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R for Data Science Learning R The Big R-Book *Machine Learning with R* Hands-On Machine Learning with R **An Introduction to Statistical Learning** Learn R Learning Statistics with R *Practical Machine Learning in R* *Introduction to Deep Learning Using R* Deep Learning with R **Deep Learning with R Mathematics and Programming for Machine Learning with R** *Introduction to Machine Learning with R* **Learning R Programming** *Introductory Statistics with R* **Hands-On**

Programming with R Machine Learning with R, the tidyverse, and mlr *Learning RStudio for R* *Statistical Computing* *Data Mining with R* *R Programming* **Machine Learning Using R** Machine Learning with R **Advanced Deep Learning with R** **R Programming** Mastering Machine Learning with R **Statistical Learning with Math and Python** *Just Enough R!* Machine Learning with R *Machine Learning Using R* **Hands-On Programming with R** A Tour of Data Science **Learning Quantitative**

Finance with R *Machine Learning with R Cookbook* **Supervised Machine Learning for Text Analysis in R** **Machine Learning with R Quick Start Guide** *Exploring Everyday Things with R and Ruby* [Machine Learning for Knowledge Discovery with R](#) [Learn R for Applied Statistics](#) [R Markdown](#)

Learning Statistics with R May 26 2022
"Learning Statistics with R" covers the contents of an introductory statistics class, as typically taught to undergraduate psychology students, focusing on the use of the R statistical software and adopting a light, conversational style throughout. The book discusses how to get started in R, and gives an introduction to data manipulation and writing scripts. From a statistical perspective, the book discusses descriptive statistics and graphing first, followed by chapters on probability theory, sampling and estimation, and null hypothesis testing. After introducing the theory, the book covers the

analysis of contingency tables, t-tests, ANOVAs and regression. Bayesian statistics are covered at the end of the book. For more information (and the opportunity to check the book out before you buy!) visit <http://ua.edu.au/ccs/teaching/lsr> or <http://learningstatisticswithr.com>
[Deep Learning with R](#) Feb 20 2022
Deep Learning with R introduces deep learning and neural networks using the R programming language. The book builds on the understanding of the theoretical and mathematical constructs and enables the reader to create applications on computer vision, natural language processing and transfer learning. The book starts with an introduction to machine learning and moves on to describe the basic architecture, different activation functions, forward propagation, cross-entropy loss and backward propagation of a simple neural network. It goes on to create different code segments to construct deep neural networks. It discusses in detail the

initialization of network parameters, optimization techniques, and some of the common issues surrounding neural networks such as dealing with NaNs and the vanishing/exploding gradient problem. Advanced variants of multilayered perceptrons namely, convolutional neural networks and sequence models are explained, followed by application to different use cases. The book makes extensive use of the Keras and TensorFlow frameworks.

The Big R-Book Oct 31 2022 Introduces professionals and scientists to statistics and machine learning using the programming language R Written by and for practitioners, this book provides an overall introduction to R, focusing on tools and methods commonly used in data science, and placing emphasis on practice and business use. It covers a wide range of topics in a single volume, including big data, databases, statistical machine learning, data wrangling, data visualization, and the reporting of results. The topics covered are all important

for someone with a science/math background that is looking to quickly learn several practical technologies to enter or transition to the growing field of data science. The Big R-Book for Professionals: From Data Science to Learning Machines and Reporting with R includes nine parts, starting with an introduction to the subject and followed by an overview of R and elements of statistics. The third part revolves around data, while the fourth focuses on data wrangling. Part 5 teaches readers about exploring data. In Part 6 we learn to build models, Part 7 introduces the reader to the reality in companies, Part 8 covers reports and interactive applications and finally Part 9 introduces the reader to big data and performance computing. It also includes some helpful appendices. Provides a practical guide for non-experts with a focus on business users Contains a unique combination of topics including an introduction to R, machine learning, mathematical models, data wrangling,

and reporting Uses a practical tone and integrates multiple topics in a coherent framework Demystifies the hype around machine learning and AI by enabling readers to understand the provided models and program them in R Shows readers how to visualize results in static and interactive reports Supplementary materials includes PDF slides based on the book's content, as well as all the extracted R-code and is available to everyone on a Wiley Book Companion Site The Big R-Book is an excellent guide for science technology, engineering, or mathematics students who wish to make a successful transition from the academic world to the professional. It will also appeal to all young data scientists, quantitative analysts, and analytics professionals, as well as those who make mathematical models.

R Markdown Aug 24 2019 R Markdown: The Definitive Guide is the first official book authored by the core R Markdown developers that provides a comprehensive and accurate

reference to the R Markdown ecosystem. With R Markdown, you can easily create reproducible data analysis reports, presentations, dashboards, interactive applications, books, dissertations, websites, and journal articles, while enjoying the simplicity of Markdown and the great power of R and other languages. In this book, you will learn Basics: Syntax of Markdown and R code chunks, how to generate figures and tables, and how to use other computing languages Built-in output formats of R Markdown:

PDF/HTML/Word/RTF/Markdown documents and ioslides/Slidy/Beamer/PowerPoint presentations Extensions and applications: Dashboards, Tufte handouts, xaringan/reveal.js presentations, websites, books, journal articles, and interactive tutorials Advanced topics: Parameterized reports, HTML widgets, document templates, custom output formats, and Shiny documents. Yihui Xie is a software engineer at RStudio. He has authored and co-authored several R packages, including knitr,

rmarkdown, bookdown, blogdown, shiny, xaringan, and animation. He has published three other books, Dynamic Documents with R and knitr, bookdown: Authoring Books and Technical Documents with R Markdown, and blogdown: Creating Websites with R Markdown. J.J. Allaire is the founder of RStudio and the creator of the RStudio IDE. He is an author of several packages in the R Markdown ecosystem including rmarkdown, flexdashboard, learnr, and radix. Garrett Golemund is the co-author of R for Data Science and author of Hands-On Programming with R. He wrote the lubridate R package and works for RStudio as an advocate who trains engineers to do data science with R and the Tidyverse.

[Hands-On Machine Learning with R](#) Aug 29 2022
Hands-on Machine Learning with R provides a practical and applied approach to learning and developing intuition into today's most popular machine learning methods. This book serves as a practitioner's guide to the machine learning

process and is meant to help the reader learn to apply the machine learning stack within R, which includes using various R packages such as glmnet, h2o, ranger, xgboost, keras, and others to effectively model and gain insight from their data. The book favors a hands-on approach, providing an intuitive understanding of machine learning concepts through concrete examples and just a little bit of theory. Throughout this book, the reader will be exposed to the entire machine learning process including feature engineering, resampling, hyperparameter tuning, model evaluation, and interpretation. The reader will be exposed to powerful algorithms such as regularized regression, random forests, gradient boosting machines, deep learning, generalized low rank models, and more! By favoring a hands-on approach and using real world data, the reader will gain an intuitive understanding of the architectures and engines that drive these algorithms and packages, understand when and how to tune the

various hyperparameters, and be able to interpret model results. By the end of this book, the reader should have a firm grasp of R's machine learning stack and be able to implement a systematic approach for producing high quality modeling results. Features:

- Offers a practical and applied introduction to the most popular machine learning methods.
- Topics covered include feature engineering, resampling, deep learning and more.
- Uses a hands-on approach and real world data.

Introductory Statistics with R Sep 17 2021

This book provides an elementary-level introduction to R, targeting both non-statistician scientists in various fields and students of statistics. The main mode of presentation is via code examples with liberal commenting of the code and the output, from the computational as well as the statistical viewpoint. Brief sections introduce the statistical methods before they are used. A supplementary R package can be downloaded and contains the data sets. All

examples are directly runnable and all graphics in the text are generated from the examples. The statistical methodology covered includes statistical standard distributions, one- and two-sample tests with continuous data, regression analysis, one- and two-way analysis of variance, regression analysis, analysis of tabular data, and sample size calculations. In addition, the last four chapters contain introductions to multiple linear regression analysis, linear models in general, logistic regression, and survival analysis.

Learn R for Applied Statistics Sep 25 2019 Gain the R programming language fundamentals for doing the applied statistics useful for data exploration and analysis in data science and data mining. This book covers topics ranging from R syntax basics, descriptive statistics, and data visualizations to inferential statistics and regressions. After learning R's syntax, you will work through data visualizations such as histograms and boxplot charting, descriptive

statistics, and inferential statistics such as t-test, chi-square test, ANOVA, non-parametric test, and linear regressions. Learn R for Applied Statistics is a timely skills-migration book that equips you with the R programming fundamentals and introduces you to applied statistics for data explorations. What You Will Learn Discover R, statistics, data science, data mining, and big data Master the fundamentals of R programming, including variables and arithmetic, vectors, lists, data frames, conditional statements, loops, and functions Work with descriptive statistics Create data visualizations, including bar charts, line charts, scatter plots, boxplots, histograms, and scatterplots Use inferential statistics including t-tests, chi-square tests, ANOVA, non-parametric tests, linear regressions, and multiple linear regressions Who This Book Is For Those who are interested in data science, in particular data exploration using applied statistics, and the use of R programming for data visualizations.

Learning RStudio for R Statistical Computing
Jun 14 2021 A practical tutorial covering how to leverage RStudio functionality to effectively perform R Development, analysis, and reporting with RStudio. The book is aimed at R developers and analysts who wish to do R statistical development while taking advantage of RStudio functionality to ease their development efforts. Familiarity with R is assumed. Those who want to get started with R development using RStudio will also find the book useful. Even if you already use R but want to create reproducible statistical analysis projects or extend R with self-written packages, this book shows how to quickly achieve this using RStudio.

Learning Quantitative Finance with R Mar 31 2020 Implement machine learning, time-series analysis, algorithmic trading and more About This Book Understand the basics of R and how they can be applied in various Quantitative Finance scenarios Learn various algorithmic trading techniques and ways to optimize them

using the tools available in R. Contain different methods to manage risk and explore trading using Machine Learning. Who This Book Is For If you want to learn how to use R to build quantitative finance models with ease, this book is for you. Analysts who want to learn R to solve their quantitative finance problems will also find this book useful. Some understanding of the basic financial concepts will be useful, though prior knowledge of R is not required. What You Will Learn Get to know the basics of R and how to use it in the field of Quantitative Finance Understand data processing and model building using R Explore different types of analytical techniques such as statistical analysis, time-series analysis, predictive modeling, and econometric analysis Build and analyze quantitative finance models using real-world examples How real-life examples should be used to develop strategies Performance metrics to look into before deciding upon any model Deep dive into the vast world of machine-learning

based trading Get to grips with algorithmic trading and different ways of optimizing it Learn about controlling risk parameters of financial instruments In Detail The role of a quantitative analyst is very challenging, yet lucrative, so there is a lot of competition for the role in top-tier organizations and investment banks. This book is your go-to resource if you want to equip yourself with the skills required to tackle any real-world problem in quantitative finance using the popular R programming language. You'll start by getting an understanding of the basics of R and its relevance in the field of quantitative finance. Once you've built this foundation, we'll dive into the practicalities of building financial models in R. This will help you have a fair understanding of the topics as well as their implementation, as the authors have presented some use cases along with examples that are easy to understand and correlate. We'll also look at risk management and optimization techniques for algorithmic trading. Finally, the book will

explain some advanced concepts, such as trading using machine learning, optimizations, exotic options, and hedging. By the end of this book, you will have a firm grasp of the techniques required to implement basic quantitative finance models in R. Style and approach This book introduces you to the essentials of quantitative finance with the help of easy-to-understand, practical examples and use cases in R. Each chapter presents a specific financial concept in detail, backed with relevant theory and the implementation of a real-life example.

Data Mining with R May 14 2021 Data Mining with R: Learning with Case Studies, Second Edition uses practical examples to illustrate the power of R and data mining. Providing an extensive update to the best-selling first edition, this new edition is divided into two parts. The first part will feature introductory material, including a new chapter that provides an introduction to data mining, to complement the

already existing introduction to R. The second part includes case studies, and the new edition strongly revises the R code of the case studies making it more up-to-date with recent packages that have emerged in R. The book does not assume any prior knowledge about R. Readers who are new to R and data mining should be able to follow the case studies, and they are designed to be self-contained so the reader can start anywhere in the document. The book is accompanied by a set of freely available R source files that can be obtained at the book's web site. These files include all the code used in the case studies, and they facilitate the "do-it-yourself" approach followed in the book. Designed for users of data analysis tools, as well as researchers and developers, the book should be useful for anyone interested in entering the "world" of R and data mining. About the Author Luís Torgo is an associate professor in the Department of Computer Science at the University of Porto in Portugal. He teaches Data

Mining in R in the NYU Stern School of Business' MS in Business Analytics program. An active researcher in machine learning and data mining for more than 20 years, Dr. Torgo is also a researcher in the Laboratory of Artificial Intelligence and Data Analysis (LIAAD) of INESC Porto LA.

Hands-On Programming with R Aug 17 2021
"Write Your Own Functions and Simulations."--
Cover.

An Introduction to Statistical Learning Jul 28 2022
An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged in fields ranging from biology to finance to marketing to astrophysics in the past twenty years. This book presents some of the most important modeling and prediction techniques, along with relevant applications. Topics include linear regression, classification, resampling methods, shrinkage approaches,

tree-based methods, support vector machines, clustering, and more. Color graphics and real-world examples are used to illustrate the methods presented. Since the goal of this textbook is to facilitate the use of these statistical learning techniques by practitioners in science, industry, and other fields, each chapter contains a tutorial on implementing the analyses and methods presented in R, an extremely popular open source statistical software platform. Two of the authors co-wrote The Elements of Statistical Learning (Hastie, Tibshirani and Friedman, 2nd edition 2009), a popular reference book for statistics and machine learning researchers. An Introduction to Statistical Learning covers many of the same topics, but at a level accessible to a much broader audience. This book is targeted at statisticians and non-statisticians alike who wish to use cutting-edge statistical learning techniques to analyze their data. The text assumes only a previous course in linear

regression and no knowledge of matrix algebra.

Mathematics and Programming for Machine Learning with R Dec 21 2021 Based on the author's experience in teaching data science for more than 10 years, *Mathematics and Programming for Machine Learning with R: From the Ground Up* reveals how machine learning algorithms do their magic and explains how these algorithms can be implemented in code. It is designed to provide readers with an understanding of the reasoning behind machine learning algorithms as well as how to program them. Written for novice programmers, the book progresses step-by-step, providing the coding skills needed to implement machine learning algorithms in R. The book begins with simple implementations and fundamental concepts of logic, sets, and probability before moving to the coverage of powerful deep learning algorithms. The first eight chapters deal with probability-based machine learning algorithms, and the last eight chapters deal with machine learning based

on artificial neural networks. The first half of the book does not require mathematical sophistication, although familiarity with probability and statistics would be helpful. The second half assumes the reader is familiar with at least one semester of calculus. The text guides novice R programmers through algorithms and their application and along the way; the reader gains programming confidence in tackling advanced R programming challenges. Highlights of the book include: More than 400 exercises A strong emphasis on improving programming skills and guiding beginners to the implementation of full-fledged algorithms Coverage of fundamental computer and mathematical concepts including logic, sets, and probability In-depth explanations of machine learning algorithms

R Programming Apr 12 2021 R is a programming language and software environment for statistical analysis, graphics representation, and reporting. If you are trying to understand the R

programming language as a beginner, this short book will give you enough understanding of almost all the concepts of the R language. The author will guide you through examples, how to program in R and how to use R for effective data analysis. Buy your copy Now! Book

Objectives This book is about R programming.

The following are the objectives of the author:

To familiarize you with the basics of R programming language. To help you understand the various fields where R can be applied and its use cases in each field. To equip you with R programming skills, both beginner and advanced skills. To introduce you to R programming for data analysis. To introduce you to R programming for machine learning. To help you understand and appreciate the power of R in statistical computing, data analysis, and scientific research. Who this Book is for?

Anybody who is a complete beginner to R Programming. Anybody in need of advancing their R Programming skills. Professionals in

computer programming. Professors, lecturers or tutors who are looking to find better ways to explain R programming to their students in the simplest and easiest way. Students and academicians, especially those focusing on R, Data Analysis, Machine Learning, computer science, and Databases development.

Requirements The author expects you to have a computer installed with an operating system such as Linux, Windows or Mac OS X. What is inside the book? R BASICS R DATA TYPES R VARIABLES AND CONSTANTS R OPERATORS DECISION MAKING IN R R LOOPS R FUNCTIONS R CLASSES AND OBJECTS R FOR DATA SCIENCE R FOR MACHINE LEARNING

From the Back Cover. R programming language is one of the most popular languages used by statisticians, data analysts, researchers to retrieve, clean, analyze, visualize and present data. This is a comprehensive book on how to get started with R programming, why you should learn it and how you can learn it. Daniel Bell

begins by introducing the readers to the foundations of the R programming language. The aim is to help you understand, how the R interpreter works, the origin of the name R, how to set up the R programming environment, etc. The author has discussed the process of installing R on Windows, Linux and Mac OS. Moreover, the author has explored the basics of R programming including writing comments, using the R console, creating R script files, etc. The various features provided by R have been discussed in depth, including data types, variables, loops, decision making, functions, operators, classes, and objects, etc. The author has also discussed R for data science and R for machine learning. The book has been organized into chapters, with each chapter having many sub-chapters. R code scripts have been provided, alongside thorough explanations of the code and images showing the expected output upon the execution of every script.

Machine Learning Using R Jul 04 2020 Examine

the latest technological advancements in building a scalable machine learning model with Big Data using R. This book shows you how to work with a machine learning algorithm and use it to build a ML model from raw data. All practical demonstrations will be explored in R, a powerful programming language and software environment for statistical computing and graphics. The various packages and methods available in R will be used to explain the topics. For every machine learning algorithm covered in this book, a 3-D approach of theory, case-study and practice will be given. And where appropriate, the mathematics will be explained through visualization in R. All the images are available in color and hi-res as part of the code download. This new paradigm of teaching machine learning will bring about a radical change in perception for many of those who think this subject is difficult to learn. Though theory sometimes looks difficult, especially when there is heavy mathematics involved, the

seamless flow from the theoretical aspects to example-driven learning provided in this book makes it easy for someone to connect the dots..

What You'll Learn Use the model building process flow Apply theoretical aspects of machine learning Review industry-based case studies Understand ML algorithms using R Build machine learning models using Apache Hadoop and Spark Who This Book is For Data scientists, data science professionals and researchers in academia who want to understand the nuances of machine learning approaches/algorithms along with ways to see them in practice using R. The book will also benefit the readers who want to understand the technology behind implementing a scalable machine learning model using Apache Hadoop, Hive, Pig and Spark.

Machine Learning with R Cookbook Feb 29 2020

The R language is a powerful open source functional programming language. At its core, R is a statistical programming language that provides impressive tools to analyze data and

create high-level graphics. This book covers the basics of R by setting up a user-friendly programming environment and performing data ETL in R. Data exploration examples are provided that demonstrate how powerful data visualization and machine learning is in discovering hidden relationships. You will then dive into important machine learning topics, including data classification, regression, clustering, association rule mining, and dimension reduction.

Machine Learning with R Sep 29 2022 Written as a tutorial to explore and understand the power of R for machine learning. This practical guide that covers all of the need to know topics in a very systematic way. For each machine learning approach, each step in the process is detailed, from preparing the data for analysis to evaluating the results. These steps will build the knowledge you need to apply them to your own data science tasks. Intended for those who want to learn how to use R's machine learning

capabilities and gain insight from your data. Perhaps you already know a bit about machine learning, but have never used R; or perhaps you know a little R but are new to machine learning. In either case, this book will get you up and running quickly. It would be helpful to have a bit of familiarity with basic programming concepts, but no prior experience is required.

Learn R Jun 26 2022 Learning a computer language like R can be either frustrating, fun, or boring. Having fun requires challenges that wake up the learner's curiosity but also provide an emotional reward on overcoming them. This book is designed so that it includes smaller and bigger challenges, in what I call playgrounds, in the hope that all readers will enjoy their path to R fluency. Fluency in the use of a language is a skill that is acquired through practice and exploration. Although rarely mentioned separately, fluency in a computer programming language involves both writing and reading. The parallels between natural and computer

languages are many, but differences are also important. For students and professionals in the biological sciences, humanities, and many applied fields, recognizing the parallels between R and natural languages should help them feel at home with R. The approach I use is similar to that of a travel guide, encouraging exploration and describing the available alternatives and how to reach them. The intention is to guide the reader through the R landscape of 2020 and beyond. Features R as it is currently used Few prescriptive rules—mostly the author's preferences together with alternatives Explanation of the R grammar emphasizing the "R way of doing things" Tutoring for "programming in the small" using scripts The grammar of graphics and the grammar of data described as grammars Examples of data exchange between R and the foreign world using common file formats Coaching for becoming an independent R user, capable of both writing original code and solving future challenges What

makes this book different from others: Tries to break the ice and help readers from all disciplines feel at home with R Does not make assumptions about what the reader will use R for Attempts to do only one thing well: guide readers into becoming fluent in the R language Pedro J. Aphalo is a PhD graduate from the University of Edinburgh, and is currently a lecturer at the University of Helsinki. A plant biologist and agriculture scientist with a passion for data, electronics, computers, and photography, in addition to plants, Dr. Aphalo has been a user of R for 25 years. He first organized an R course for MSc students 18 years ago, and is the author of 13 R packages currently in CRAN.

Machine Learning Using R Mar 12 2021

Examine the latest technological advancements in building a scalable machine-learning model with big data using R. This second edition shows you how to work with a machine-learning algorithm and use it to build a ML model from

raw data. You will see how to use R programming with TensorFlow, thus avoiding the effort of learning Python if you are only comfortable with R. As in the first edition, the authors have kept the fine balance of theory and application of machine learning through various real-world use-cases which gives you a comprehensive collection of topics in machine learning. New chapters in this edition cover time series models and deep learning. What You'll Learn Understand machine learning algorithms using R Master the process of building machine-learning models Cover the theoretical foundations of machine-learning algorithms See industry focused real-world use cases Tackle time series modeling in R Apply deep learning using Keras and TensorFlow in R Who This Book is For Data scientists, data science professionals, and researchers in academia who want to understand the nuances of machine-learning approaches/algorithms in practice using R.

Hands-On Programming with R Jun 02 2020

Learn how to program by diving into the R language, and then use your newfound skills to solve practical data science problems. With this book, you'll learn how to load data, assemble and disassemble data objects, navigate R's environment system, write your own functions, and use all of R's programming tools. RStudio Master Instructor Garrett Golemund not only teaches you how to program, but also shows you how to get more from R than just visualizing and modeling data. You'll gain valuable programming skills and support your work as a data scientist at the same time. Work hands-on with three practical data analysis projects based on casino games Store, retrieve, and change data values in your computer's memory Write programs and simulations that outperform those written by typical R users Use R programming tools such as if else statements, for loops, and S3 classes Learn how to write lightning-fast vectorized R code Take advantage of R's package system and debugging tools Practice

and apply R programming concepts as you learn them

Mastering Machine Learning with R Nov 07 2020 Master machine learning techniques with R to deliver insights for complex projects About This Book Get to grips with the application of Machine Learning methods using an extensive set of R packages Understand the benefits and potential pitfalls of using machine learning methods Implement the numerous powerful features offered by R with this comprehensive guide to building an independent R-based ML system Who This Book Is For If you want to learn how to use R's machine learning capabilities to solve complex business problems, then this book is for you. Some experience with R and a working knowledge of basic statistical or machine learning will prove helpful. What You Will Learn Gain deep insights to learn the applications of machine learning tools to the industry Manipulate data in R efficiently to prepare it for analysis Master the skill of

recognizing techniques for effective visualization of data Understand why and how to create test and training data sets for analysis Familiarize yourself with fundamental learning methods such as linear and logistic regression Comprehend advanced learning methods such as support vector machines Realize why and how to apply unsupervised learning methods In Detail Machine learning is a field of Artificial Intelligence to build systems that learn from data. Given the growing prominence of R—a cross-platform, zero-cost statistical programming environment—there has never been a better time to start applying machine learning to your data. The book starts with introduction to Cross-Industry Standard Process for Data Mining. It takes you through Multivariate Regression in detail. Moving on, you will also address Classification and Regression trees. You will learn a couple of “Unsupervised techniques”. Finally, the book will walk you through text analysis and time

series. The book will deliver practical and real-world solutions to problems and variety of tasks such as complex recommendation systems. By the end of this book, you will gain expertise in performing R machine learning and will be able to build complex ML projects using R and its packages. Style and approach This is a book explains complicated concepts with easy to follow theory and real-world, practical applications. It demonstrates the power of R and machine learning extensively while highlighting the constraints.

Supervised Machine Learning for Text

Analysis in R Jan 28 2020 Text data is important for many domains, from healthcare to marketing to the digital humanities, but specialized approaches are necessary to create features for machine learning from language. Supervised Machine Learning for Text Analysis in R explains how to preprocess text data for modeling, train models, and evaluate model performance using tools from the tidyverse and

tidymodels ecosystem. Models like these can be used to make predictions for new observations, to understand what natural language features or characteristics contribute to differences in the output, and more. If you are already familiar with the basics of predictive modeling, use the comprehensive, detailed examples in this book to extend your skills to the domain of natural language processing. This book provides practical guidance and directly applicable knowledge for data scientists and analysts who want to integrate unstructured text data into their modeling pipelines. Learn how to use text data for both regression and classification tasks, and how to apply more straightforward algorithms like regularized regression or support vector machines as well as deep learning approaches. Natural language must be dramatically transformed to be ready for computation, so we explore typical text preprocessing and feature engineering steps like tokenization and word embeddings from the

ground up. These steps influence model results in ways we can measure, both in terms of model metrics and other tangible consequences such as how fair or appropriate model results are.

Just Enough R! Sep 05 2020 *Just Enough R!* An Interactive Approach to Machine Learning and Analytics presents just enough of the R language, machine learning algorithms, statistical methodology, and analytics for the reader to learn how to find interesting structure in data. The approach might be called "seeing then doing" as it first gives step-by-step explanations using simple, understandable examples of how the various machine learning algorithms work independent of any programming language. This is followed by detailed scripts written in R that apply the algorithms to solve nontrivial problems with real data. The script code is provided, allowing the reader to execute the scripts as they study the explanations given in the text. Features Gets you quickly using R as a problem-solving tool Uses

RStudio's integrated development environment Shows how to interface R with SQLite Includes examples using R's Rattle graphical user interface Requires no prior knowledge of R, machine learning, or computer programming Offers over 50 scripts written in R, including several problem-solving templates that, with slight modification, can be used again and again Covers the most popular machine learning techniques, including ensemble-based methods and logistic regression Includes end-of-chapter exercises, many of which can be solved by modifying existing scripts Includes datasets from several areas, including business, health and medicine, and science About the Author Richard J. Roiger is a professor emeritus at Minnesota State University, Mankato, where he taught and performed research in the Computer and Information Science Department for over 30 years.

Advanced Deep Learning with R Jan 10 2021
Discover best practices for choosing, building,

training, and improving deep learning models using Keras-R, and TensorFlow-R libraries Key Features Implement deep learning algorithms to build AI models with the help of tips and tricks Understand how deep learning models operate using expert techniques Apply reinforcement learning, computer vision, GANs, and NLP using a range of datasets Book Description Deep learning is a branch of machine learning based on a set of algorithms that attempt to model high-level abstractions in data. Advanced Deep Learning with R will help you understand popular deep learning architectures and their variants in R, along with providing real-life examples for them. This deep learning book starts by covering the essential deep learning techniques and concepts for prediction and classification. You will learn about neural networks, deep learning architectures, and the fundamentals for implementing deep learning with R. The book will also take you through using important deep learning libraries such as

Keras-R and TensorFlow-R to implement deep learning algorithms within applications. You will get up to speed with artificial neural networks, recurrent neural networks, convolutional neural networks, long short-term memory networks, and more using advanced examples. Later, you'll discover how to apply generative adversarial networks (GANs) to generate new images; autoencoder neural networks for image dimension reduction, image de-noising and image correction and transfer learning to prepare, define, train, and model a deep neural network. By the end of this book, you will be ready to implement your knowledge and newly acquired skills for applying deep learning algorithms in R through real-world examples. What you will learn Learn how to create binary and multi-class deep neural network models Implement GANs for generating new images Create autoencoder neural networks for image dimension reduction, image de-noising and image correction Implement deep neural

networks for performing efficient text classification Learn to define a recurrent convolutional network model for classification in Keras Explore best practices and tips for performance optimization of various deep learning models Who this book is for This book is for data scientists, machine learning practitioners, deep learning researchers and AI enthusiasts who want to develop their skills and knowledge to implement deep learning techniques and algorithms using the power of R. A solid understanding of machine learning and working knowledge of the R programming language are required.

Machine Learning for Knowledge Discovery with R Oct 26 2019 Machine Learning for Knowledge Discovery with R contains methodologies and examples for statistical modelling, inference, and prediction of data analysis. It includes many recent supervised and unsupervised machine learning methodologies such as recursive partitioning modelling, regularized regression,

support vector machine, neural network, clustering, and causal-effect inference. Additionally, it emphasizes statistical thinking of data analysis, use of statistical graphs for data structure exploration, and result presentations. The book includes many real-world data examples from life-science, finance, etc. to illustrate the applications of the methods described therein. Key Features: Contains statistical theory for the most recent supervised and unsupervised machine learning methodologies. Emphasizes broad statistical thinking, judgment, graphical methods, and collaboration with subject-matter-experts in analysis, interpretation, and presentations. Written by statistical data analysis practitioner for practitioners. The book is suitable for upper-level-undergraduate or graduate-level data analysis course. It also serves as a useful desk-reference for data analysts in scientific research or industrial applications.

Introduction to Deep Learning Using R Mar 24

2022 Understand deep learning, the nuances of its different models, and where these models can be applied. The abundance of data and demand for superior products/services have driven the development of advanced computer science techniques, among them image and speech recognition. Introduction to Deep Learning Using R provides a theoretical and practical understanding of the models that perform these tasks by building upon the fundamentals of data science through machine learning and deep learning. This step-by-step guide will help you understand the disciplines so that you can apply the methodology in a variety of contexts. All examples are taught in the R statistical language, allowing students and professionals to implement these techniques using open source tools. What You'll Learn Understand the intuition and mathematics that power deep learning models Utilize various algorithms using the R programming language and its packages Use best practices for experimental design and

variable selection Practice the methodology to approach and effectively solve problems as a data scientist Evaluate the effectiveness of algorithmic solutions and enhance their predictive power Who This Book Is For Students, researchers, and data scientists who are familiar with programming using R. This book also is also of use for those who wish to learn how to appropriately deploy these algorithms in applications where they would be most useful.

Learning R Programming Oct 19 2021

Become an efficient data scientist with R About This Book Explore the R language from basic types and data structures to advanced topics Learn how to tackle programming problems and explore both functional and object-oriented programming techniques Learn how to address the core problems of programming in R and leverage the most popular packages for common tasks Who This Book Is For This is the perfect tutorial for anyone who is new to statistical programming and modeling. Anyone with basic

programming and data processing skills can pick this book up to systematically learn the R programming language and crucial techniques. What You Will Learn Explore the basic functions in R and familiarize yourself with common data structures Work with data in R using basic functions of statistics, data mining, data visualization, root solving, and optimization Get acquainted with R's evaluation model with environments and meta-programming techniques with symbol, call, formula, and expression Get to grips with object-oriented programming in R: including the S3, S4, RC, and R6 systems Access relational databases such as SQLite and non-relational databases such as MongoDB and Redis Get to know high performance computing techniques such as parallel computing and Rcpp Use web scraping techniques to extract information Create RMarkdown, an interactive app with Shiny, DiagramR, interactive charts, ggvis, and more In Detail R is a high-level functional language and

one of the must-know tools for data science and statistics. Powerful but complex, R can be challenging for beginners and those unfamiliar with its unique behaviors. Learning R Programming is the solution - an easy and practical way to learn R and develop a broad and consistent understanding of the language. Through hands-on examples you'll discover powerful R tools, and R best practices that will give you a deeper understanding of working with data. You'll get to grips with R's data structures and data processing techniques, as well as the most popular R packages to boost your productivity from the offset. Start with the basics of R, then dive deep into the programming techniques and paradigms to make your R code excel. Advance quickly to a deeper understanding of R's behavior as you learn common tasks including data analysis, databases, web scraping, high performance computing, and writing documents. By the end of the book, you'll be a confident R programmer

adept at solving problems with the right techniques. Style and approach Developed to make learning easy and intuitive, this book comes packed with a wide variety of statistical and graphical techniques and a wealth of practical information for anyone looking to get started with this exciting and powerful language. Machine Learning with R Aug 05 2020 Solve real-world data problems with R and machine learning Key FeaturesThird edition of the bestselling, widely acclaimed R machine learning book, updated and improved for R 3.6 and beyondHarness the power of R to build flexible, effective, and transparent machine learning modelsLearn quickly with a clear, hands-on guide by experienced machine learning teacher and practitioner, Brett LantzBook Description Machine learning, at its core, is concerned with transforming data into actionable knowledge. R offers a powerful set of machine learning methods to quickly and easily gain insight from your data. Machine Learning

with R, Third Edition provides a hands-on, readable guide to applying machine learning to real-world problems. Whether you are an experienced R user or new to the language, Brett Lantz teaches you everything you need to uncover key insights, make new predictions, and visualize your findings. This new 3rd edition updates the classic R data science book to R 3.6 with newer and better libraries, advice on ethical and bias issues in machine learning, and an introduction to deep learning. Find powerful new insights in your data; discover machine learning with R. What you will learn Discover the origins of machine learning and how exactly a computer learns by example Prepare your data for machine learning work with the R programming language Classify important outcomes using nearest neighbor and Bayesian methods Predict future events using decision trees, rules, and support vector machines Forecast numeric data and estimate financial values using regression methods Model

complex processes with artificial neural networks — the basis of deep learning Avoid bias in machine learning models Evaluate your models and improve their performance Connect R to SQL databases and emerging big data technologies such as Spark, H2O, and TensorFlow Who this book is for Data scientists, students, and other practitioners who want a clear, accessible guide to machine learning with R.

Introduction to Machine Learning with R

Nov 19 2021 Machine learning is an intimidating subject until you know the fundamentals. If you understand basic coding concepts, this introductory guide will help you gain a solid foundation in machine learning principles. Using the R programming language, you'll first start to learn with regression modelling and then move into more advanced topics such as neural networks and tree-based methods. Finally, you'll delve into the frontier of machine learning, using the caret package in R. Once you develop a familiarity with topics such as the difference

between regression and classification models, you'll be able to solve an array of machine learning problems. Author Scott V. Burger provides several examples to help you build a working knowledge of machine learning. Explore machine learning models, algorithms, and data training Understand machine learning algorithms for supervised and unsupervised cases Examine statistical concepts for designing data for use in models Dive into linear regression models used in business and science Use single-layer and multilayer neural networks for calculating outcomes Look at how tree-based models work, including popular decision trees Get a comprehensive view of the machine learning ecosystem in R Explore the powerhouse of tools available in R's caret package [A Tour of Data Science](#) May 02 2020 [A Tour of Data Science: Learn R and Python in Parallel](#) covers the fundamentals of data science, including programming, statistics, optimization, and machine learning in a single short book. It

does not cover everything, but rather, teaches the key concepts and topics in Data Science. It also covers two of the most popular programming languages used in Data Science, R and Python, in one source. Key features: Allows you to learn R and Python in parallel Cover statistics, programming, optimization and predictive modelling, and the popular data manipulation tools - data.table and pandas Provides a concise and accessible presentation Includes machine learning algorithms implemented from scratch, linear regression, lasso, ridge, logistic regression, gradient boosting trees, etc. Appealing to data scientists, statisticians, quantitative analysts, and others who want to learn programming with R and Python from a data science perspective. [Machine Learning with R](#) Feb 08 2021 This book helps readers understand the mathematics of machine learning, and apply them in different situations. It is divided into two basic parts, the first of which introduces readers to the theory of

linear algebra, probability, and data distributions and its applications to machine learning. It also includes a detailed introduction to the concepts and constraints of machine learning and what is involved in designing a learning algorithm. This part helps readers understand the mathematical and statistical aspects of machine learning. In turn, the second part discusses the algorithms used in supervised and unsupervised learning. It works out each learning algorithm mathematically and encodes it in R to produce customized learning applications. In the process, it touches upon the specifics of each algorithm and the science behind its formulation. The book includes a wealth of worked-out examples along with R codes. It explains the code for each algorithm, and readers can modify the code to suit their own needs. The book will be of interest to all researchers who intend to use R for machine learning, and those who are interested in the practical aspects of implementing learning

algorithms for data analysis. Further, it will be particularly useful and informative for anyone who has struggled to relate the concepts of mathematics and statistics to machine learning. *Exploring Everyday Things with R and Ruby* Nov 27 2019 Provides information on using R and Ruby to model a mathematical problem and find a solution.

R Programming Dec 09 2020 2020- Second Edition, updated version. Get your copy!! Why Learn R? What are the reasons to learn R for Data Science? In this small textbook recommended for absolute beginners, the author tried to answer these types of questions. After reading this guide, maybe in one or two days, you will learn the basics of R programming and its utility for each Data Scientist. Indeed, R is a programming language and software environment for statistical analysis, graphics representation, and reporting. If you are trying to understand the R programming language as a beginner, this short book will give you enough

understanding of almost all the concepts of the R language. The author will guide you through examples, how to program in R and how to use R for effective data analysis. Get your copy Now!

Book Objectives This book is about R programming. The following are the objectives of the author: To familiarize you with the basics of R programming language. To help you understand the various fields where R can be applied and its use cases in each field. To equip you with R programming skills, both beginner and advanced skills. To introduce you to R programming for data analysis. To introduce you to R programming for machine learning. To help you understand and appreciate the power of R in statistical computing, data analysis, and scientific research. Who this Book is for? Anybody who is a complete beginner to R Programming. Anybody in need of advancing their R Programming skills. Professionals in computer programming. Professors, lecturers or tutors who are looking to find better ways to

explain R programming to their students in the simplest and easiest way. Students and academicians, especially those focusing on R, Data Analysis, Machine Learning, computer science, and Databases development.

Requirements The author expects you to have a computer installed with an operating system such as Linux, Windows or Mac OS X. What is inside the book? R BASICS R DATA TYPES R VARIABLES AND CONSTANTS R OPERATORS DECISION MAKING IN R R LOOPS R FUNCTIONS R CLASSES AND OBJECTS R FOR DATA SCIENCE R FOR MACHINE LEARNING

From the Back Cover. R programming language is one of the most popular languages used by statisticians, data analysts, researchers to retrieve, clean, analyze, visualize and present data. This is a comprehensive book on how to get started with R programming, why you should learn it and how you can learn it. Daniel Bell begins by introducing the readers to the foundations of the R programming language.

The aim is to help you understand, how the R interpreter works, the origin of the name R, how to set up the R programming environment, etc. The author has discussed the process of installing R on Windows, Linux and Mac OS. Moreover, the author has explored the basics of R programming including writing comments, using the R console, creating R script files, etc. The various features provided by R have been discussed in depth, including data types, variables, loops, decision making, functions, operators, classes, and objects, etc. The author has also discussed R for data science and R for machine learning. The book has been organized into chapters, with each chapter having many sub-chapters. R code scripts have been provided, alongside thorough explanations of the code and images showing the expected output upon the execution of every script. Get your copy

Machine Learning with R Quick Start Guide

Dec 29 2019 This book is ideal for people wanting to get up-and-running with the core

concepts of machine learning using R 3.5. This book follows a step-by-step approach to implementing an end-to-end pipeline, addressing data collection and processing, various types of data analysis, and machine learning use cases.

Statistical Learning with Math and Python

Oct 07 2020 The most crucial ability for machine learning and data science is mathematical logic for grasping their essence rather than knowledge and experience. This textbook approaches the essence of machine learning and data science by considering math problems and building Python programs. As the preliminary part, Chapter 1 provides a concise introduction to linear algebra, which will help novices read further to the following main chapters. Those succeeding chapters present essential topics in statistical learning: linear regression, classification, resampling, information criteria, regularization, nonlinear regression, decision trees, support vector machines, and unsupervised learning. Each chapter

mathematically formulates and solves machine learning problems and builds the programs. The body of a chapter is accompanied by proofs and programs in an appendix, with exercises at the end of the chapter. Because the book is carefully organized to provide the solutions to the exercises in each chapter, readers can solve the total of 100 exercises by simply following the contents of each chapter. This textbook is suitable for an undergraduate or graduate course consisting of about 12 lectures. Written in an easy-to-follow and self-contained style, this book will also be perfect material for independent learning.

Learning R Dec 01 2022 Learn how to perform data analysis with the R language and software environment, even if you have little or no programming experience. With the tutorials in this hands-on guide, you'll learn how to use the essential R tools you need to know to analyze data, including data types and programming concepts. The second half of Learning R shows

you real data analysis in action by covering everything from importing data to publishing your results. Each chapter in the book includes a quiz on what you've learned, and concludes with exercises, most of which involve writing R code. Write a simple R program, and discover what the language can do Use data types such as vectors, arrays, lists, data frames, and strings Execute code conditionally or repeatedly with branches and loops Apply R add-on packages, and package your own work for others Learn how to clean data you import from a variety of sources Understand data through visualization and summary statistics Use statistical models to pass quantitative judgments about data and make predictions Learn what to do when things go wrong while writing data analysis code

Machine Learning with R, the tidyverse, and mlr Jul 16 2021 Summary Machine learning

(ML) is a collection of programming techniques for discovering relationships in data. With ML algorithms, you can cluster and classify data for

tasks like making recommendations or fraud detection and make predictions for sales trends, risk analysis, and other forecasts. Once the domain of academic data scientists, machine learning has become a mainstream business process, and tools like the easy-to-learn R programming language put high-quality data analysis in the hands of any programmer. Machine Learning with R, the tidyverse, and mlr teaches you widely used ML techniques and how to apply them to your own datasets using the R programming language and its powerful ecosystem of tools. This book will get you started! Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the book Machine Learning with R, the tidyverse, and mlr gets you started in machine learning using R Studio and the awesome mlr machine learning package. This practical guide simplifies theory and avoids needlessly complicated statistics or math. All core ML techniques are clearly

explained through graphics and easy-to-grasp examples. In each engaging chapter, you'll put a new algorithm into action to solve a quirky predictive analysis problem, including Titanic survival odds, spam email filtering, and poisoned wine investigation. What's inside Using the tidyverse packages to process and plot your data Techniques for supervised and unsupervised learning Classification, regression, dimension reduction, and clustering algorithms Statistics primer to fill gaps in your knowledge About the reader For newcomers to machine learning with basic skills in R. About the author Hefin I. Rhys is a senior laboratory research scientist at the Francis Crick Institute. He runs his own YouTube channel of screencast tutorials for R and RStudio. Table of contents: PART 1 - INTRODUCTION 1. Introduction to machine learning 2. Tidying, manipulating, and plotting data with the tidyverse PART 2 - CLASSIFICATION 3. Classifying based on similarities with k-nearest neighbors 4.

Classifying based on odds with logistic regression 5. Classifying by maximizing separation with discriminant analysis 6. Classifying with naive Bayes and support vector machines 7. Classifying with decision trees 8. Improving decision trees with random forests and boosting PART 3 - REGRESSION 9. Linear regression 10. Nonlinear regression with generalized additive models 11. Preventing overfitting with ridge regression, LASSO, and elastic net 12. Regression with kNN, random forest, and XGBoost PART 4 - DIMENSION REDUCTION 13. Maximizing variance with principal component analysis 14. Maximizing similarity with t-SNE and UMAP 15. Self-organizing maps and locally linear embedding PART 5 - CLUSTERING 16. Clustering by finding centers with k-means 17. Hierarchical clustering 18. Clustering based on density: DBSCAN and OPTICS 19. Clustering based on distributions with mixture modeling 20. Final notes and further reading

R for Data Science Jan 02 2023 Learn how to use R to turn raw data into insight, knowledge, and understanding. This book introduces you to R, RStudio, and the tidyverse, a collection of R packages designed to work together to make data science fast, fluent, and fun. Suitable for readers with no previous programming experience, R for Data Science is designed to get you doing data science as quickly as possible. Authors Hadley Wickham and Garrett Grolemund guide you through the steps of importing, wrangling, exploring, and modeling your data and communicating the results. You'll get a complete, big-picture understanding of the data science cycle, along with basic tools you need to manage the details. Each section of the book is paired with exercises to help you practice what you've learned along the way. You'll learn how to: Wrangle—transform your datasets into a form convenient for analysis Program—learn powerful R tools for solving data problems with greater clarity and ease

Explore—examine your data, generate hypotheses, and quickly test them
Model—provide a low-dimensional summary that captures true "signals" in your dataset
Communicate—learn R Markdown for integrating prose, code, and results

Deep Learning with R Jan 22 2022 Summary
Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. The book builds your understanding of deep learning through intuitive explanations and practical examples. Continue your journey into the world of deep learning with Deep Learning with R in Motion, a practical, hands-on video course available exclusively at Manning.com (www.manning.com/livevideo/deep-learning-with-r-in-motion). Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Machine learning has made remarkable progress in recent years. Deep-

learning systems now enable previously impossible smart applications, revolutionizing image recognition and natural-language processing, and identifying complex patterns in data. The Keras deep-learning library provides data scientists and developers working in R a state-of-the-art toolset for tackling deep-learning tasks. About the Book Deep Learning with R introduces the world of deep learning using the powerful Keras library and its R language interface. Initially written for Python as Deep Learning with Python by Keras creator and Google AI researcher François Chollet and adapted for R by RStudio founder J. J. Allaire, this book builds your understanding of deep learning through intuitive explanations and practical examples. You'll practice your new skills with R-based applications in computer vision, natural-language processing, and generative models. What's Inside Deep learning from first principles Setting up your own deep-learning environment Image classification and

generation Deep learning for text and sequences
About the Reader You'll need intermediate R
programming skills. No previous experience with
machine learning or deep learning is assumed.
About the Authors François Chollet is a deep-
learning researcher at Google and the author of
the Keras library. J.J. Allaire is the founder of
RStudio and the author of the R interfaces to
TensorFlow and Keras. Table of Contents PART
1 - FUNDAMENTALS OF DEEP LEARNING
What is deep learning? Before we begin: the
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Fundamentals of machine learning PART 2 -
DEEP LEARNING IN PRACTICE Deep learning
for computer vision Deep learning for text and
sequences Advanced deep-learning best
practices Generative deep learning Conclusions
Practical Machine Learning in R Apr 24 2022
Guides professionals and students through the
rapidly growing field of machine learning with
hands-on examples in the popular R

programming language Machine learning—a
branch of Artificial Intelligence (AI) which
enables computers to improve their results and
learn new approaches without explicit
instructions—allows organizations to reveal
patterns in their data and incorporate predictive
analytics into their decision-making process.
Practical Machine Learning in R provides a
hands-on approach to solving business problems
with intelligent, self-learning computer
algorithms. Bestselling author and data analytics
experts Fred Nwanganga and Mike Chapple
explain what machine learning is, demonstrate
its organizational benefits, and provide hands-on
examples created in the R programming
language. A perfect guide for professional self-
taught learners or students in an introductory
machine learning course, this reader-friendly
book illustrates the numerous real-world
business uses of machine learning approaches.
Clear and detailed chapters cover data
wrangling, R programming with the popular

RStudio tool, classification and regression techniques, performance evaluation, and more. Explores data management techniques, including data collection, exploration and dimensionality reduction Covers unsupervised learning, where readers identify and summarize patterns using approaches such as apriori, eclat and clustering Describes the principles behind the Nearest Neighbor, Decision Tree and Naive Bayes classification techniques Explains how to

evaluate and choose the right model, as well as how to improve model performance using ensemble methods such as Random Forest and XGBoost Practical Machine Learning in R is a must-have guide for business analysts, data scientists, and other professionals interested in leveraging the power of AI to solve business problems, as well as students and independent learners seeking to enter the field.

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