

motivate classical inference methods. The book strikes a balance between theory, computing, and applications, and the new edition explores additional topics including consulting, paired t test, ANOVA and Google Interview Questions. Throughout the book, new and updated case studies are included representing a diverse range of subjects such as flight delays, birth weights of babies, and telephone company repair times. These illustrate the relevance of the real-world applications of the material. This new edition: • Puts the focus on statistical consulting that emphasizes giving a client an understanding of data and goes beyond typical expectations • Presents new material on topics such as the paired t test, Fisher's Exact Test and the EM algorithm • Offers a new section on "Google Interview Questions" that illustrates statistical thinking • Provides a new chapter on ANOVA • Contains more exercises and updated case studies, data sets, and R code Written for undergraduate students in a mathematical statistics course as well as practitioners and researchers, the second edition of Mathematical Statistics with Resampling and R presents a revised and updated guide for applying the most current resampling techniques to mathematical statistics.

This book is for actuaries and financial analysts developing their expertise in statistics and who wish to become familiar with concrete examples of predictive modeling.

Elegant Graphics for Data Analysis

R Programming By Example

Using R for Biostatistics

R for Data Science

Import, Tidy, Transform, Visualize, and Model Data

Exploratory Data Analysis with R

Geospatial health data are essential to inform public health and policy. These data can be used to quantify disease burden, understand geographic and temporal patterns, identify risk factors, and measure inequalities. Geospatial Health Data: Modeling and Visualization with R-INLA and Shiny describes spatial and spatio-temporal statistical methods and visualization techniques to analyze georeferenced health data in R. The book covers the following topics: Manipulate and transform point, areal, and raster data. Bayesian hierarchical models for disease mapping using areal and geostatistical data. Fit and interpret spatial and spatio-temporal models with the Integrated Nested Laplace Approximations (INLA) and the Stochastic Partial Differential Equation (SPDE) approaches. Create interactive and static visualizations such as disease maps and time plots. Reproducible R Markdown reports, interactive dashboards, and Shiny web applications that facilitate the communication of insights to collaborators and policy makers. The book features fully reproducible examples of several disease and environmental applications using real-world data such as malaria in The Gambia, cancer in Scotland and USA, and air pollution in Spain. Examples in the book focus on health applications, but the approaches covered are also applicable to other fields that use georeferenced data including epidemiology, ecology, demography or criminology. The book provides clear descriptions of the R code for data importing, manipulation, modeling and visualization, as well as the interpretation of the results. This ensures contents are fully reproducible and accessible for students, researchers and practitioners.

R Graphics Cookbook'O'Reilly Media, Inc."

Develop informative and aesthetic visualizations that enable effective data analysis in less time Key FeaturesDiscover structure of ggplot2, grammar of graphics, and geometric objectsStudy how to design and implement visualization from scratchExplore the advantages of using advanced plotsBook Description Applied Data Visualization with R and ggplot2 introduces you to the world of data visualization by taking you through the basic features of ggplot2. To start with, you'll learn how to set up the R environment, followed by getting insights into the grammar of graphics and geometric objects before you explore the plotting techniques. You'll discover what layers, scales, coordinates, and themes are, and study how you can use them to transform your data into aesthetical graphs. Once you've grasped the basics, you'll move on to studying simple plots such as histograms and advanced plots such as superimposing and density plots. You'll also get to grips with plotting trends, correlations, and statistical summaries. By the end of this book, you'll have created data visualizations that will impress your clients. What you will learnSet up the R environment, RStudio, and understand structure of ggplot2Distinguish variables and use best practices to visualize themChange visualization defaults to reveal more information about dataImplement the grammar of graphics in ggplot2 such as scales and facetingBuild complex and aesthetic visualizations with ggplot2 analysis methodsLogically and systematically explore complex relationshipsCompare variables in a single visual, with advanced plotting methodsWho this book is for Applied Data Visualization with R and ggplot2 is for you if you are a professional working with data and R. This book is also for students who want to enhance their data analysis skills by adding informative and professional visualizations. It is assumed that you know basics of the R language and its commands and objects.

ggplot2 is one of the most sophisticated and advanced packages of R and its use is constantly growing in the community of R programmers. This book is the perfect starting point for your journey in learning about one of the most refined and widely used plotting tools—ggplot2. You will start by taking a tour of the most relevant packages available in R to create plots such as graphics, lattice, and ggplot2. Following this, you will take a deep dive into the concepts of ggplot2 by covering different kinds of plots that will help you gear up for your first hands-on project. After this first taste of the capabilities of ggplot2, you will explore in detail the visualization approach implemented in this package, the so-called grammar of graphics providing you with the basics to understand the backstage concepts in the plotting functions. Finally, you will take a look at some specialized and sophisticated applications of ggplot2, such as how to realize a complex scatterplot matrix, heatmaps, and how to make spatial visualization graphs.

Predictive modeling involves the use of data to forecast future events. It relies on capturing relationships between explanatory variables and the predicted variables from past occurrences and exploiting this to predict future outcomes. Forecasting future financial events is a core actuarial skill - actuaries routinely apply predictive-modeling techniques in insurance and other risk-management applications. This book is for actuaries and other financial analysts who are developing their expertise in statistics and wish to become familiar with concrete examples of predictive modeling. The book also addresses the needs of more seasoned practising analysts who would like an overview of advanced statistical topics that are particularly relevant in actuarial practice. Predictive Modeling Applications in Actuarial Science emphasizes lifelong learning by developing tools in an insurance context, providing the relevant actuarial applications, and introducing advanced statistical techniques that can be used by analysts to gain a competitive advantage in situations with complex data.

An Introduction to R for Spatial Analysis and Mapping

Advanced R

Learn R Programming in 1 Day

Statistical Inference via Data Science: A ModernDive into R and the Tidyverse

R Projects For Dummies

Longitudinal Data Analysis for the Behavioral Sciences Using R

Success in data science depends on the flexible and appropriate use of tools. That includes Python and R, two of the foundational programming languages in the field. This book guides data scientists from the Python and R communities along the path to becoming bilingual. By recognizing the strengths of both languages, you'll discover new ways to accomplish data science tasks and expand your skill set. Authors Rick Scavetta and Boyan Angelov explain the parallel structures of these languages and highlight where each one excels, whether it's their linguistic features or the powers of their open source ecosystems. You'll learn how to use Python and R together in real-world settings and broaden your job opportunities as a bilingual data scientist. Learn Python and R from the perspective of your current language Understand the strengths and weaknesses of each language Identify use cases where one language is better suited than the other Understand the modern open source ecosystem available for both, including packages, frameworks, and workflows Learn how to integrate R and Python in a single workflow Follow a case study that demonstrates ways to use these languages together

The New Statistics with R

Predictive Modeling Applications in Actuarial Science: Volume 1, Predictive Modeling Techniques

Bioinformatics with Python Cookbook

Mathematical Statistics with Resampling and R

Introduction to Data Science