authors have co-authored more than 300 scientific publications on analytics and machine learning and have worked with firms in different industries, including (online) retailers, financial institutions, manufacturing firms, insurance providers, governments, etc. all over the globe estimating, deploying and validating analytical models. Throughout this time, we have read many books about analytical modeling and data science, which are typically written from the perspective of a theorist, providing lots of details with regards to different model algorithms and related mathematics, but with limited attention being given to how such models are used in practice. If such concerns are tackled, it is mainly from an implementation, use case or data engineering perspective. From our own experience, however, we have encountered many cases where analytics, AI, machine learning etc. fail in organizations, even with skilled people working on them, due to a myriad of reasons: bad data quality, difficulties in terms of model deployment, lack of model buy-in, incorrect definitions of underlying goals, wrong evaluation metrics, unrealistic expectations and many other issues can arise which cause models to fail in practice. Most of these issues have nothing to do with the actual algorithm being used to construct the model, but rather with everything else surrounding it: data, governance, maintenance, business, management, the economy, budgeting, culture etc. As such, we wanted to offer a new perspective with this book: it aims to provide a unique mix of both practical and research-based insights and report on do''s and don''ts for model risk management. Model risk issues are not only highlighted but also recommendations are given on how to deal with them, where possible. Target Audience This book is targeted towards everyone who has previously been exposed to both predictive and descriptive analytics. The reader should hence have some basic understanding of the analytics process model, the key activities of data preprocessing, the steps involved in developing a predictive analytics model (using e.g. linear or logistic regression, decision trees, etc.) and a descriptive analytics model (using e.g. association or sequence rules or clustering techniques). It is also important to be aware of how an analytical model can be properly evaluated, both in terms of accuracy and interpretation. This book aims to offer a comprehensive guide for both data scientists as well as (C-level) executives and data science or engineering leads, decision-makers and managers who want to know the key underlying concepts of analytical model risk.

The Big R-Book - Philippe J. S. De Brouwer 2020-10-27
Introduces professionals and scientists to statistics and machine learning using the programming language R Written by and for practitioners, this book provides an overall introduction to R, focusing on tools and methods commonly used in data science, and placing emphasis on practice and business use. It covers a wide range of topics in a single volume, including big data, databases, statistical machine learning, data wrangling, data visualization, and the reporting of results. The topics covered are all important for someone with a science/math background that is looking to quickly learn several practical technologies to enter or transition to the growing field of data science. The Big R-Book for Professionals: From Data Science to Learning Machines and Reporting with R includes nine parts, starting with an introduction to the subject and followed by an overview of R and elements of statistics. The third part revolves around data, while the fourth focuses on data wrangling. Part 5 teaches readers about exploring data. In Part 6 we learn to build models, Part 7 introduces the reader to the reality in companies, Part 8 covers reports and interactive applications and finally Part 9 introduces the reader to big data and performance computing. It also includes some helpful appendices. Provides a practical guide for non-experts with a focus on business users Contains a unique combination of topics including an introduction to R, machine learning, mathematical models, data wrangling, and reporting Uses a practical tone and integrates multiple topics in a coherent framework Demystifies the hype around machine learning and AI by enabling readers to understand the provided models and program them in R Shows readers how to visualize results in static and interactive reports Supplementary materials includes PDF slides based on the book's content, as well as all the extracted R-code and is available to everyone on a Wiley Book Companion Site The Big R-Book is an excellent guide for science technology, engineering, or mathematics students who wish to make a successful transition from the academic world to the professional. It will also appeal to all young data scientists, quantitative analysts, and analytics professionals, as well as those who make mathematical models.

Bayesian Data Analysis, Third Edition - Andrew Gelman 2013-11-01
Now in its third edition, this classic book is widely considered the leading text on Bayesian methods, lauded for its accessible, practical approach to analyzing data and solving research problems. Bayesian Data Analysis, Third Edition continues to take an applied approach to analysis using up-to-date Bayesian methods. The authors—all leaders in the statistics community—introduce basic concepts from a data-analytic perspective before presenting advanced methods. Throughout the text, numerous worked examples drawn from real applications and research emphasize the use of Bayesian inference in practice. New to the Third Edition Four new chapters on nonparametric modeling Coverage of weakly informative priors and boundary-avoiding priors Updated discussion of cross-validation and predictive information criteria Improved convergence monitoring and effective sample size calculations for iterative simulation Presentations of Hamiltonian Monte Carlo, variational Bayes, and expectation propagation New and revised software code The book can be used in three different ways. For undergraduate students, it introduces Bayesian inference starting from first principles. For graduate students, the text presents effective current approaches to Bayesian modeling and computation in statistics and related fields. For researchers, it provides an assortment of Bayesian methods in applied statistics. Additional materials, including data sets used in the examples, solutions to selected exercises, and software instructions, are available on the book's web page.

Analytics in a Big Data World - Bart Baesens 2014-04-15
The guide to targeting and leveraging business opportunities using big data & analytics By leveraging big data & analytics, businesses create the potential to better understand, manage, and strategically exploiting the complex dynamics of customer behavior. Analytics in a Big Data World reveals how to tap into the powerful tool of data analytics to create a strategic advantage and identify new business opportunities. Designed to be an accessible resource, this essential book does not include exhaustive coverage of all analytical techniques, instead focusing on analytics techniques that really provide added value in business environments. The book draws on author Bart Baesens' expertise on the topics of big data, analytics and its applications in e.g. credit risk, marketing, and fraud to provide a clear roadmap for organizations that want to use data analytics to their advantage, but need a good starting point. Baesens has conducted extensive research on big data, analytics, customer relationship management, web analytics, fraud detection, and credit risk management, and uses this experience to bring clarity to a complex topic. Includes numerous case studies on risk management, fraud detection, customer relationship management, and web analytics Offers the results of research and the author's personal experience in banking, retail, and government

Contains an overview of the visionary ideas and current developments on the strategic use of analytics for business Covers the topic of data analytics in easy-to-understand terms without an undo emphasis on mathematics and the minutiae of statistical analysis For organizations looking to enhance their capabilities via data analytics, this resource is the go-to reference for leveraging data to enhance business capabilities.

Credit Risk Management - Tony Van Gestel 2009
This first of three volumes on credit risk management, providing a thorough introduction to financial risk management and modelling.

Information Warfare - Daniel Ventre 2016-02-15
Cyberspace is one of the major bases of the economic development of industrialized societies and developing. The dependence of modern society in this technological area is also one of its vulnerabilities. Cyberspace allows new power policy and strategy, broadens the scope of the actors of the conflict by offering to both state and non-state new weapons, new ways of offensive and defensive operations. This book deals with the concept of "information war", covering its development over the last two decades and seeks to answer the following questions: is the control of the information space really possible remains or she a utopia? What power would confer such control, what are the benefits?

Big Data in Organizations and the Role of Human Resource Management - Tobias M. Scholz 2017
Big data are changing the way we work. This book conveys a theoretical understanding of big data and the related interactions on a socio-technological level as well as on the organizational level. Big data challenge the human resource department to take a new role. An organization's new competitive advantage is its employees augmented by big data.

Advanced Database Marketing - Koen W. De Bock 2016-03-23
While the definition of database marketing hasn't changed, its meaning has become more vivid, versatile and exciting than ever before. Advanced Database Marketing provides a state-of-the-art guide to the methods and applications that define this new era in database marketing, including advances in areas such as text mining, recommendation systems, internet marketing, and dynamic customer management. An impressive list of contributors including many of the thought-leaders in database marketing from across the world bring together chapters that combine the best academic research and business applications. The result is a definitive guide and reference for marketing and brand analysts, masters students, teachers and researchers in marketing analytics. The proliferation of marketing platforms and channels and the complexity of customer interactions create an urgent need for a multidisciplinary and analytical toolkit. Advanced Database Marketing is a resource to enable marketers to achieve insights and increased financial performance; to provide them with the capability to implement and evaluate approaches to marketing that will meet, in equal measure, the changing needs of customers and the businesses that serve them.

Machine Learning and Data Science - Prateek Agrawal 2022-07-25
MACHINE LEARNING AND DATA SCIENCE Written and edited by a team of experts in the field, this collection of papers reflects the most up-to-date and comprehensive current state of machine learning and data science for industry, government, and academia. Machine learning (ML) and data science (DS) are very active topics with an extensive scope, both in terms of theory and applications. They have been established as an important emergent scientific field and paradigm driving research evolution in such disciplines as statistics, computing science and intelligence science, and practical transformation in such domains as science, engineering, the public sector, business, social science, and lifestyle. Simultaneously, their applications provide important challenges that can often be addressed only with innovative machine learning and data science algorithms. These algorithms encompass the larger areas of artificial intelligence, data analytics, machine learning, pattern recognition, natural language understanding, and big data manipulation. They also tackle related new scientific challenges, ranging from data capture, creation, storage, retrieval, sharing, analysis, optimization, and visualization, to integrative analysis across heterogeneous and interdependent complex resources for better decision-making, collaboration, and, ultimately, value creation.

Big Data in Psychological Research - Sang Eun Woo 2020-06-23
Big Data in Psychological Research provides an overview of big data theory, research design and analysis, collection methods, applications, ethical concerns, best practices, and future research directions for psychologists.

The Book of R - Tilman M. Davies 2016-07-16
The Book of R is a comprehensive, beginner-friendly guide to R, the world's most popular programming language for statistical analysis. Even if you have no programming experience and little more than a grounding in the basics of mathematics, you'll find everything you need to begin using R effectively for statistical analysis. You'll start with the basics, like how to handle data and write simple programs, before moving on to more advanced topics, like producing statistical summaries of your data and performing statistical tests and modeling. You'll even learn how to create impressive data visualizations with R's basic graphics tools and contributed packages, like ggplot2 and ggvis, as well as interactive 3D visualizations using the rgl package. Dozens of hands-on exercises (with downloadable solutions) take you from theory to practice, as you learn: –The fundamentals of programming in R, including how to write data frames, create functions, and use variables, statements, and loops –Statistical concepts like exploratory data analysis, probabilities, hypothesis tests, and regression modeling, and how to execute them in R –How to access R's thousands of functions, libraries, and data sets –How to draw valid and useful conclusions from your data –How to create publication-quality graphics of your results Combining detailed explanations with real-world examples and exercises, this book will provide you with a solid understanding of both statistics and the depth of R's functionality. Make The Book of R your doorway into the growing world of data analysis.

Principles of Database Management - Wilfried Lemahieu 2018-07-12
Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

Beginning Java Programming - Bart Baesens 2015-02-11
A comprehensive Java guide, with samples, exercises, casestudies, and step-by-step instruction Beginning Java Programming: The Object Oriented Approachis a straightforward resource for getting started with one of theworld's most enduringly popular programming languages. Based onclasses taught by the authors, the book starts with the basics andgradually builds into more advanced concepts. The approach utilizesan integrated development environment that allows readers toimmediately apply what they learn, and includes step-by-stepinstruction with plenty of sample programs. Each chapter containsexercises based on real-world business and educational scenarios,and the final chapter uses case studies to combine several conceptsand put readers' new skills to the test. Beginning Java Programming: The Object Oriented Approachprovides both the information and the tools beginners need todevelop Java skills, from the general concepts of object-orientedprogramming. Learn to: Understand the Java language and object-oriented conceptimplementation Use Java to access and manipulate external data Make applications accessible to users with GUIs Streamline workflow with object-oriented patterns The book is geared for those who want to use Java in an appliedenvironment while learning at the same time. Useful as either acourse text or a stand-alone self-study program, Beginning JavaProgramming is a thorough, comprehensive guide.

Credit Risk Analytics - Harald Scheule 2017-11-23
Credit risk analytics in R will enable you to build credit risk models from start to finish. Accessing real credit data via the accompanying website www.creditriskanalytics.net, you will master a wide range of applications, including building your own PD, LGD and EAD models as well as mastering industry challenges such as reject inference, low default portfolio risk modeling, model validation and stress testing. This book has been written as a companion to Baesens, B., Roesch, D. and Scheule, H., 2016. Credit Risk Analytics: Measurement Techniques, Applications, and Examples in SAS. John Wiley & Sons.

Introducing Data Science - Davy Cielen 2016-05-02
Summary Introducing Data Science teaches you how to accomplish the fundamental tasks that occupy data scientists. Using the Python language and common Python libraries, you'll experience firsthand the challenges of dealing with data at scale and gain a solid foundation in data science. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Many companies need developers with data science skills to work on projects ranging from social media marketing to machine learning. Discovering what you need to learn to begin a career as a data scientist can seem bewildering. This book is designed to help you get started. About the Book Introducing Data ScienceIntroducing Data Science explains vital data science concepts and teaches you how to

accomplish the fundamental tasks that occupy data scientists. You'll explore data visualization, graph databases, the use of NoSQL, and the data science process. You'll use the Python language and common Python libraries as you experience firsthand the challenges of dealing with data at scale. Discover how Python allows you to gain insights from data sets so big that they need to be stored on multiple machines, or from data moving so quickly that no single machine can handle it. This book gives you hands-on experience with the most popular Python data science libraries, Scikit-learn and StatsModels. After reading this book, you'll have the solid foundation you need to start a career in data science. What's Inside Handling large data Introduction to machine learning Using Python to work with data Writing data science algorithms About the Reader This book assumes you're comfortable reading code in Python or a similar language, such as C, Ruby, or JavaScript. No prior experience with data science is required. About the Authors Davy Cielen, Arno D. B. Meysman, and Mohamed Ali are the founders and managing partners of Optimately and Maiton, where they focus on developing data science projects and solutions in various sectors. Table of Contents Data science in a big data world The data science process Machine learning Handling large data on a single computer First steps in big data Join the NoSQL movement The rise of graph databases Text mining and text analytics Data visualization to the end user

Credit Risk Analytics - Bart Baesens 2016-10-03
The long-awaited, comprehensive guide to practical credit risk modeling Credit Risk Analytics provides a targeted training guide for risk managers looking to efficiently build or validate in-house models for credit risk management. Combining theory with practice, this book walks you through the fundamentals of credit risk management and shows you how to implement these concepts using the SAS credit risk management program, with helpful code provided. Coverage includes data analysis and preprocessing, credit scoring; PD and LGD estimation and forecasting, low default portfolios, correlation modeling and estimation, validation, implementation of prudential regulation, stress testing of existing modeling concepts, and more, to provide a one-stop tutorial and reference for credit risk analytics. The companion website offers examples of both real and simulated credit portfolio data to help you more easily implement the concepts discussed, and the expert author team provides practical insight on this real-world intersection of finance, statistics, and analytics. SAS is the preferred software for credit risk modeling due to its functionality and ability to process large amounts of data. This book shows you how to exploit the capabilities of this high-powered package to create clean, accurate credit risk management models. Understand the general concepts of credit risk management Validate and stress-test existing models Access working examples based on both real and simulated data Learn useful code for implementing and validating models in SAS Despite the high demand for in-house models, there is little comprehensive training available; practitioners are left to comb through piece-meal resources, executive training courses, and consultancies to cobble together the information they need. This book ends the search by providing a comprehensive, focused resource backed by expert guidance. Credit Risk Analytics is the reference every risk manager needs to streamline the modeling process.

The Big Data Agenda - Annika Richterich 2018-04-13
This book highlights that the capacity for gathering, analysing, and utilising vast amounts of digital (user) data raises significant ethical issues. Annika Richterich provides a systematic contemporary overview of the field of critical data studies that reflects on practices of digital data collection and analysis. The book assesses in detail one big data research area: biomedical studies, focused on epidemiological surveillance. Specific case studies explore how big data have been used in academic work. The Big Data Agenda concludes that the use of big data in research urgently needs to be considered from the vantage point of ethics and social justice. Drawing upon discourse ethics and critical data studies, Richterich argues that entanglements between big data research and technology/ internet corporations have emerged. In consequence, more opportunities for discussing and negotiating emerging research practices and their implications for societal values are needed.

Creating Value with Data Analytics in Marketing - Peter C. Verhoef 2021-11-08
This book is a refreshingly practical yet theoretically sound roadmap to leveraging data analytics and data science. The vast amount of data generated about us and our world is useless without plans and strategies that are designed to cope with its size and complexity, and which enable organizations to leverage the information to create value in marketing. Creating Value with Data Analytics in Marketing provides a nuanced view of big data developments and data science, arguing that big data is not a revolution but an evolution of the increasing availability of data that has been observed in recent times. Building on the authors' extensive academic and practical knowledge, this book aims to provide managers and analysts with strategic directions and practical analytical solutions on how to create value from existing and new big data. The second edition of this bestselling text has been fully updated in line with developments in the field and includes a selection of new, international cases and examples, exercises, techniques and methodologies. Tying data and analytics to specific goals and processes for implementation makes this essential reading for advanced undergraduate and postgraduate students and specialists of data analytics, marketing research, marketing management and customer relationship management. Online resources include chapter-by-chapter lecture slides and data sets and corresponding R code for selected chapters.

Fraud and Fraud Detection, + Website - Sunder Gee 2014-12-03
Detect fraud faster—no matter how well hidden—with IDEA automation Fraud and Fraud Detection takes an advanced approach to fraud management, providing step-by-step guidance on automating detection and forensics using CaseWare's IDEA software. The book begins by reviewing the major types of fraud, then details the specific computerized tests that can detect them. Readers will learn to use complex data analysis techniques, including automation scripts, allowing easier and more sensitive detection of anomalies that require further review. The companion website provides access to a demo version of IDEA, along with sample scripts that allow readers to immediately test the procedures from the book. Business systems' electronic databases have grown tremendously with the rise of big data, and will continue to increase at significant rates. Fraudulent transactions are easily hidden in these enormous datasets, but Fraud and Fraud Detection helps readers gain the data analytics skills that can bring these anomalies to light. Step-by-step instruction and practical advice provide the specific abilities that will enhance the audit and investigation process. Readers will learn to: Understand the different areas of fraud and their specific detection methods Identify anomalies and risk areas using computerized techniques Develop a step-by-step plan for detecting fraud through data analytics Utilize IDEA software to automate detection and identification procedures The delineation of detection techniques for each type of fraud makes this book a must-have for students and new fraud prevention professionals, and the step-by-step guidance to automation and complex analytics will prove useful for even experienced examiners. With datasets growing exponentially, increasing both the speed and sensitivity of detection helps fraud professionals stay ahead of the game. Fraud and Fraud Detection is a guide to more efficient, more effective fraud identification.

Applying Data Science - Gerhard Svolba 2017-03-29
See how data science can answer the questions your business faces! Applying Data Science: Business Case Studies Using SAS, by Gerhard Svolba, shows you the benefits of analytics, how to gain more insight into your data, and how to make better decisions. In eight entertaining and real-world case studies, Svolba combines data science and advanced analytics with business questions, illustrating them with data and SAS code. The case studies range from a variety of fields, including performing headcount survival analysis for employee retention, forecasting the demand for new projects, using Monte Carlo simulation to understand outcome distribution, among other topics. The data science methods covered include Kaplan-Meier estimates, Cox Proportional Hazard Regression, ARIMA models, Poisson regression, imputation of missing values, variable clustering, and much more! Written for business analysts, statisticians, data miners, data scientists, and SAS programmers, Applying Data Science bridges the gap between high-level, business-focused books that skimp on the details and technical books that only show SAS code with no business context.

Business Analytics, Volume I - Amar Sahay 2018-08-23
Business Analytics: A Data-Driven Decision Making Approach for Business-Part I,/i> provides an overview of business analytics (BA), business intelligence (BI), and the role and importance of these in the modern business decision-making. The book discusses all these areas along with three main analytics categories: (1) descriptive, (2) predictive, and (3) prescriptive analytics with their tools and applications in business. This volume focuses on descriptive analytics that involves the use of descriptive and visual or graphical methods, numerical methods, as well as data analysis tools, big data applications, and the use of data

dashboards to understand business performance. The highlights of this volume are: Business analytics at a glance; Business intelligence (BI), data analytics; Data, data types, descriptive analytics; Data visualization tools; Data visualization with big data; Descriptive analytics-numerical methods; Case analysis with computer applications.

Healthcare Business Intelligence - Laura Madsen 2012-07-20
Solid business intelligence guidance uniquely designed for healthcare organizations Increasing regulatory pressures on healthcare organizations have created a national conversation on data, reporting and analytics in healthcare. Behind the scenes, business intelligence (BI) and data warehousing (DW) capabilities are key drivers that empower these functions. Healthcare Business Intelligence is designed as a guidebook for healthcare organizations dipping their toes into the areas of business intelligence and data warehousing. This volume is essential in how a BI capability can ease the increasing regulatory reporting pressures on all healthcare organizations. Explores the five tenets of healthcare business intelligence Offers tips for creating a BI team Identifies what healthcare organizations should focus on first Shows you how to gain support for your BI program Provides tools and techniques that will jump start your BI Program Explains how to market and maintain your BI Program The risk associated with doing BI/DW wrong is high, and failures are well documented. Healthcare Business Intelligence helps you get it right, with expert guidance on getting your BI program started and successfully keep it going.

Urban Informatics - Wenzhong Shi 2021-04-06
This open access book is the first to systematically introduce the principles of urban informatics and its application to every aspect of the city that involves its functioning, control, management, and future planning. It introduces new models and tools being developed to understand and implement these technologies that enable cities to function more efficiently – to become 'smart' and 'sustainable'. The smart city has quickly emerged as computers have become ever smaller to the point where they can be embedded into the very fabric of the city, as well as being central to new ways in which the population can communicate and act. When cities are wired in this way, they have the potential to become sentient and responsive, generating massive streams of 'big' data in real time as well as providing immense opportunities for extracting new forms of urban data through crowdsourcing. This book offers a comprehensive review of the methods that form the core of urban informatics from various kinds of urban remote sensing to new approaches to machine learning and statistical modelling. It provides a detailed technical introduction to the wide array of tools information scientists need to develop the key urban analytics that are fundamental to learning about the smart city, and it outlines ways in which these tools can be used to inform design and policy so that cities can become more efficient with a greater concern for environment and equity.

Delivering Business Analytics - Evan Stubbs 2013-01-30
AVOID THE MISTAKES THAT OTHERS MAKE – LEARN WHAT LEADS TO BEST PRACTICE AND KICKSTART SUCCESS This groundbreaking resource provides comprehensive coverage across all aspects of business analytics, presenting proven management guidelines to drive sustainable differentiation. Through a rich set of case studies, author Evan Stubbs reviews solutions and examples to over twenty common problems spanning managing analytics assets and information, leveraging technology, nurturing skills, and defining processes. Delivering Business Analytics also outlines the Data Scientist's Code, fifteen principles that when followed ensure constant movement towards effective practice. Practical advice is offered for addressing various analytics issues; the advantages and disadvantages of each issue's solution; and how these solutions can optimally create organizational value. With an emphasis on real-world examples and pragmatic advice throughout, Delivering Business Analytics provides a reference guide on: The economic principles behind how business analytics leads to competitive differentiation The elements which define best practice The Data Scientist's Code, fifteen management principles that when followed help teams move towards best practice Practical solutions and frequent missteps to twenty-four common problems across people and process, systems and assets, and data and decision-making Drawing on the successes and failures of countless organizations, author Evan Stubbs provides a densely packed practical reference on how to increase the odds of success in designing business analytics systems and managing teams of data scientists. Uncover what constitutes best practice in business analytics and start achieving it

with Delivering Business Analytics.

Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques - Bart Baesens 2015-08-17
Detect fraud earlier to mitigate loss and prevent cascading damage Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques is an authoritative guidebook for setting up a comprehensive fraud detection analytics solution. Early detection is a key factor in mitigating fraud damage, but it involves more specialized techniques than detecting fraud at the more advanced stages. This invaluable guide details both the theory and technical aspects of these techniques, and provides expert insight into streamlining implementation. Coverage includes data gathering, preprocessing, model building, and post-implementation, with comprehensive guidance on various learning techniques and the data types utilized by each. These techniques are effective for fraud detection across industry boundaries, including applications in insurance fraud, credit card fraud, anti-money laundering, healthcare fraud, telecommunications fraud, click fraud, tax evasion, and more, giving you a highly practical framework for fraud prevention. It is estimated that a typical organization loses about 5% of its revenue to fraud every year. More effective fraud detection is possible, and this book describes the various analytical techniques your organization must implement to put a stop to the revenue leak. Examine fraud patterns in historical data Utilize labeled, unlabeled, and networked data Detect fraud before the damage cascades Reduce losses, increase recovery, and tighten security The longer fraud is allowed to go on, the more harm it causes. It expands exponentially, sending ripples of damage throughout the organization, and becomes more and more complex to track, stop, and reverse. Fraud prevention relies on early and effective fraud detection, enabled by the techniques discussed here. Fraud Analytics Using Descriptive, Predictive, and Social Network Techniques helps you stop fraud in its tracks, and eliminate the opportunities for future occurrence.

Entertainment Science - Thorsten Hennig-Thurau 2018-08-01
The entertainment industry has long been dominated by legendary screenwriter William Goldman's "Nobody-Knows-Anything" mantra, which argues that success is the result of managerial intuition and instinct. This book builds the case that combining such intuition with data analytics and rigorous scholarly knowledge provides a source of sustainable competitive advantage – the same recipe for success that is behind the rise of firms such as Netflix and Spotify, but has also fueled Disney's recent success. Unlocking a large repertoire of scientific studies by business scholars and entertainment economists, the authors identify essential factors, mechanisms, and methods that help a new entertainment product succeed. The book thus offers a timely alternative to "Nobody-Knows" decision-making in the digital era: while coupling a good idea with smart data analytics and entertainment theory cannot guarantee a hit, it systematically and substantially increases the probability of success in the entertainment industry. Entertainment Science is poised to inspire fresh new thinking among managers, students of entertainment, and scholars alike. Thorsten Hennig-Thurau and Mark B. Houston – two of our finest scholars in the area of entertainment marketing – have produced a definitive research-based compendium that cuts across various branches of the arts to explain the phenomena that provide consumption experiences to capture the hearts and minds of audiences. Morris B. Holbrook, W. T. Dillard Professor Emeritus of Marketing, Columbia University Entertainment Science is a must-read for everyone working in the entertainment industry today, where the impact of digital and the use of big data can't be ignored anymore. Hennig-Thurau and Houston are the scientific frontrunners of knowledge that the industry urgently needs. Michael Kölmel, media entrepreneur and Honorary Professor of Media Economics at University of Leipzig Entertainment Science's winning combination of creativity, theory, and data analytics offers managers in the creative industries and beyond a novel, compelling, and comprehensive approach to support their decision-making. This ground-breaking book marks the dawn of a new Golden Age of fruitful conversation between entertainment scholars, managers, and artists. Allègre Hadida, Associate Professor in Strategy, University of Cambridge

The Reign of the Customer - Claes Fornell 2020-03-27
With major retailers closing brick-and-mortar stores every month and the continued shift to online shopping, there is a major push to strengthen customer loyalty by improving the customer experience. The two most important qualities that consumers look for are convenience and efficiency. Finally a source is available that will give retailers and companies in general the insight needed to enhance customer

satisfaction while improving the overall shopping experience. This book uses the world-leading findings from the American Customer Satisfaction Index (ACSI) and its accompanying Global Customer Satisfaction Index (GCSI) – invaluable, incomparable sources of consumer insights and information, to inform best practices for improving the consumer experience, better satisfying customers, and achieving profitable customer loyalty today and into the rapidly changing future. This book will help us understand where we were, where we are today, and where we are heading tomorrow in providing exceptional customer experiences. It is a must-read for marketing professionals and customer-focused senior executives alike.

Data Science and Big Data Analytics - EMC Education Services 2015-01-05
Data Science and Big Data Analytics is about harnessing the power of data for new insights. The book covers the breadth of activities and methods and tools that Data Scientists use. The content focuses on concepts, principles and practical applications that are applicable to any industry and technology environment, and the learning is supported and explained with examples that you can replicate using open-source software. This book will help you: Become a contributor on a data science team Deploy a structured lifecycle approach to data analytics problems Apply appropriate analytic techniques and tools to analyzing big data Learn how to tell a compelling story with data to drive business action Prepare for EMC Proven Professional Data Science Certification Corresponding data sets are available from the book's page at Wiley which you can find on the Wiley site by searching for the ISBN 9781118876138. Get started discovering, analyzing, visualizing, and presenting data in a meaningful way today!

Big Data Computing - Rajendra Akerkar 2013-12-05
Due to market forces and technological evolution, Big Data computing is developing at an increasing rate. A wide variety of novel approaches and tools have emerged to tackle the challenges of Big Data, creating both more opportunities and more challenges for students and professionals in the field of data computation and analysis. Presenting a mix of industry cases and theory, Big Data Computing discusses the technical and practical issues related to Big Data in intelligent information management. Emphasizing the adoption and diffusion of Big Data tools and technologies in industry, the book introduces a broad range of Big Data concepts, tools, and techniques. It covers a wide range of research, and provides comparisons between state-of-the-art approaches. Comprised of five sections, the book focuses on: What Big Data is and why it is important Semantic technologies Tools and methods Business and economic perspectives Big Data applications across industries

Visual Six Sigma - Ian Cox 2016-06-27
Streamline data analysis with an intuitive, visual Six Sigma strategy Visual Six Sigma provides the statistical techniques that help you get more information from your data. A unique emphasis on the visual allows you to take a more active role in data-driven decision making, so you can leverage your contextual knowledge to pose relevant questions and make more sound decisions. You'll learn dynamic visualization and exploratory data analysis techniques that help you identify occurrences and sources of variation, and the strategies and processes that make Six Sigma work for your organization. The Six Sigma strategy helps you identify and remove causes of defects and errors in manufacturing and business processes; the more pragmatic Visual approach opens the strategy beyond the realms of statisticians to provide value to all business leaders amid the growing need for more accessible quality management tools. See where, why, and how your data varies Find clues to underlying behavior in your data Identify key models and drivers Build your own Six-Sigma experience Whether your work involves a Six Sigma improvement project, a design project, a data-mining inquiry, or a scientific study, this practical breakthrough guide equips you with the skills and understanding to get more from your data. With intuitive, easy-to-use tools and clear explanations, Visual Six Sigma is a roadmap to putting this strategy to work for your company.

Profit Driven Business Analytics - Wouter Verbeke 2017-09-22
Maximize profit and optimize decisions with advanced business analytics Profit-Driven Business Analytics provides actionable guidance on optimizing the use of data to add value and drive better business. Combining theoretical and technical insights into daily operations and long-term strategy, this book acts as a development manual for practitioners seeking to conceive, develop, and manage advanced analytical models. Detailed discussion delves into the wide range of analytical approaches and modeling techniques that can help maximize business payoff, and the author team draws upon their recent research to share deep insight about optimal strategy. Real-life case studies and examples illustrate these techniques at work, and provide clear guidance for implementation in your own organization. From step-by-step instruction on data handling, to analytical fine-tuning, to evaluating results, this guide provides invaluable guidance for practitioners seeking to reap the advantages of true business analytics. Despite widespread discussion surrounding the value of data in decision making, few businesses have adopted advanced analytic techniques in any meaningful way. This book shows you how to delve deeper into the data and discover what it can do for your business. Reinforce basic analytics to maximize profits Adopt the tools and techniques of successful integration Implement more advanced analytics with a value-centric approach Fine-tune analytical information to optimize business decisions Both data stored and streamed has been increasing at an exponential rate, and failing to use it to the fullest advantage equates to leaving money on the table. From bolstering current efforts to implementing a full-scale analytics initiative, the vast majority of businesses will see greater profit by applying advanced methods. Profit-Driven Business Analytics provides a practical guidebook and reference for adopting real business analytics techniques.

Group Privacy - Linnet Taylor 2016-12-28
The goal of the book is to present the latest research on the new challenges of data technologies. It will offer an overview of the social, ethical and legal problems posed by group profiling, big data and predictive analysis and of the different approaches and methods that can be used to address them. In doing so, it will help the reader to gain a better grasp of the ethical and legal conundrums posed by group profiling. The volume first maps the current and emerging uses of new data technologies and clarifies the promises and dangers of group profiling in real life situations. It then balances this with an analysis of how far the current legal paradigm grants group rights to privacy and data protection, and discusses possible routes to addressing these problems. Finally, an afterword gathers the conclusions reached by the different authors and discuss future perspectives on regulating new data technologies.

Practical Web Scraping for Data Science - Seppe vanden Broucke 2018-04-18
This book provides a complete and modern guide to web scraping, using Python as the programming language, without glossing over important details or best practices. Written with a data science audience in mind, the book explores both scraping and the larger context of web technologies in which it operates, to ensure full understanding. The authors recommend web scraping as a powerful tool for any data scientist's arsenal, as many data science projects start by obtaining an appropriate data set. Starting with a brief overview on scraping and real-life use cases, the authors explore the core concepts of HTTP, HTML, and CSS to provide a solid foundation. Along with a quick Python primer, they cover Selenium for JavaScript-heavy sites, and web crawling in detail. The book finishes with a recap of best practices and a collection of examples that bring together everything you've learned and illustrate various data science use cases. What You'll Learn Leverage well-established best practices and commonly-used Python packages Handle today's web, including JavaScript, cookies, and common web scraping mitigation techniques Understand the managerial and legal concerns regarding web scraping Who This Book is For A data science oriented audience that is probably already familiar with Python or another programming language or analytical toolkit (R, SAS, SPSS, etc). Students or instructors in university courses may also benefit. Readers unfamiliar with Python will appreciate a quick Python primer in chapter 1 to catch up with the basics and provide pointers to other guides as well.