

Applied Predictive Analytics Principles And Techniques For The Professional Data Analyst

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Handbook of Research on Holistic Optimization Techniques in the Hospitality, Tourism, and Travel Industry - Vasant, Pandian 2016-10-31

The application of holistic optimization methods in the tourism, travel, and hospitality industry has improved customer service and business strategies within the field. By utilizing new technologies and optimization techniques, it is becoming easier to troubleshoot problematic areas within the travel industry. The *Handbook of Research on Holistic Optimization Techniques in the Hospitality, Tourism, and Travel Industry* features innovative technologies being utilized in the management of hotels and tourist attractions. Highlighting empirical research on the optimization of the travel and hospitality industry through the use of algorithms and information technology, this book is a critical reference source for managers, decision makers, executives, tourists, agents, researchers, economists, and hotel staff members.

Integration of Data Mining in Business Intelligence Systems - Azevedo, Ana 2014-09-30

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.

Big Data in Healthcare - Pouria Amirian 2017-09-18

This book reviews a number of issues including: Why data generated from POC machines are considered as Big Data. What are the challenges in storing, managing, extracting knowledge from data from POC devices? Why is it inefficient to use traditional data analysis with big data? What are

the solutions for the mentioned issues and challenges? What type of analytics skills are required in health care? What big data technologies and tools can be used efficiently with data generated from POC devices? This book shows how it is feasible to store vast numbers of anonymous data and ask highly specific questions that can be performed in real-time to give precise and meaningful evidence to guide public health policy.

Business Information Systems - Witold Abramowicz 2015-06-15

This book contains the refereed proceedings of the 18th International Conference on Business Information Systems, BIS 2015, held in Poznań, Poland, in June 2015. The BIS conference series follows trends in academic and business research; thus, the theme of the BIS 2015 conference was "Making Big Data Smarter." Big data is now a fairly mature concept, recognized and widely used by professionals in both research and industry. Together, they work on developing more adequate and efficient tools for data processing and analyzing, thus turning "big data" into "smart data." The 26 revised full papers were carefully reviewed and selected from 70 submissions. In addition, two invited papers are included in this book. They are grouped into sections on big and smart data, semantic technologies, content retrieval and filtering, business process management and mining, collaboration, enterprise architecture and business-IT alignment, specific BIS applications, and open data for BIS.

Fundamentals of Predictive Analytics with JMP, Second Edition - Ron Klimberg 2017-12-19

Written for students in undergraduate and graduate statistics courses, as well as for the practitioner who wants to make better decisions from data and models, this updated and expanded second edition of *Fundamentals of Predictive Analytics with JMP(R)* bridges the gap between courses on basic statistics, which focus on univariate and bivariate analysis, and courses on data mining and predictive analytics. Going beyond the theoretical foundation, this book gives you the technical knowledge and problem-solving skills that you need to perform real-world multivariate data

analysis. First, this book teaches you to recognize when it is appropriate to use a tool, what variables and data are required, and what the results might be. Second, it teaches you how to interpret the results and then, step-by-step, how and where to perform and evaluate the analysis in JMP . Using JMP 13 and JMP 13 Pro, this book offers the following new and enhanced features in an example-driven format: an add-in for Microsoft Excel Graph Builder dirty data visualization regression ANOVA logistic regression principal component analysis LASSO elastic net cluster analysis decision trees k-nearest neighbors neural networks bootstrap forests boosted trees text mining association rules model comparison With today's emphasis on business intelligence, business analytics, and predictive analytics, this second edition is invaluable to anyone who needs to expand his or her knowledge of statistics and to apply real-world, problem-solving analysis. This book is part of the SAS Press program.

Predictive Marketing - Omer Artun 2015-08-06

Make personalized marketing a reality with this practical guide to predictive analytics Predictive Marketing is a predictive analytics primer for organizations large and small, offering practical tips and actionable strategies for implementing more personalized marketing immediately. The marketing paradigm is changing, and this book provides a blueprint for navigating the transition from creative- to data-driven marketing, from one-size-fits-all to one-on-one, and from marketing campaigns to real-time customer experiences. You'll learn how to use machine-learning technologies to improve customer acquisition and customer growth, and how to identify and re-engage at-risk or lapsed customers by implementing an easy, automated approach to predictive analytics. Much more than just theory and testament to the power of personalized marketing, this book focuses on action, helping you understand and actually begin using this revolutionary approach to the customer experience. Predictive analytics can finally make personalized marketing a reality. For the first time, predictive marketing is accessible to all marketers, not just those at large corporations – in fact, many smaller organizations are leapfrogging their larger counterparts with innovative programs. This book shows you how to bring predictive analytics to your organization, with actionable guidance that get you started today. Implement predictive marketing at any size organization Deliver a more personalized marketing experience Automate predictive analytics with machine learning technology Base marketing decisions on concrete data rather than unproven ideas Marketers have long been talking about delivering personalized experiences across channels. All marketers want to deliver happiness, but most still employ a one-size-fits-all approach. Predictive Marketing provides the information and insight you need to lift your organization out of the campaign rut and into the rarefied atmosphere of a truly personalized customer experience.

Designing Data Visualizations - Noah Iliinsky 2011-09-16

Data visualization is an efficient and effective medium for communicating large amounts of information, but the design process can often seem like

an unexplainable creative endeavor. This concise book aims to demystify the design process by showing you how to use a linear decision-making process to encode your information visually. Delve into different kinds of visualization, including infographics and visual art, and explore the influences at work in each one. Then learn how to apply these concepts to your design process. Learn data visualization classifications, including explanatory, exploratory, and hybrid Discover how three fundamental influences—the designer, the reader, and the data—shape what you create Learn how to describe the specific goal of your visualization and identify the supporting data Decide the spatial position of your visual entities with axes Encode the various dimensions of your data with appropriate visual properties, such as shape and color See visualization best practices and suggestions for encoding various specific data types

HEALTHCARE's OUT SICK - PREDICTING A CURE - Solutions that WORK !!!! - Gary D. Miner 2019-01-04

The U.S. healthcare system is in "complete chaos-disarray." Medical costs have increased significantly over the past 6 years with 70% increase for deductibles and 24% or more for health insurance premiums. All the while, workers earnings have either not increased or if they did, the pay raises were for less than the increase in the cost of medical care. The situation is unsustainable and the public wants the system fixed. This book offers ways of fixing the problems in healthcare. HEALTHCARE's OUT SICK - PREDICTING A CURE - Solutions that WORK !!!! first defines the "healthcare in crisis" problem. Through real patient experiences, the book describes the difficulties of getting through the maze of complexity among the plethora of "silo providers" which make up the industry. The heart of the book provides readers with a comprehensive solution that can work, a disruption that is necessary to provide Americans the medical care they need without the US public and healthcare providers and payors going into bankruptcy, insolvency or closure. This book delves into digitized medicine, payor and provider reimbursement models, and value-based healthcare delivery. It also includes a philosophy or mode of thinking and operation for the solutions that are needed for diagnosis-effective, cost-effective, and time-efficient healthcare delivery, of which digitized medicine, value-based care, and payor reimbursement modes are just some of the factors. The authors propose that the real solution involves having the patient at the center of the issues and changing from an archaic gold standard way of thinking to a "Predictive Analytic thinking" where one gets at the real truth by doing "real science" that in the end becomes effective not only for the population but for the individual person. This all leads to real person-centered and person-directed medicine and healthcare delivery.

Predictive Analytics - Dursun Delen 2020-10-30

"Using predictive analytics techniques, decision-makers can uncover hidden patterns and correlations in their data, and leverage this insight to improve a wide range of business decisions. In Predictive Analytics: Data

Mining, Machine Learning and Data Science for Practitioners, Dr. Dursun Delen illuminates state-of-the-art best practices for predictive analytics for both business professionals and students. Delen's holistic approach covers all this, and more: Data mining processes, methods, and techniques The role and management of data Predictive analytics tools and metrics Techniques for text and web mining, and for sentiment analysis Integration with cutting-edge Big Data approaches Throughout, Delen promotes understanding by presenting numerous conceptual illustrations, motivational success stories, failed projects that teach important lessons, and simple, hands-on tutorials that set this guide apart from competitors"--

Big Data Governance and Perspectives in Knowledge Management -

Strydom, Sheryl Kruger 2018-11-16

The world is witnessing the growth of a global movement facilitated by technology and social media. Fueled by information, this movement contains enormous potential to create more accountable, efficient, responsive, and effective governments and businesses, as well as spurring economic growth. *Big Data Governance and Perspectives in Knowledge Management* is a collection of innovative research on the methods and applications of applying robust processes around data, and aligning organizations and skillsets around those processes. Highlighting a range of topics including data analytics, prediction analysis, and software development, this book is ideally designed for academicians, researchers, information science professionals, software developers, computer engineers, graduate-level computer science students, policymakers, and managers seeking current research on the convergence of big data and information governance as two major trends in information management.

Outcome-Driven Business Architecture - Amit Tiwary 2018-08-06

This book discusses business architecture as a basis for aligning efforts with outcomes. It views BA as complementary to enterprise architecture, where the focus of technological initiatives and inventories is to understand and improve business organization, business direction, and business decision-making. This book provides a practical, long-term view on BA. Based on the authors' consulting experience and industrial research, the material in this book is a valuable addition to the thought processes around BA and EA. The lead author has direct and practical experience with large clients in applying APQC capability framework for undertaking multiple enterprise-wide capability assessments.

Industry 4.0: Managing The Digital Transformation - Alp Ustundag

2017-09-14

This book provides a comprehensive guide to Industry 4.0 applications, not only introducing implementation aspects but also proposing a conceptual framework with respect to the design principles. In addition, it discusses the effects of Industry 4.0, which are reflected in new business models and workforce transformation. The book then examines the key technological advances that form the pillars of Industry 4.0 and explores their potential technical and economic benefits using examples of real-world applications.

The changing dynamics of global production, such as more complex and automated processes, high-level competitiveness and emerging technologies, have paved the way for a new generation of goods, products and services. Moreover, manufacturers are increasingly realizing the value of the data that their processes and products generate. Such trends are transforming manufacturing industry to the next generation, namely Industry 4.0, which is based on the integration of information and communication technologies and industrial technology. The book provides a conceptual framework and roadmap for decision-makers for this transformation

Business Forecasting - Michael Gilliland 2016-01-05

A comprehensive collection of the field's most provocative, influential new work *Business Forecasting* compiles some of the field's important and influential literature into a single, comprehensive reference for forecast modeling and process improvement. It is packed with provocative ideas from forecasting researchers and practitioners, on topics including accuracy metrics, benchmarking, modeling of problem data, and overcoming dysfunctional behaviors. Its coverage includes often-overlooked issues at the forefront of research, such as uncertainty, randomness, and forecastability, as well as emerging areas like data mining for forecasting. The articles present critical analysis of current practices and consideration of new ideas. With a mix of formal, rigorous pieces and brief introductory chapters, the book provides practitioners with a comprehensive examination of the current state of the business forecasting field. Forecasting performance is ultimately limited by the 'forecastability' of the data. Yet failing to recognize this, many organizations continue to squander resources pursuing unachievable levels of accuracy. This book provides a wealth of ideas for improving all aspects of the process, including the avoidance of wasted efforts that fail to improve (or even harm) forecast accuracy. Analyzes the most prominent issues in business forecasting Investigates emerging approaches and new methods of analysis Combines forecasts to improve accuracy Utilizes Forecast Value Added to identify process inefficiency The business environment is evolving, and forecasting methods must evolve alongside it. This compilation delivers an array of new tools and research that can enable more efficient processes and more accurate results. *Business Forecasting* provides an expert's-eye view of the field's latest developments to help you achieve your desired business outcomes.

3rd EAI International Conference on Big Data Innovation for Sustainable

Cognitive Computing - Anandakumar Haldorai 2022-01-01

This book features the proceedings of The EAI International Conference on Big Data Innovation for Sustainable Cognitive Computing (BDCC 2020), which took place 18 – 19 December 2020. The papers feature detail on cognitive computing and its self-learning systems that use data mining, pattern recognition and natural language processing (NLP) to mirror the way the human brain works. This international conference focuses on

technologies from knowledge representation techniques and natural language processing algorithms to dynamic learning approaches. Topics covered include Data Science for Cognitive Analysis, Real-Time Ubiquitous Data Science, Platform for Privacy Preserving Data Science, and Internet-Based Cognitive Platform.

Decision Management: Concepts, Methodologies, Tools, and Applications - Management Association, Information Resources 2017-01-30

The implementation of effective decision making protocols is crucial in any organizational environment in modern society. Emerging advancements in technology and analytics have optimized uses and applications of decision making systems. *Decision Management: Concepts, Methodologies, Tools, and Applications* is a compendium of the latest academic material on the control, support, usage, and strategies for implementing efficient decision making systems across a variety of industries and fields. Featuring comprehensive coverage on numerous perspectives, such as data visualization, pattern analysis, and predictive analytics, this multi-volume book is an essential reference source for researchers, academics, professionals, managers, students, and practitioners interested in the maintenance and optimization of decision management processes.

Real Options in Theory and Practice - Graeme Guthrie 2009-07-16

Decision-makers in business and economics face a staggering array of problems. For example, managers of growing firms have to decide when to expand their business, governments have to decide whether to undertake large infrastructure investments, and managers of oil firms must decide how rapidly to deplete their reserves. While these problems seem quite diverse, they all share many important features. In each case, the decision-maker must choose when to take a particular action that will be potentially impossible to reverse, and the consequences of taking (or not taking) that action are uncertain. Also, the timing and nature of these actions directly affect the cash flows generated by the entities they manage. This book explains how techniques originally developed to price financial derivatives can be used to analyze real-world decisions, and provides the tools necessary to put them into practice. The real options analysis approach to decision-making is built on strong theoretical foundations, and is widely discussed in practitioner literature, but often only at a fairly intuitive level. What practitioners need-and what this book delivers-is a structured approach to systematically applying real options analysis to the wide variety of problems they will meet in business and economics. *Real Options in Theory and Practice* focuses on building up a general approach to solving real options problems from the ground up. Rather than aiming to build a "black box" to solve a small set of standardized real options problems, it describes the building blocks of any successful real options analysis and shows how they can be assembled in a way that is appropriate to the problem being analyzed. For both practitioners and academics, *Real Options in Theory and Practice* will serve as an authoritative and invaluable resource for those looking for

effective and practical solutions to complex, real-life problems.

Applied Regression and ANOVA Using SAS - Patricia F. Moodie 2022-04-25

Applied Regression and ANOVA Using SAS® has been written specifically for non-statisticians and applied statisticians who are primarily interested in what their data are revealing. Interpretation of results are key throughout this intermediate-level applied statistics book. The authors introduce each method by discussing its characteristic features, reasons for its use, and its underlying assumptions. They then guide readers in applying each method by suggesting a step-by-step approach while providing annotated SAS programs to implement these steps. Those unfamiliar with SAS software will find this book helpful as SAS programming basics are covered in the first chapter. Subsequent chapters give programming details on a need-to-know basis. Experienced as well as entry-level SAS users will find the book useful in applying linear regression and ANOVA methods, as explanations of SAS statements and options chosen for specific methods are provided. Features: •Statistical concepts presented in words without matrix algebra and calculus •Numerous SAS programs, including examples which require minimum programming effort to produce high resolution publication-ready graphics •Practical advice on interpreting results in light of relatively recent views on threshold p-values, multiple testing, simultaneous confidence intervals, confounding adjustment, bootstrapping, and predictor variable selection •Suggestions of alternative approaches when a method's ideal inference conditions are unreasonable for one's data This book is invaluable for non-statisticians and applied statisticians who analyze and interpret real-world data. It could be used in a graduate level course for non-statistical disciplines as well as in an applied undergraduate course in statistics or biostatistics.

Machine Learning and its Applications - Peter Wlodarczak 2019-11-06

In recent years, machine learning has gained a lot of interest. Due to the advances in processor technology and the availability of large amounts of data, machine learning techniques have provided astounding results in areas such as object recognition or natural language processing. New approaches, e.g. deep learning, have provided groundbreaking outcomes in fields such as multimedia mining or voice recognition. Machine learning is now used in virtually every domain and deep learning algorithms are present in many devices such as smartphones, cars, drones, healthcare equipment, or smart home devices. The Internet, cloud computing and the Internet of Things produce a tsunami of data and machine learning provides the methods to effectively analyze the data and discover actionable knowledge. This book describes the most common machine learning techniques such as Bayesian models, support vector machines, decision tree induction, regression analysis, and recurrent and convolutional neural networks. It first gives an introduction into the principles of machine learning. It then covers the basic methods including the mathematical foundations. The biggest part of the book provides common machine learning algorithms and their applications. Finally, the

book gives an outlook into some of the future developments and possible new research areas of machine learning and artificial intelligence in general. This book is meant to be an introduction into machine learning. It does not require prior knowledge in this area. It covers some of the basic mathematical principle but intends to be understandable even without a background in mathematics. It can be read chapter wise and intends to be comprehensible, even when not starting in the beginning. Finally, it also intends to be a reference book. Key Features: Describes real world problems that can be solved using Machine Learning Provides methods for directly applying Machine Learning techniques to concrete real world problems Demonstrates how to apply Machine Learning techniques using different frameworks such as TensorFlow, MALLET, R

Predictive Analytics - Eric Siegel 2016-01-13

"Mesmerizing & fascinating..." –The Seattle Post-Intelligencer "The Freakonomics of big data." –Stein Kretzinger, founding executive of Advertising.com Award-winning | Used by over 30 universities | Translated into 9 languages An introduction for everyone. In this rich, fascinating – surprisingly accessible – introduction, leading expert Eric Siegel reveals how predictive analytics (aka machine learning) works, and how it affects everyone every day. Rather than a “how to” for hands-on techies, the book serves lay readers and experts alike by covering new case studies and the latest state-of-the-art techniques. Prediction is booming. It reinvents industries and runs the world. Companies, governments, law enforcement, hospitals, and universities are seizing upon the power. These institutions predict whether you're going to click, buy, lie, or die. Why? For good reason: predicting human behavior combats risk, boosts sales, fortifies healthcare, streamlines manufacturing, conquers spam, optimizes social networks, toughens crime fighting, and wins elections. How? Prediction is powered by the world's most potent, flourishing unnatural resource: data. Accumulated in large part as the by-product of routine tasks, data is the unsalted, flavorless residue deposited en masse as organizations churn away. Surprise! This heap of refuse is a gold mine. Big data embodies an extraordinary wealth of experience from which to learn. Predictive analytics (aka machine learning) unleashes the power of data. With this technology, the computer literally learns from data how to predict the future behavior of individuals. Perfect prediction is not possible, but putting odds on the future drives millions of decisions more effectively, determining whom to call, mail, investigate, incarcerate, set up on a date, or medicate. In this lucid, captivating introduction – now in its Revised and Updated edition – former Columbia University professor and Predictive Analytics World founder Eric Siegel reveals the power and perils of prediction: What type of mortgage risk Chase Bank predicted before the recession. Predicting which people will drop out of school, cancel a subscription, or get divorced before they even know it themselves. Why early retirement predicts a shorter life expectancy and vegetarians miss fewer flights. Five reasons why organizations predict death – including one

health insurance company. How U.S. Bank and Obama for America calculated the way to most strongly persuade each individual. Why the NSA wants all your data: machine learning supercomputers to fight terrorism. How IBM's Watson computer used predictive modeling to answer questions and beat the human champs on TV's Jeopardy! How companies ascertain untold, private truths – how Target figures out you're pregnant and Hewlett-Packard deduces you're about to quit your job. How judges and parole boards rely on crime-predicting computers to decide how long convicts remain in prison. 182 examples from Airbnb, the BBC, Citibank, ConEd, Facebook, Ford, Google, the IRS, LinkedIn, Match.com, MTV, Netflix, PayPal, Pfizer, Spotify, Uber, UPS, Wikipedia, and more. How does predictive analytics work? This jam-packed book satisfies by demystifying the intriguing science under the hood. For future hands-on practitioners pursuing a career in the field, it sets a strong foundation, delivers the prerequisite knowledge, and whets your appetite for more. A truly omnipresent science, predictive analytics constantly affects our daily lives. Whether you are a consumer of it – or consumed by it – get a handle on the power of Predictive Analytics.

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

Written by renowned data science experts Foster Provost and Tom Fawcett, Data Science for Business introduces the fundamental principles of data science, and walks you through the "data-analytic thinking" necessary for extracting useful knowledge and business value from the data you collect. This guide also helps you understand the many data-mining techniques in use today. Based on an MBA course Provost has taught at New York University over the past ten years, Data Science for Business provides examples of real-world business problems to illustrate these principles. You'll not only learn how to improve communication between business stakeholders and data scientists, but also how 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

Applying Data Science - Arthur K. Kordon 2020-09-12

This book offers practical guidelines on creating value from the application of data science based on selected artificial intelligence methods. In Part I, the author introduces a problem-driven approach to implementing AI-based data science and offers practical explanations of key technologies: machine learning, deep learning, decision trees and random forests, evolutionary computation, swarm intelligence, and intelligent agents. In

Part II, he describes the main steps in creating AI-based data science solutions for business problems, including problem knowledge acquisition, data preparation, data analysis, model development, and model deployment lifecycle. Finally, in Part III the author illustrates the power of AI-based data science with successful applications in manufacturing and business. He also shows how to introduce this technology in a business setting and guides the reader on how to build the appropriate infrastructure and develop the required skillsets. The book is ideal for data scientists who will implement the proposed methodology and techniques in their projects. It is also intended to help business leaders and entrepreneurs who want to create competitive advantage by using AI-based data science, as well as academics and students looking for an industrial view of this discipline.

Handbook of Research on Digital Transformation, Industry Use Cases, and the Impact of Disruptive Technologies - Wynn, Martin George 2021-10-15

Companies from various sectors of the economy are confronted with the new phenomenon of digital transformation and are faced with the challenge of formulating and implementing a company-wide strategy to incorporate what are often viewed as “disruptive” technologies. These technologies are sometimes associated with significant and extremely rapid change, in some cases with even the replacement of established business models. Many of these technologies have been deployed in unison by leading-edge companies acting as the catalyst for significant process change and people skills enhancement. The Handbook of Research on Digital Transformation, Industry Use Cases, and the Impact of Disruptive Technologies examines the phenomenon of digital transformation and the impact of disruptive technologies through the lens of industry case studies where different combinations of these new technologies have been deployed and incorporated into enterprise IT and business strategies. Covering topics including chatbot implementation, multinational companies, cloud computing, internet of things, artificial intelligence, big data and analytics, immersive technologies, and social media, this book is essential for senior management, IT managers, technologists, computer scientists, cybersecurity analysts, academicians, researchers, IT consultancies, professors, and students.

Applied Predictive Analytics - Dean Abbott 2014-03-31

Learn the art and science of predictive analytics – techniques that get results Predictive analytics is what translates big data into meaningful, usable business information. Written by a leading expert in the field, this guide examines the science of the underlying algorithms as well as the principles and best practices that govern the art of predictive analytics. It clearly explains the theory behind predictive analytics, teaches the methods, principles, and techniques for conducting predictive analytics projects, and offers tips and tricks that are essential for successful predictive modeling. Hands-on examples and case studies are included. The ability to successfully apply predictive analytics enables businesses to

effectively interpret big data; essential for competition today This guide teaches not only the principles of predictive analytics, but also how to apply them to achieve real, pragmatic solutions Explains methods, principles, and techniques for conducting predictive analytics projects from start to finish Illustrates each technique with hands-on examples and includes a series of in-depth case studies that apply predictive analytics to common business scenarios A companion website provides all the data sets used to generate the examples as well as a free trial version of software Applied Predictive Analytics arms data and business analysts and business managers with the tools they need to interpret and capitalize on big data.

Proceedings on 18th International Conference on Industrial Systems – IS'20 - Bojan Lalic 2022-05-23

This book proposes theoretically developed and practically tested solutions for manufacturing and business improvements achieved in the period between two conferences. It enables presentation of new knowledge and exchange of practical experience in industrial systems engineering and management. It brings together prominent researchers and practitioners from faculties, scientific institutes, and different enterprises or other organizations .This is the 18th edition of the conference. The Department of Industrial Engineering and Management at the Faculty of Technical Sciences in Novi Sad organizes a scientific conference on industrial systems engineering and management field of science and practice, once in three years.

Predictive Modeling with SAS Enterprise Miner - Kattamuri S. Sarma 2017-07-20

« Written for business analysts, data scientists, statisticians, students, predictive modelers, and data miners, this comprehensive text provides examples that will strengthen your understanding of the essential concepts and methods of predictive modeling. »--

Handbook of Statistical Analysis and Data Mining Applications - Robert Nisbet 2017-11-09

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

Driving Efficiency in Local Government Using a Collaborative Enterprise

Architecture Framework: Emerging Research and Opportunities - Tiwary,

Amit 2017-05-17

The overall functions of a government impact a wide range of sectors in society. It is imperative for governments to work at full capacity and potential in order to ensure quality progress for its citizens. Driving Efficiency in Local Government Using a Collaborative Enterprise Architecture Framework: Emerging Research and Opportunities is an essential scholarly publication for the latest research on methods for smart government initiatives and implementations, and addresses prevalent internal and external security risks. Featuring extensive coverage on a broad range of topics such as technology funds, mobile technology, and cloud computing, this book is ideally designed for professionals, academicians, researchers, and students seeking current research on the ways in which governments can advance and prosper.

Modeling Techniques in Predictive Analytics - Thomas W. Miller 2014-10

Today, successful firms win by understanding their data more deeply than competitors do. They compete based on analytics. In Modeling Techniques in Predictive Analytics, Revised Edition, the leader of Northwestern University's prestigious analytics program brings together all the up-to-date concepts, techniques, and R code you need to excel in analytics. Thomas W. Miller's balanced approach combines business context and quantitative tools, appealing to managers, analysts, programmers, and students alike. This Revised Edition is updated with new sources throughout, and has been reorganized to be completely modular. Each chapter now stands completely on its own - thereby supporting even more flexible learning paths, and helping readers quickly access all the knowledge they need to solve any category of problem. Miller addresses multiple business challenges and business cases, including segmentation, brand positioning, product choice modeling, pricing research, finance, sports, Web and text analytics, and social network analysis. He illuminates the use of cross-sectional data, time series, spatial, and even spatio-temporal data. For each problem, Miller explains: Why the problem is significant What data is relevant How to explore your data How to model your data - first conceptually, with words and figures; and then with mathematics and programs Miller walks through model construction, explanatory variable subset selection, and validation, demonstrating best practices for improving out-of-sample predictive performance. He employs data visualization and statistical graphics in exploring data, presenting models,

and evaluating performance. Extensive example code is presented in R, today's #1 system for applied statistics, statistical research, and predictive modeling; all code is set apart from other text so it's easy to find for those who want it (and easy to skip for those who don't).

Machine Learning, Optimization, and Data Science - Giuseppe Nicosia

2019-02-16

This book constitutes the post-conference proceedings of the 4th International Conference on Machine Learning, Optimization, and Data Science, LOD 2018, held in Volterra, Italy, in September 2018. The 46 full papers presented were carefully reviewed and selected from 126 submissions. The papers cover topics in the field of machine learning, artificial intelligence, reinforcement learning, computational optimization and data science presenting a substantial array of ideas, technologies, algorithms, methods and applications.

Handbook of Research on Engineering, Business, and Healthcare

Applications of Data Science and Analytics - Patil, Bhushan 2020-10-23

Analyzing data sets has continued to be an invaluable application for numerous industries. By combining different algorithms, technologies, and systems used to extract information from data and solve complex problems, various sectors have reached new heights and have changed our world for the better. The Handbook of Research on Engineering, Business, and Healthcare Applications of Data Science and Analytics is a collection of innovative research on the methods and applications of data analytics. While highlighting topics including artificial intelligence, data security, and information systems, this book is ideally designed for researchers, data analysts, data scientists, healthcare administrators, executives, managers, engineers, IT consultants, academicians, and students interested in the potential of data application technologies.

Applied Predictive Analytics - Dean Abbott 2020-05-19

Learn the art and science of predictive analytics - the latest techniques Predictive analytics is what translates big data into meaningful, usable business information. This guide examines the science of the underlying algorithms as well as the principles and best practices that govern the art of predictive analytics. It clearly explains the theory of analytics projects and offers tips and tricks for successful predictive modeling. Hands-on examples and case studies are included. Applied Predictive Analytics, 2nd Edition arms data and business analysts and business managers with the tools they need to interpret and capitalize on big data.

Big Data Analysis: New Algorithms for a New Society - Nathalie Japkowicz

2015-12-16

This edited volume is devoted to Big Data Analysis from a Machine Learning standpoint as presented by some of the most eminent researchers in this area. It demonstrates that Big Data Analysis opens up new research problems which were either never considered before, or were only considered within a limited range. In addition to providing methodological discussions on the principles of mining Big Data and the

difference between traditional statistical data analysis and newer computing frameworks, this book presents recently developed algorithms affecting such areas as business, financial forecasting, human mobility, the Internet of Things, information networks, bioinformatics, medical systems and life science. It explores, through a number of specific examples, how the study of Big Data Analysis has evolved and how it has started and will most likely continue to affect society. While the benefits brought upon by Big Data Analysis are underlined, the book also discusses some of the warnings that have been issued concerning the potential dangers of Big Data Analysis along with its pitfalls and challenges.

Matplotlib for Python Developers - Sandro Tosi 2009-11-09

This is a practical, hands-on book, with a lot of code and images. It presents the real code that generates every image and describes almost every single line of it, so that you know exactly what's going on.

Introductory, descriptive, and theoretical parts are mixed with examples, so that reading and understanding them is easy. All of the examples build gradually with code snippets, their explanations, and plot images where necessary with the complete code and output presented at the end. This book is essentially for Python developers who have a good knowledge of Python; no knowledge of Matplotlib is required. You will be creating 2D plots using Matplotlib in no time at all.

Algorithmic Reason - Claudia Aradau 2022-04-25

This is an open access title available under the terms of a CC BY-NC-ND 4.0 International licence. It is free to read at Oxford Scholarship Online and offered as a free PDF download from OUP and selected open access locations. Are algorithms ruling the world today? Is artificial intelligence making life-and-death decisions? Are social media companies able to manipulate elections? As we are confronted with public and academic anxieties about unprecedented changes, this book offers a different analytical prism through which these transformations can be explored.

Claudia Aradau and Tobias Blanke develop conceptual and methodological tools to understand how algorithmic operations shape the government of self and other. They explore the emergence of algorithmic reason through rationalities, materializations, and interventions, and trace how algorithmic rationalities of decomposition, recomposition, and partitioning are materialized in the construction of dangerous others, the power of platforms, and the production of economic value. The book provides a global transdisciplinary perspective on algorithmic operations, drawing on qualitative and digital methods to investigate controversies ranging from mass surveillance and the Cambridge Analytica scandal in the UK to predictive policing in the US, and from the use of facial recognition in China and drone targeting in Pakistan to the regulation of hate speech in Germany.

Hands-On Predictive Analytics with Python - Alvaro Fuentes 2018-12-28

Step-by-step guide to build high performing predictive applications
Key Features Use the Python data analytics ecosystem to implement end-to-

end predictive analytics projects Explore advanced predictive modeling algorithms with an emphasis on theory with intuitive explanations Learn to deploy a predictive model's results as an interactive application
Book Description Predictive analytics is an applied field that employs a variety of quantitative methods using data to make predictions. It involves much more than just throwing data onto a computer to build a model. This book provides practical coverage to help you understand the most important concepts of predictive analytics. Using practical, step-by-step examples, we build predictive analytics solutions while using cutting-edge Python tools and packages. The book's step-by-step approach starts by defining the problem and moves on to identifying relevant data. We will also be performing data preparation, exploring and visualizing relationships, building models, tuning, evaluating, and deploying model. Each stage has relevant practical examples and efficient Python code. You will work with models such as KNN, Random Forests, and neural networks using the most important libraries in Python's data science stack: NumPy, Pandas, Matplotlib, Seaborn, Keras, Dash, and so on. In addition to hands-on code examples, you will find intuitive explanations of the inner workings of the main techniques and algorithms used in predictive analytics. By the end of this book, you will be all set to build high-performance predictive analytics solutions using Python programming. What you will learn Get to grips with the main concepts and principles of predictive analytics Learn about the stages involved in producing complete predictive analytics solutions Understand how to define a problem, propose a solution, and prepare a dataset Use visualizations to explore relationships and gain insights into the dataset Learn to build regression and classification models using scikit-learn Use Keras to build powerful neural network models that produce accurate predictions Learn to serve a model's predictions as a web application Who this book is for This book is for data analysts, data scientists, data engineers, and Python developers who want to learn about predictive modeling and would like to implement predictive analytics solutions using Python's data stack. People from other backgrounds who would like to enter this exciting field will greatly benefit from reading this book. All you need is to be proficient in Python programming and have a basic understanding of statistics and college-level algebra.

Counter-Terrorism, Ethics and Technology - Adam Henschke 2021-12-14

This open access book brings together a range of contributions that seek to explore the ethical issues arising from the overlap between counter-terrorism, ethics, and technologies. Terrorism and our responses pose some of the most significant ethical challenges to states and people. At the same time, we are becoming increasingly aware of the ethical implications of new and emerging technologies. Whether it is the use of remote weapons like drones as part of counter-terrorism strategies, the application of surveillance technologies to monitor and respond to terrorist activities, or counterintelligence agencies use of machine learning to detect suspicious behavior and hacking computers to gain access to encrypted

data, technologies play a significant role in modern counter-terrorism. However, each of these technologies carries with them a range of ethical issues and challenges. How we use these technologies and the policies that govern them have broader impact beyond just the identification and response to terrorist activities. As we are seeing with China, the need to respond to domestic terrorism is one of the justifications for their rollout of the “social credit system.” Counter-terrorism technologies can easily succumb to mission creep, where a technology’s exceptional application becomes normalized and rolled out to society more generally. This collection is not just timely but an important contribution to understand the ethics of counter-terrorism and technology and has far wider implications for societies and nations around the world.

Knowledge Discovery, Knowledge Engineering and Knowledge Management - Ana Fred 2017-01-21

This book constitutes the thoroughly refereed proceedings of the 7th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, IC3K 2015, held in Lisbon, Portugal, in November 2015. The 25 full papers presented together with 2 invited papers were carefully reviewed and selected from 280 submissions. The papers are organized in topical sections on knowledge discovery and information retrieval; knowledge engineering and ontology development; and knowledge management and information sharing.

Data Mining and Predictive Analytics - Daniel T. Larose 2015-02-19

Learn methods of data analysis and their application to real-world data sets This updated second edition serves as an introduction to data mining methods and models, including association rules, clustering, neural networks, logistic regression, and multivariate analysis. The authors apply a unified “white box” approach to data mining methods and models. This approach is designed to walk readers through the operations and nuances of the various methods, using small data sets, so readers can gain an insight into the inner workings of the method under review. Chapters provide readers with hands-on analysis problems, representing an opportunity for readers to apply their newly-acquired data mining expertise to solving real problems using large, real-world data sets. **Data Mining and Predictive Analytics:** Offers comprehensive coverage of association rules, clustering, neural networks, logistic regression, multivariate analysis, and R statistical programming language Features over 750 chapter exercises, allowing readers to assess their understanding of the new material Provides a detailed case study that brings together the lessons learned in the book Includes access to the companion website, www.dataminingconsultant.com, with exclusive password-protected instructor content **Data Mining and Predictive Analytics** will appeal to computer science and statistic students, as well as students in MBA programs, and chief executives.

Applied Predictive Modeling - Max Kuhn 2013-05-17

Applied Predictive Modeling covers the overall predictive modeling

process, beginning with the crucial steps of data preprocessing, data splitting and foundations of model tuning. The text then provides intuitive explanations of numerous common and modern regression and classification techniques, always with an emphasis on illustrating and solving real data problems. The text illustrates all parts of the modeling process through many hands-on, real-life examples, and every chapter contains extensive R code for each step of the process. This multi-purpose text can be used as an introduction to predictive models and the overall modeling process, a practitioner’s reference handbook, or as a text for advanced undergraduate or graduate level predictive modeling courses. To that end, each chapter contains problem sets to help solidify the covered concepts and uses data available in the book’s R package. This text is intended for a broad audience as both an introduction to predictive models as well as a guide to applying them. Non-mathematical readers will appreciate the intuitive explanations of the techniques while an emphasis on problem-solving with real data across a wide variety of applications will aid practitioners who wish to extend their expertise. Readers should have knowledge of basic statistical ideas, such as correlation and linear regression analysis. While the text is biased against complex equations, a mathematical background is needed for advanced topics.

Learning Predictive Analytics with Python - Ashish Kumar 2016-02-15

Gain practical insights into predictive modelling by implementing Predictive Analytics algorithms on public datasets with Python About This Book A step-by-step guide to predictive modeling including lots of tips, tricks, and best practices Get to grips with the basics of Predictive Analytics with Python Learn how to use the popular predictive modeling algorithms such as Linear Regression, Decision Trees, Logistic Regression, and Clustering Who This Book Is For If you wish to learn how to implement Predictive Analytics algorithms using Python libraries, then this is the book for you. If you are familiar with coding in Python (or some other programming/statistical/scripting language) but have never used or read about Predictive Analytics algorithms, this book will also help you. The book will be beneficial to and can be read by any Data Science enthusiasts. Some familiarity with Python will be useful to get the most out of this book, but it is certainly not a prerequisite. What You Will Learn Understand the statistical and mathematical concepts behind Predictive Analytics algorithms and implement Predictive Analytics algorithms using Python libraries Analyze the result parameters arising from the implementation of Predictive Analytics algorithms Write Python modules/functions from scratch to execute segments or the whole of these algorithms Recognize and mitigate various contingencies and issues related to the implementation of Predictive Analytics algorithms Get to know various methods of importing, cleaning, sub-setting, merging, joining, concatenating, exploring, grouping, and plotting data with pandas and numpy Create dummy datasets and simple mathematical simulations using the Python numpy and pandas libraries Understand the best practices

while handling datasets in Python and creating predictive models out of them. In Detail Social Media and the Internet of Things have resulted in an avalanche of data. Data is powerful but not in its raw form - It needs to be processed and modeled, and Python is one of the most robust tools out there to do so. It has an array of packages for predictive modeling and a suite of IDEs to choose from. Learning to predict who would win, lose, buy, lie, or die with Python is an indispensable skill set to have in this data age. This book is your guide to getting started with Predictive Analytics using Python. You will see how to process data and make predictive models from it. We balance both statistical and mathematical concepts, and implement them in Python using libraries such as pandas, scikit-learn, and numpy. You'll start by getting an understanding of the basics of

predictive modeling, then you will see how to cleanse your data of impurities and get it ready for predictive modeling. You will also learn more about the best predictive modeling algorithms such as Linear Regression, Decision Trees, and Logistic Regression. Finally, you will see the best practices in predictive modeling, as well as the different applications of predictive modeling in the modern world. Style and approach All the concepts in this book been explained and illustrated using a dataset, and in a step-by-step manner. The Python code snippet to implement a method or concept is followed by the output, such as charts, dataset heads, pictures, and so on. The statistical concepts are explained in detail wherever required.