Marketing Data Science Modeling Techniques In Predictive Analytics With R And Python Ft Press Analytics

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Machine Learning in Python - Michael Bowles 2015-04-27
Learn a simpler and more effective way to analyze data and predict outcomes with Python Machine Learning in Python shows you how to successfully analyze data using only two core machine learning algorithms, and how to apply them using Python. By focusing on two algorithm families that effectively predict outcomes, this book is able to provide full descriptions of the mechanisms at work, and the examples that illustrate the machinery with specific, hackable code. The algorithms are explained in simple terms with no complex math and applied using Python, with guidance on algorithm selection, data preparation, and using the trained models in practice. You will learn a core set of Python programming techniques, various methods of building predictive models, and how to measure the performance of each model to ensure that the right one is used. The chapters on penalized linear regression and ensemble methods dive deep into each of the algorithms, and you can use the sample code in the book to develop your own data analysis solutions. Machine learning algorithms are at the core of data analytics and visualization. In the past, these methods required a deep background in math and statistics, often in combination with the specialized R programming language. This book demonstrates how machine learning can be implemented using the more widely used and accessible Python programming language. Predict outcomes using linear and ensemble algorithm families Build predictive models that solve a range of simple and complex problems Apply core machine learning algorithms using Python Use sample code directly to build custom solutions Machine learning doesn't have to be complex and highly specialized. Python makes this technology more accessible to a much wider audience, using methods that are simpler, effective, and well tested. Machine Learning in Python shows you how to do this, without requiring an extensive background in math or statistics.

Predictive Analytics - Eric Siegel 2016-01-13
"Mesmerizing & fascinating..." —The Seattle Post-Intelligencer "The Freakonomics of big data." —Stein Kretsinger, 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 Marketing Analytics - Mirza Rahim Baig 2021-09-07 Turbocharge your marketing plans by making the leap from simple descriptive statistics in Excel to sophisticated predictive analytics with the Python programming language Key FeaturesUse data analytics and machine learning in a sales and marketing contextGain insights from data to make better business decisionsBuild your experience and confidence with realistic hands-on practiceBook Description Unleash the power of data to reach your marketing goals with this practical guide to data science for business. This book will help you get started on your journey to becoming a master of marketing analytics with Python. You'll work with relevant datasets and build your practical skills by tackling engaging exercises and activities that simulate real-world market analysis projects. You'll learn to think like a data scientist, build your problem-solving skills, and discover how to look at data in new ways to deliver business insights and make intelligent data-driven decisions. As well as learning how to clean, explore, and visualize data, you'll implement machine learning algorithms and build models to make predictions. As you work through the book, you'll use Python tools to analyze sales, visualize advertising data, predict revenue, address customer churn, and implement customer segmentation to understand

behavior. By the end of this book, you'll have the knowledge, skills, and confidence to implement data science and machine learning techniques to better understand your marketing data and improve your decision-making. What you will learnLoad, clean, and explore sales and marketing data using pandasForm and test hypotheses using real data sets and analytics toolsVisualize patterns in customer behavior using MatplotlibUse advanced machine learning models like random forest and SVMUse various unsupervised learning algorithms for customer segmentationUse supervised learning techniques for sales predictionEvaluate and compare different models to get the best outcomesOptimize models with hyperparameter tuning and SMOTEWho this book is for This marketing book is for anyone who wants to learn how to use Python for cutting-edge marketing analytics. Whether you're a developer who wants to move into marketing, or a marketing analyst who wants to learn more sophisticated tools and techniques, this book will get you on the right path. Basic prior knowledge of Python and experience working with data will help you access this book more easily.

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.

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.

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).

Data Science For Dummies - Lillian Pierson 2017-03-06 Discover how data science can help you gain in-depth insight into your business - the easy way! Jobs in data science abound, but few people have the data science skills needed to fill these increasingly important roles. Data Science For Dummies is the perfect starting point for IT professionals and students who want a quick primer on all areas of the expansive data science space. With a focus on business cases, the book explores topics in big data, data science, and data engineering, and how these three areas are combined to produce tremendous value. If you want to pick-up the skills you need to begin a new career or initiate a new project, reading this book will help you understand what technologies, programming languages, and mathematical methods on which to focus. While this book serves as a wildly fantastic guide through the broad, sometimes intimidating field of big data and data science, it is not an instruction manual for hands-on implementation. Here's what to expect: Provides a background in big data and data engineering before moving on to data science and how it's applied to generate value Includes coverage of big data frameworks like Hadoop, MapReduce, Spark, MPP platforms, and NoSQL Explains machine learning and many of its algorithms as well as artificial intelligence and the evolution of the Internet of Things Details data visualization techniques that can be used to showcase, summarize, and communicate the data insights you generate It's a big, big data world out there—let Data Science For Dummies help you harness its power and gain a competitive edge for your organization.

Marketing and Sales Analytics - Cesar A. Brea 2014 Today, an effective marketing analytics executive is even more important than a brilliant data scientist. That's because successful analytics investments now require managerial orchestration of many elements that

go far beyond conventional definitions of analytics. Marketing and Sales Analytics examines the experiences of sales and marketing leaders and practitioners who have successfully built high value analytics capabilities in multiple industries. Then, drawing on their experiences, top analytics consultant Cesar Brea introduces overarching frameworks and specific tools that can help you achieve the same levels of success in your own organization. Brea shows how to: Establish the "ecosystemic" conditions for analytic success Reconcile the diverse perspectives that impact analytics initiatives ("Business v. IT," "Sales v. Marketing," "Analysts v. Creatives v. Managers," and "Everyone v. Finance") Decide what success will "look like" Agree on the questions to ask Organize both internal and external data Establish operational flexibility, and balance flexibility with efficiency Recruit the right people and organize them optimally Intelligently decide what to do yourself, and what to hire vendors for Balance research, analytics, and testing Implement proven research, analytics, and testing strategies Deliver results through storytelling (and recognize its limitations) Control the biases that creep into analytics research Maintain momentum, implement governance, and "keep score"

Modeling Techniques in Predictive Analytics - Thomas W. Miller 2014
Today, successful firms compete and win based on analytics. Modeling Techniques in Predictive Analytics brings together all the concepts, techniques, and R code you need to excel in any role involving analytics. Thomas W. Miller's unique balanced approach combines business context and quantitative tools, appealing to managers, analysts, programmers, and students alike. Miller addresses multiple business challenges and business cases, including segmentation, brand positioning, product choice modeling, pricing research, finance, sports, text analytics, sentiment analysis, 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 matters, what data is relevant, how to explore your data once you've identified it, and then how to successfully model that data. You'll learn how to model data conceptually, with words and figures; and then how to model it with

realistic R programs that deliver actionable insights and knowledge. Miller walks you 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. All example code is presented in R, today's #1 system for applied statistics, statistical research, and predictive modeling; 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).

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

Data Science & Business Analytics - Sneha Kumari 2020-12-04
Data Science & Business Analytics explores the application of big data and business analytics by academics, researchers, industrial experts, policy makers and practitioners, helping the reader to understand how

big data can be efficiently utilized in better managerial applications.

Applied Predictive Analytics - Dean Abbott 2014-04-14
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 as 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.

Predictive Analytics For Dummies - Anasse Bari 2014-03-06
Combine business sense, statistics, and computers in a new and intuitive way, thanks to Big Data Predictive analytics is a branch of data mining that helps predict probabilities and trends. Predictive Analytics For Dummies explores the power of predictive analytics and how you can use it to make valuable predictions for your business, or in fields such as advertising, fraud detection, politics, and others. This practical book does not bog you down with loads of mathematical or scientific theory, but instead helps you quickly see how to use the right algorithms and tools to collect and analyze data and apply it to make predictions. Topics include using structured and unstructured data, building models,

creating a predictive analysis roadmap, setting realistic goals, budgeting, and much more. Shows readers how to use Big Data and data mining to discover patterns and make predictions for tech-savvy businesses Helps readers see how to shepherd predictive analytics projects through their companies Explains just enough of the science and math, but also focuses on practical issues such as protecting project budgets, making good presentations, and more Covers nuts-and-bolts topics including predictive analytics basics, using structured and unstructured data, data mining, and algorithms and techniques for analyzing data Also covers clustering, association, and statistical models; creating a predictive analytics roadmap; and applying predictions to the web, marketing, finance, health care, and elsewhere Propose, produce, and protect predictive analytics projects through your company with Predictive Analytics For Dummies.

End-to-End Data Science with SAS - James Gearheart 2020-06-26
Learn data science concepts with real-world examples in SAS! End-to-End Data Science with SAS: A Hands-On Programming Guide provides clear and practical explanations of the data science environment, machine learning techniques, and the SAS programming knowledge necessary to develop machine learning models in any industry. The book covers concepts including understanding the business need, creating a modeling data set, linear regression, parametric classification models, and non-parametric classification models. Real-world business examples and example code are used to demonstrate each process step-by-step. Although a significant amount of background information and supporting mathematics are presented, the book is not structured as a textbook, but rather it is a user's guide for the application of data science and machine learning in a business environment. Readers will learn how to think like a data scientist, wrangle messy data, choose a model, and evaluate the model's effectiveness. New data scientists or professionals who want more experience with SAS will find this book to be an invaluable reference. Take your data science career to the next level by mastering SAS programming for machine learning models.

Python for Marketing Research and Analytics - Jason S. Schwarz

2020-11-03

This book provides an introduction to quantitative marketing with Python. The book presents a hands-on approach to using Python for real marketing questions, organized by key topic areas. Following the Python scientific computing movement toward reproducible research, the book presents all analyses in Colab notebooks, which integrate code, figures, tables, and annotation in a single file. The code notebooks for each chapter may be copied, adapted, and reused in one's own analyses. The book also introduces the usage of machine learning predictive models using the Python sklearn package in the context of marketing research. This book is designed for three groups of readers: experienced marketing researchers who wish to learn to program in Python, coming from tools and languages such as R, SAS, or SPSS; analysts or students who already program in Python and wish to learn about marketing applications; and undergraduate or graduate marketing students with little or no programming background. It presumes only an introductory level of familiarity with formal statistics and contains a minimum of mathematics.

Web and Network Data Science - Thomas W. Miller 2014-12-19
Master modern web and network data modeling: both theory and applications. In Web and Network Data Science, a top faculty member of Northwestern University's prestigious analytics program presents the first fully-integrated treatment of both the business and academic elements of web and network modeling for predictive analytics. Some books in this field focus either entirely on business issues (e.g., Google Analytics and SEO); others are strictly academic (covering topics such as sociology, complexity theory, ecology, applied physics, and economics). This text gives today's managers and students what they really need: integrated coverage of concepts, principles, and theory in the context of real-world applications. Building on his pioneering Web Analytics course at Northwestern University, Thomas W. Miller covers usability testing, Web site performance, usage analysis, social media platforms, search engine optimization (SEO), and many other topics. He balances this practical coverage with accessible and up-to-date introductions to both social network analysis and network science, demonstrating how these

disciplines can be used to solve real business problems.

Predictive Analytics Using Statistics and Big Data: Concepts and Modeling - Krishna Kumar Mohbey 2020-12-09
This book presents a selection of the latest and representative developments in predictive analytics using big data technologies. It focuses on some critical aspects of big data and machine learning and provides studies for readers. The chapters address a comprehensive range of advanced data technologies used for statistical modeling towards predictive analytics. Topics included in this book include: - Categorized machine learning algorithms - Player monopoly in cricket teams. - Chain type estimators - Log type estimators - Bivariate survival data using shared inverse Gaussian frailty models - Weblog analysis - COVID-19 epidemiology This reference book will be of significant benefit to the predictive analytics community as a useful guide of the latest research in this emerging field.

Predictive Analytics with Microsoft Azure Machine Learning - Valentine Fontama 2014-11-25
Data Science and Machine Learning are in high demand, as customers are increasingly looking for ways to glean insights from all their data. More customers now realize that Business Intelligence is not enough as the volume, speed and complexity of data now defy traditional analytics tools. While Business Intelligence addresses descriptive and diagnostic analysis, Data Science unlocks new opportunities through predictive and prescriptive analysis. The purpose of this book is to provide a gentle and instructionally organized introduction to the field of data science and machine learning, with a focus on building and deploying predictive models. The book also provides a thorough overview of the Microsoft Azure Machine Learning service using task oriented descriptions and concrete end-to-end examples, sufficient to ensure the reader can immediately begin using this important new service. It describes all aspects of the service from data ingress to applying machine learning and evaluating the resulting model, to deploying the resulting model as a machine learning web service. Finally, this book attempts to have minimal dependencies, so that you can fairly easily pick and choose

chapters to read. When dependencies do exist, they are listed at the start and end of the chapter. The simplicity of this new service from Microsoft will help to take Data Science and Machine Learning to a much broader audience than existing products in this space. Learn how you can quickly build and deploy sophisticated predictive models as machine learning web services with the new Azure Machine Learning service from Microsoft.

Web and Network Data Science - Thomas W. Miller 2015
Master modern web and network data modeling: both theory and applications. InWeb and Network Data Science, a top faculty member of Northwestern University's prestigious analytics program presents the first fully-integrated treatment of both the business and academic elements of web and network modeling for predictive analytics. Some books in this field focus either entirely on business issues (e.g., Google Analytics and SEO); others are strictly academic (covering topics such as sociology, complexity theory, ecology, applied physics, and economics). This text gives today's managers and students what they really need: integrated coverage of concepts, principles, and theoryin the context of real-world applications. Building on his pioneering Web Analytics course at Northwestern University, Thomas W. Miller covers usability testing, Web site performance, usage analysis, social media platforms, search engine optimization (SEO), and many other topics. He balances this practical coverage with accessible and up-to-date introductions to both social network analysis and network science, demonstrating how these disciplines can be used to solve real business problems.

Data Science for Marketing Analytics - Tommy Blanchard 2019-03-30
Explore new and more sophisticated tools that reduce your marketing analytics efforts and give you precise results Key FeaturesStudy new techniques for marketing analyticsExplore uses of machine learning to power your marketing analysesWork through each stage of data analytics with the help of multiple examples and exercisesBook Description Data Science for Marketing Analytics covers every stage of data analytics, from working with a raw dataset to segmenting a population and modeling different parts of the population based on the segments. The

book starts by teaching you how to use Python libraries, such as pandas and Matplotlib, to read data from Python, manipulate it, and create plots, using both categorical and continuous variables. Then, you'll learn how to segment a population into groups and use different clustering techniques to evaluate customer segmentation. As you make your way through the chapters, you'll explore ways to evaluate and select the best segmentation approach, and go on to create a linear regression model on customer value data to predict lifetime value. In the concluding chapters, you'll gain an understanding of regression techniques and tools for evaluating regression models, and explore ways to predict customer choice using classification algorithms. Finally, you'll apply these techniques to create a churn model for modeling customer product choices. By the end of this book, you will be able to build your own marketing reporting and interactive dashboard solutions. What you will learnAnalyze and visualize data in Python using pandas and MatplotlibStudy clustering techniques, such as hierarchical and k-means clusteringCreate customer segments based on manipulated data Predict customer lifetime value using linear regressionUse classification algorithms to understand customer choiceOptimize classification algorithms to extract maximal informationWho this book is for Data Science for Marketing Analytics is designed for developers and marketing analysts looking to use new, more sophisticated tools in their marketing analytics efforts. It'll help if you have prior experience of coding in Python and knowledge of high school level mathematics. Some experience with databases, Excel, statistics, or Tableau is useful but not necessary.

Predictive Analytics - Vijay Kumar 2021-01-13
Predictive analytics refers to making predictions about the future based on different parameters which are historical data, machine learning, and artificial intelligence. This book provides the most recent advances in the field along with case studies and real-world examples. It discusses predictive modeling and analytics in reliability engineering and introduces current achievements and applications of artificial intelligence, data mining, and other techniques in supply chain

management. It covers applications to reliability engineering practice, presents numerous examples to illustrate the theoretical results, and considers and analyses case studies and real-word examples. The book is written for researchers and practitioners in the field of system reliability, quality, supply chain management, and logistics management. Students taking courses in these areas will also find this book of interest.

Hands-On Data Science for Marketing - Yoon Hyup Hwang 2019-03-29 Optimize your marketing strategies through analytics and machine learning Key FeaturesUnderstand how data science drives successful marketing campaignsUse machine learning for better customer engagement, retention, and product recommendationsExtract insights from your data to optimize marketing strategies and increase profitabilityBook Description Regardless of company size, the adoption of data science and machine learning for marketing has been rising in the industry. With this book, you will learn to implement data science techniques to understand the drivers behind the successes and failures of marketing campaigns. This book is a comprehensive guide to help you understand and predict customer behaviors and create more effectively targeted and personalized marketing strategies. This is a practical guide to performing simple-to-advanced tasks, to extract hidden insights from the data and use them to make smart business decisions. You will understand what drives sales and increases customer engagements for your products. You will learn to implement machine learning to forecast which customers are more likely to engage with the products and have high lifetime value. This book will also show you how to use machine learning techniques to understand different customer segments and recommend the right products for each customer. Apart from learning to gain insights into consumer behavior using exploratory analysis, you will also learn the concept of A/B testing and implement it using Python and R. By the end of this book, you will be experienced enough with various data science and machine learning techniques to run and manage successful marketing campaigns for your business. What you will learnLearn how to compute and visualize marketing KPIs in Python and RMaster what drives successful marketing campaigns with data

scienceUse machine learning to predict customer engagement and lifetime valueMake product recommendations that customers are most likely to buyLearn how to use A/B testing for better marketing decision makingImplement machine learning to understand different customer segmentsWho this book is for If you are a marketing professional, data scientist, engineer, or a student keen to learn how to apply data science to marketing, this book is what you need! It will be beneficial to have some basic knowledge of either Python or R to work through the examples. This book will also be beneficial for beginners as it covers basic-to-advanced data science concepts and applications in marketing with real-life examples.

Sports Analytics and Data Science - Thomas W. Miller 2015-11-18 This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. This up-to-the-minute reference will help you master all three facets of sports analytics — and use it to win! Sports Analytics and Data Science is the most accessible and practical guide to sports analytics for everyone who cares about winning and everyone who is interested in data science. You'll discover how successful sports analytics blends business and sports savvy, modern information technology, and sophisticated modeling techniques. You'll master the discipline through realistic sports vignettes and intuitive data visualizations–not complex math. Every chapter focuses on one key sports analytics application. Miller guides you through assessing players and teams, predicting scores and making game-day decisions, crafting brands and marketing messages, increasing revenue and profitability, and much more. Step by step, you'll learn how analysts transform raw data and analytical models into wins: both on the field and in any sports business.

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"--

Data Science for Business 2019 (2 BOOKS IN 1) - Riley Adams
2019-05-12

【This book includes 2 Manuscripts】 Are you looking for new ways to grow your business, with resources you already have? Do you want to know how the big players like Netflix, Amazon, or Shopify use data analytics to MULTIPLY their growth? Keep listening to learn how to use data analytics to maximize YOUR business.

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

Step-by-step guide to build high performing predictive applications Key FeaturesUse the Python data analytics ecosystem to implement end-to-end predictive analytics projectsExplore advanced predictive modeling algorithms with an emphasis on theory with intuitive explanationsLearn to deploy a predictive model's results as an interactive applicationBook 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 learnGet to grips with the main concepts and principles of predictive analyticsLearn about the stages involved in producing complete predictive analytics solutionsUnderstand how to define a problem, propose a solution, and prepare a datasetUse visualizations to explore relationships and gain insights into the datasetLearn to build regression and classification models using scikit-learnUse Keras to build powerful neural network models that produce accurate predictionsLearn to serve a model's predictions as a web applicationWho 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.

Statistical and Machine-Learning Data Mining: - Bruce Ratner
2017-07-12

Interest in predictive analytics of big data has grown exponentially in the four years since the publication of Statistical and Machine-Learning Data Mining: Techniques for Better Predictive Modeling and Analysis of Big Data, Second Edition. In the third edition of this bestseller, the author has completely revised, reorganized, and repositioned the original chapters and produced 13 new chapters of creative and useful machine-learning data mining techniques. In sum, the 43 chapters of simple yet insightful quantitative techniques make this book unique in the field of

data mining literature. What is new in the Third Edition: The current chapters have been completely rewritten. The core content has been extended with strategies and methods for problems drawn from the top predictive analytics conference and statistical modeling workshops. Adds thirteen new chapters including coverage of data science and its rise, market share estimation, share of wallet modeling without survey data, latent market segmentation, statistical regression modeling that deals with incomplete data, decile analysis assessment in terms of the predictive power of the data, and a user-friendly version of text mining, not requiring an advanced background in natural language processing (NLP). Includes SAS subroutines which can be easily converted to other languages. As in the previous edition, this book offers detailed background, discussion, and illustration of specific methods for solving the most commonly experienced problems in predictive modeling and analysis of big data. The author addresses each methodology and assigns its application to a specific type of problem. To better ground readers, the book provides an in-depth discussion of the basic methodologies of predictive modeling and analysis. While this type of overview has been attempted before, this approach offers a truly nitty-gritty, step-by-step method that both tyros and experts in the field can enjoy playing with.

R for Marketing Research and Analytics - Chris Chapman 2015-03-09
This book is a complete introduction to the power of R for marketing research practitioners. The text describes statistical models from a conceptual point of view with a minimal amount of mathematics, presuming only an introductory knowledge of statistics. Hands-on chapters accelerate the learning curve by asking readers to interact with R from the beginning. Core topics include the R language, basic statistics, linear modeling, and data visualization, which is presented throughout as an integral part of analysis. Later chapters cover more advanced topics yet are intended to be approachable for all analysts. These sections examine logistic regression, customer segmentation, hierarchical linear modeling, market basket analysis, structural equation modeling, and conjoint analysis in R. The text uniquely presents Bayesian models with a minimally complex approach, demonstrating and explaining Bayesian methods alongside traditional analyses for analysis of variance, linear models, and metric and choice-based conjoint analysis. With its emphasis on data visualization, model assessment, and development of statistical intuition, this book provides guidance for any analyst looking to develop or improve skills in R for marketing applications.

Effective CRM using Predictive Analytics - Antonios Chorianopoulos 2016-01-19
A step-by-step guide to data mining applications in CRM. Following a handbook approach, this book bridges the gap between analytics and their use in everyday marketing, providing guidance on solving real business problems using data mining techniques. The book is organized into three parts. Part one provides a methodological roadmap, covering both the business and the technical aspects. The data mining process is presented in detail along with specific guidelines for the development of optimized acquisition, cross/ deep/ up selling and retention campaigns, as well as effective customer segmentation schemes. In part two, some of the most useful data mining algorithms are explained in a simple and comprehensive way for business users with no technical expertise. Part three is packed with real world case studies which employ the use of three leading data mining tools: IBM SPSS Modeler, RapidMiner and Data Mining for Excel. Case studies from industries including banking, retail and telecommunications are presented in detail so as to serve as templates for developing similar applications. Key Features: Includes numerous real-world case studies which are presented step by step, demystifying the usage of data mining models and clarifying all the methodological issues. Topics are presented with the use of three leading data mining tools: IBM SPSS Modeler, RapidMiner and Data Mining for Excel. Accompanied by a website featuring material from each case study, including datasets and relevant code. Combining data mining and business knowledge, this practical book provides all the necessary information for designing, setting up, executing and deploying data mining techniques in CRM. Effective CRM using Predictive Analytics will benefit data mining practitioners and consultants, data analysts,

statisticians, and CRM officers. The book will also be useful to academics and students interested in applied data mining.

Handbook of Research on Predictive Modeling and Optimization Methods in Science and Engineering - Kim, Dookie 2018-06-15
The disciplines of science and engineering rely heavily on the forecasting of prospective constraints for concepts that have not yet been proven to exist, especially in areas such as artificial intelligence. Obtaining quality solutions to the problems presented becomes increasingly difficult due to the number of steps required to sift through the possible solutions, and the ability to solve such problems relies on the recognition of patterns and the categorization of data into specific sets. Predictive modeling and optimization methods allow unknown events to be categorized based on statistics and classifiers input by researchers. The Handbook of Research on Predictive Modeling and Optimization Methods in Science and Engineering is a critical reference source that provides comprehensive information on the use of optimization techniques and predictive models to solve real-life engineering and science problems. Through discussions on techniques such as robust design optimization, water level prediction, and the prediction of human actions, this publication identifies solutions to developing problems and new solutions for existing problems, making this publication a valuable resource for engineers, researchers, graduate students, and other professionals.

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.

Marketing Data Science - Thomas W. Miller 2015-05-11
Now , a leader of Northwestern University's prestigious analytics program presents a fully-integrated treatment of both the business and academic elements of marketing applications in predictive analytics. Writing for both managers and students, Thomas W. Miller explains essential concepts, principles, and theory in the context of real-world applications. Building on Miller's pioneering program, Marketing Data Science thoroughly addresses segmentation, target marketing, brand and product positioning, new product development, choice modeling, recommender systems, pricing research, retail site selection, demand estimation, sales forecasting, customer retention, and lifetime value analysis. Starting where Miller's widely-praised Modeling Techniques in Predictive Analytics left off, he integrates crucial information and insights that were previously segregated in texts on web analytics, network science, information technology, and programming. Coverage includes: The role of analytics in delivering effective messages on the

web Understanding the web by understanding its hidden structures Being recognized on the web - and watching your own competitors Visualizing networks and understanding communities within them Measuring sentiment and making recommendations Leveraging key data science methods: databases/data preparation, classical/Bayesian statistics, regression/classification, machine learning, and text analytics Six complete case studies address exceptionally relevant issues such as: separating legitimate email from spam; identifying legally-relevant information for lawsuit discovery; gleaning insights from anonymous web surfing data, and more. This text's extensive set of web and network problems draw on rich public-domain data sources; many are accompanied by solutions in Python and/or R. Marketing Data Science will be an invaluable resource for all students, faculty, and professional marketers who want to use business analytics to improve marketing performance.

Business Analytics with Management Science Models and Methods - Arben Asllani 2015
This book is about prescriptive analytics. It provides business practitioners and students with a selected set of management science and optimization techniques and discusses the fundamental concepts, methods, and models needed to understand and implement these techniques in the era of Big Data. A large number of management science models exist in the body of literature today. These models include optimization techniques or heuristics, static or dynamic programming, and deterministic or stochastic modeling. The topics selected in this book, mathematical programming and simulation modeling, are believed to be among the most popular management science tools, as they can be used to solve a majority of business optimization problems. Over the years, these techniques have become the weapon of choice for decision makers and practitioners when dealing with complex business systems.
Applied Analytics through Case Studies Using SAS and R - Deepti Gupta 2018-08-03
Examine business problems and use a practical analytical approach to solve them by implementing predictive models and machine learning techniques using SAS and the R analytical language. This book is ideal for those who are well-versed in writing code and have a basic understanding of statistics, but have limited experience in implementing predictive models and machine learning techniques for analyzing real world data. The most challenging part of solving industrial business problems is the practical and hands-on knowledge of building and deploying advanced predictive models and machine learning algorithms. Applied Analytics through Case Studies Using SAS and R is your answer to solving these business problems by sharpening your analytical skills. What You'll Learn Understand analytics and basic data concepts Use an analytical approach to solve Industrial business problems Build predictive model with machine learning techniques Create and apply analytical strategies Who This Book Is For Data scientists, developers, statisticians, engineers, and research students with a great theoretical understanding of data and statistics who would like to enhance their skills by getting practical exposure in data modeling.

Data Science Strategy For Dummies - Ulrika Jägare 2019-07-11
All the answers to your data science questions Over half of all businesses are using data science to generate insights and value from big data. How are they doing it? Data Science Strategy For Dummies answers all your questions about how to build a data science capability from scratch, starting with the "what" and the "why" of data science and covering what it takes to lead and nurture a top-notch team of data scientists. With this book, you'll learn how to incorporate data science as a strategic function into any business, large or small. Find solutions to your real-life challenges as you uncover the stories and value hidden within data. Learn exactly what data science is and why it's important Adopt a data-driven mindset as the foundation to success Understand the processes and common roadblocks behind data science Keep your data science program focused on generating business value Nurture a top-quality data science team In non-technical language, Data Science Strategy For Dummies outlines new perspectives and strategies to effectively lead analytics and data science functions to create real value.

Marketing Data Science - Thomas W. Miller 2015-05-02
Now , a leader of Northwestern University's prestigious analytics program presents a fully-integrated treatment of both the business and academic elements of marketing applications in predictive analytics. Writing for both managers and students, Thomas W. Miller explains essential concepts, principles, and theory in the context of real-world applications. Building on Miller's pioneering program, Marketing Data Science thoroughly addresses segmentation, target marketing, brand and product positioning, new product development, choice modeling, recommender systems, pricing research, retail site selection, demand estimation, sales forecasting, customer retention, and lifetime value analysis. Starting where Miller's widely-praised Modeling Techniques in Predictive Analytics left off, he integrates crucial information and insights that were previously segregated in texts on web analytics, network science, information technology, and programming. Coverage includes: The role of analytics in delivering effective messages on the web Understanding the web by understanding its hidden structures Being recognized on the web – and watching your own competitors Visualizing networks and understanding communities within them Measuring sentiment and making recommendations Leveraging key data science methods: databases/data preparation, classical/Bayesian statistics, regression/classification, machine learning, and text analytics Six complete case studies address exceptionally relevant issues such as: separating legitimate email from spam; identifying legally-relevant information for lawsuit discovery; gleaning insights from anonymous web surfing data, and more. This text's extensive set of web and network problems draw on rich public-domain data sources; many are accompanied by solutions in Python and/or R. Marketing Data Science will be an invaluable resource for all students, faculty, and professional marketers who want to use business analytics to improve marketing performance.
Modeling Techniques in Predictive Analytics with Python and R - Thomas W. Miller 2014
Using Phyton and R, the author addresses multiple business challenge,

including segmentation, brand positioning, product choice modeling, pricing research, finance, sprots, text analytics, sentiment analysis and social network analysis, cross sectional data, time series, spatial and spatio-temporal data.
Predictive Analytics for Marketers - Barry Leventhal 2018-02-03
Predictive analytics has revolutionized marketing practice. It involves using many techniques from data mining, statistics, modelling, machine learning and artificial intelligence, to analyse current data and make predictions about unknown future events. In business terms, this enables companies to forecast consumer behaviour and much more. Predictive Analytics for Marketers will guide marketing professionals on how to apply predictive analytical tools to streamline business practices. Including comprehensive coverage of an array of predictive analytic tools and techniques, this book enables readers to harness patterns from past data, to make accurate and useful predictions that can be converted to business success. Truly global in its approach, the insights these techniques offer can be used to manage resources more effectively across all industries and sectors. Written in clear, non-technical language, Predictive Analytics for Marketers contains case studies from the author's more than 25 years of experience and articles from guest contributors, demonstrating how predictive analytics has been used to successfully achieve a range of business purposes.
Marketing Analytics - Mike Grigsby 2018-04-03
Who is most likely to buy and what is the best way to target them? How can businesses improve strategy without identifying the key influencing factors? The second edition of Marketing Analytics enables marketers and business analysts to leverage predictive techniques to measure and improve marketing performance. By exploring real-world marketing challenges, it provides clear, jargon-free explanations on how to apply different analytical models for each purpose. From targeted list creation and data segmentation, to testing campaign effectiveness, pricing structures and forecasting demand, this book offers a welcome handbook on how statistics, consumer analytics and modelling can be put to optimal use. The fully revised second edition of Marketing Analytics

includes three new chapters on big data analytics, insights and panel regression, including how to collect, separate and analyze big data. All of the advanced tools and techniques for predictive analytics have been updated, translating models such as tobit analysis for customer lifetime value into everyday use. Whether an experienced practitioner or having no prior knowledge, methodologies are simplified to ensure the more complex aspects of data and analytics are fully accessible for any level of application. Complete with downloadable data sets and test bank resources, this book supplies a concrete foundation to optimize marketing analytics for day-to-day business advantage.

Sports Analytics and Data Science - Thomas Miller 2015-10-15 This is a complete, practical guide to sports data science and modeling, with examples from sports industry economics, marketing, management, performance measurement, and competitive analysis. Thomas W. Miller, faculty director of Northwestern University's pioneering Predictive Analytics program, shows how to use advanced measures of individual and team performance to judge the competitive position of both individual athletes and teams, and to make more accurate predictions about their future performance. Miller's modeling techniques draw on methods from economics, accounting, finance, classical and Bayesian statistics, machine learning, simulation, and mathematical programming. Miller illustrates them through realistic case studies, with fully worked examples in both Python and R. Sports Analytics and Data Science will be an invaluable resource for everyone who wants to seriously investigate and more accurately predict athletic performance, including students, teachers, sports analysts, sports fans, physiologists, coaches, and managers of sports teams. It will also be valuable to all students of analytics who want to build their skills through familiar and accessible sports applications.