

Data Mining With R Learning With Case Studies Chapman Hall Crc Data Mining And Knowledge Discovery Series

Learning R Programming **Advanced Deep Learning with R** **Applied Supervised Learning with R** *R Programming* *Machine Learning with R* *Machine Learning with R* **Hands-On Programming with R** *Machine Learning with R* *Mastering Machine Learning with R* **Learning Social Media Analytics with R** *Learning R for Geospatial Analysis* *Data Science, Analytics and Machine Learning with R* *Data Mining with R* [An Introduction to Statistical Learning](#) **R R Programming** *Machine Learning with R Cookbook* [Deep Learning with R](#) **Neural Networks with R** **Programming** *Hands-On Machine Learning with R* **Applied Unsupervised Learning with R** *Mastering Machine Learning with R* *Machine Learning with R, the tidyverse, and mlr* *Deep Learning with R for Beginners* **Learning Predictive Analytics with R** **Learning Social Media Analytics with R** [Learning Bayesian Models with R](#) **Hands-On Ensemble Learning with R** **R SQL Server 2017** *Machine Learning Services with R* **Hands-On Deep Learning with R** *Mathematics and Programming for Machine Learning with R* *Mathematics and Programming for Machine Learning with R* *Introduction to Machine Learning with R* **Learning Base R** **Applied Unsupervised Learning with R** *Machine Learning with R Cookbook* **Data Science and Machine Learning Interview Questions Using R** *Learning Data Mining with R*

This is likewise one of the factors by obtaining the soft documents of this **Data Mining With R Learning With Case Studies Chapman Hall Crc Data Mining And Knowledge Discovery Series** by online. You might not require more get older to spend to go to the books foundation as without difficulty as search for them. In some cases, you likewise realize not discover the publication **Data Mining With R Learning With Case Studies Chapman Hall Crc Data Mining And Knowledge Discovery Series** that you are looking for. It will totally squander the time.

However below, taking into account you visit this web page, it will be suitably totally simple to acquire as skillfully as download guide **Data Mining With R Learning With Case Studies Chapman Hall Crc Data Mining And Knowledge Discovery Series**

It will not admit many epoch as we run by before. You can reach it while feign something else at house and even in your workplace. for that reason easy! So, are you question? Just exercise just what we pay for below as capably as evaluation **Data Mining With R Learning With Case Studies Chapman Hall Crc Data Mining And Knowledge Discovery Series** what you past to read!

Neural Networks with R Apr 08 2021 Uncover the power of artificial neural networks by implementing them through R code. About This Book* Develop a strong background in neural networks with R, to implement them in your applications* Build smart systems using the power of deep learning* Real-world case studies to illustrate the power of neural network models Who This Book Is For This book is intended for anyone who has a statistical background with knowledge in R and wants to work with neural networks to get better results from complex data. If you are interested in artificial intelligence and deep learning and you want to level up, then this book is what you need! What You Will Learn* Set up R packages for neural networks and deep learning* Understand the core concepts of artificial neural networks* Understand neurons, perceptrons, bias, weights, and activation functions* Implement supervised and unsupervised machine learning in R for neural networks* Predict and classify data automatically using neural networks* Evaluate and fine-tune the models you build. In Detail Neural networks are one of the most fascinating machine learning models for solving complex computational problems efficiently. Neural networks are used to solve wide range of problems in different areas of AI and machine learning. This book explains the niche aspects of neural networking and provides you with foundation to get started with advanced topics. The book begins with neural network design using the neural net package, then you'll build a solid foundation knowledge of how a neural network learns from data, and the principles behind it. This book covers various types of neural network including recurrent neural networks and convoluted neural networks. You will not only learn how to train neural networks, but will also explore generalization of these networks. Later we will delve into combining different neural network models and work with the real-world use cases. By the end of this book, you will learn to implement neural network models in your applications with the help of practical examples in the book. Style and approach A step-by-step guide filled with real-world practical examples.

Machine Learning with R Cookbook Aug 20 2019 Explore over 110 recipes to analyze data and build predictive models with simple and easy-to-use R code About This Book Apply R to simplify predictive modeling with short and simple code Use machine learning to solve problems ranging from small to big data Build a training and testing dataset, applying different classification methods. Who This Book Is For This book is for data science professionals, data analysts, or people who have used R for data analysis and machine learning who now wish to become the go-to person for machine learning with R. Those who wish to improve the efficiency of their machine learning models and need to work with different kinds of data set will find this book very insightful. What You Will Learn Create and inspect transaction datasets and perform association analysis with the Apriori algorithm Visualize patterns and associations using a range of graphs and find frequent item-sets using the Eclat algorithm Compare differences between each regression method to discover how they solve problems Detect and impute missing values in air quality data Predict possible churn users with the classification approach Plot the autocorrelation function with time series analysis Use the Cox proportional hazards model for survival analysis Implement the clustering method to segment customer data Compress images with the dimension reduction method Incorporate R and Hadoop to solve machine learning problems on big data In Detail Big data has become a popular buzzword across many industries. An increasing number of people have been exposed to the term and are looking at how to leverage big data in their own businesses, to improve sales and profitability. However, collecting, aggregating, and visualizing data is just one part of the equation. Being able to extract useful information from data is another task, and a much more challenging one. *Machine Learning with R Cookbook*,

Second Edition uses a practical approach to teach you how to perform machine learning with R. Each chapter is divided into several simple recipes. Through the step-by-step instructions provided in each recipe, you will be able to construct a predictive model by using a variety of machine learning packages. In this book, you will first learn to set up the R environment and use simple R commands to explore data. The next topic covers how to perform statistical analysis with machine learning analysis and assess created models, covered in detail later on in the book. You'll also learn how to integrate R and Hadoop to create a big data analysis platform. The detailed illustrations provide all the information required to start applying machine learning to individual projects. With *Machine Learning with R Cookbook*, machine learning has never been easier. **Style and approach** This is an easy-to-follow guide packed with hands-on examples of machine learning tasks. Each topic includes step-by-step instructions on tackling difficulties faced when applying R to machine learning.

Learning R Programming Oct 26 2022 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.

Hands-On Deep Learning with R Feb 24 2020 Explore and implement deep learning to solve various real-world problems using modern R libraries such as TensorFlow, MXNet, H2O, and Deepnet **Key Features** Understand deep learning algorithms and architectures using R and determine which algorithm is best suited for a specific problem Improve models using parameter tuning, feature engineering, and ensembling Apply advanced neural network models such as deep autoencoders and generative adversarial networks (GANs) across different

domains
Book Description Deep learning enables efficient and accurate learning from a massive amount of data. This book will help you overcome a number of challenges using various deep learning algorithms and architectures with R programming. This book starts with a brief overview of machine learning and deep learning and how to build your first neural network. You'll understand the architecture of various deep learning algorithms and their applicable fields, learn how to build deep learning models, optimize hyperparameters, and evaluate model performance. Various deep learning applications in image processing, natural language processing (NLP), recommendation systems, and predictive analytics will also be covered. Later chapters will show you how to tackle recognition problems such as image recognition and signal detection, programmatically summarize documents, conduct topic modeling, and forecast stock market prices. Toward the end of the book, you will learn the common applications of GANs and how to build a face generation model using them. Finally, you'll get to grips with using reinforcement learning and deep reinforcement learning to solve various real-world problems. By the end of this deep learning book, you will be able to build and deploy your own deep learning applications using appropriate frameworks and algorithms. What you will learn
Design a feedforward neural network to see how the activation function computes an output
Create an image recognition model using convolutional neural networks (CNNs)
Prepare data, decide hidden layers and neurons and train your model with the backpropagation algorithm
Apply text cleaning techniques to remove uninformative text using NLP
Build, train, and evaluate a GAN model for face generation
Understand the concept and implementation of reinforcement learning in R
Who this book is for This book is for data scientists, machine learning engineers, and deep learning developers who are familiar with machine learning and are looking to enhance their knowledge of deep learning using practical examples. Anyone interested in increasing the efficiency of their machine learning applications and exploring various options in R will also find this book useful. Basic knowledge of machine learning techniques and working knowledge of the R programming language is expected.

Learning Social Media Analytics with R Jan 17 2022 Tap into the realm of social media and unleash the power of analytics for data-driven insights using R
About This Book* A practical guide written to help leverage the power of the R eco-system to extract, process, analyze, visualize and model social media data* Learn about data access, retrieval, cleaning, and curation methods for data originating from various social media platforms.* Visualize and analyze data from social media platforms to understand and model complex relationships using various concepts and techniques such as Sentiment Analysis, Topic Modeling, Text Summarization, Recommendation Systems, Social Network Analysis, Classification, and Clustering.
Who This Book Is For It is targeted at IT professionals, Data Scientists, Analysts, Developers, Machine Learning Enthusiasts, social media marketers and anyone with a keen interest in data, analytics, and generating insights from social data. Some background experience in R would be helpful, but not necessary, since this book is written keeping in mind, that readers can have varying levels of expertise.
What You Will Learn* Learn how to tap into data from diverse social media platforms using the R ecosystem* Use social media data to formulate and solve real-world problems* Analyze user social networks and communities using concepts from graph theory and network analysis* Learn to detect opinion and sentiment, extract themes, topics, and trends from unstructured noisy text data from diverse social media channels* Understand the art of representing actionable insights with effective visualizations* Analyze data from major social media channels such as Twitter, Facebook, Flickr, Foursquare, Github, StackExchange, and so on* Learn to leverage popular R packages such as ggplot2, topicmodels, caret, e1071, tm, wordcloud, twittR, Rfacebook, dplyr, reshape2, and many more
In Detail The Internet has truly become humongous, especially with the rise of various forms of social media in the last decade, which give users a platform to express themselves and also

communicate and collaborate with each other. This book will help the reader to understand the current social media landscape and to learn how analytics can be leveraged to derive insights from it. This data can be analyzed to gain valuable insights into the behavior and engagement of users, organizations, businesses, and brands. It will help readers frame business problems and solve them using social data. The book will also cover several practical real-world use cases on social media using R and its advanced packages to utilize data science methodologies such as sentiment analysis, topic modeling, text summarization, recommendation systems, social network analysis, classification, and clustering. This will enable readers to learn different hands-on approaches to obtain data from diverse social media sources such as Twitter and Facebook. It will also show readers how to establish detailed workflows to process, visualize, and analyze data to transform social data into actionable insights. Style and approach This book follows a step-by-step approach with detailed strategies for understanding, extracting, analyzing, visualizing, and modeling data from several major social network platforms such as Facebook, Twitter, Foursquare, Flickr, Github, and StackExchange. The chapters cover several real-world use cases and leverage data science, machine learning, network analysis, and graph theory concepts along with the R ecosystem, including popular packages such as ggplot2, caret, dplyr, topicmodels, tm, and so on.

Applied Unsupervised Learning with R Sep 20 2019 Design clever algorithms that discover hidden patterns and draw responses from unstructured, unlabeled data. Key Features Build state-of-the-art algorithms that can solve your business' problems Learn how to find hidden patterns in your data Revise key concepts with hands-on exercises using real-world datasets Book Description Starting with the basics, Applied Unsupervised Learning with R explains clustering methods, distribution analysis, data encoders, and features of R that enable you to understand your data better and get answers to your most pressing business questions. This book begins with the most important and commonly used method for unsupervised learning - clustering - and explains the three main clustering algorithms - k-means, divisive, and agglomerative. Following this, you'll study market basket analysis, kernel density estimation, principal component analysis, and anomaly detection. You'll be introduced to these methods using code written in R, with further instructions on how to work with, edit, and improve R code. To help you gain a practical understanding, the book also features useful tips on applying these methods to real business problems, including market segmentation and fraud detection. By working through interesting activities, you'll explore data encoders and latent variable models. By the end of this book, you will have a better understanding of different anomaly detection methods, such as outlier detection, Mahalanobis distances, and contextual and collective anomaly detection. What you will learn Implement clustering methods such as k-means, agglomerative, and divisive Write code in R to analyze market segmentation and consumer behavior Estimate distribution and probabilities of different outcomes Implement dimension reduction using principal component analysis Apply anomaly detection methods to identify fraud Design algorithms with R and learn how to edit or improve code Who this book is for Applied Unsupervised Learning with R is designed for business professionals who want to learn about methods to understand their data better, and developers who have an interest in unsupervised learning. Although the book is for beginners, it will be beneficial to have some basic, beginner-level familiarity with R. This includes an understanding of how to open the R console, how to read data, and how to create a loop. To easily understand the concepts of this book, you should also know basic mathematical concepts, including exponents, square roots, means, and medians.

Applied Unsupervised Learning with R Jan 05 2021 Design clever algorithms that discover hidden patterns and draw responses from unstructured, unlabeled data. Key Features Build state-of-the-art algorithms that can solve your business' problems Learn how to find hidden

patterns in your data

Revise key concepts with hands-on exercises using real-world datasets

Book Description

Starting with the basics, *Applied Unsupervised Learning with R* explains clustering methods, distribution analysis, data encoders, and features of R that enable you to understand your data better and get answers to your most pressing business questions. This book begins with the most important and commonly used method for unsupervised learning - clustering - and explains the three main clustering algorithms - k-means, divisive, and agglomerative. Following this, you'll study market basket analysis, kernel density estimation, principal component analysis, and anomaly detection. You'll be introduced to these methods using code written in R, with further instructions on how to work with, edit, and improve R code. To help you gain a practical understanding, the book also features useful tips on applying these methods to real business problems, including market segmentation and fraud detection. By working through interesting activities, you'll explore data encoders and latent variable models. By the end of this book, you will have a better understanding of different anomaly detection methods, such as outlier detection, Mahalanobis distances, and contextual and collective anomaly detection. What you will learn

Implement clustering methods such as k-means, agglomerative, and divisive

Write code in R to analyze market segmentation and consumer behavior

Estimate distribution and probabilities of different outcomes

Implement dimension reduction using principal component analysis

Apply anomaly detection methods to identify fraud

Design algorithms with R and learn how to edit or improve code

Who this book is for

Applied Unsupervised Learning with R is designed for business professionals who want to learn about methods to understand their data better, and developers who have an interest in unsupervised learning. Although the book is for beginners, it will be beneficial to have some basic, beginner-level familiarity with R. This includes an understanding of how to open the R console, how to read data, and how to create a loop. To easily understand the concepts of this book, you should also know basic mathematical concepts, including exponents, square roots, means, and medians.

Data Science, Analytics and Machine Learning with R Nov 15 2021

Data Science, Analytics, and Machine Learning with R explains the principles of data mining and machine learning techniques and accentuates the importance of applied and multivariate modeling. The book emphasizes the fundamentals of each technique, with step-by-step codes and real-world examples with data from areas such as medicine and health, biology, engineering, technology, and related sciences. The authors want to mitigate the readers' feeling that they may be sitting in front of a black box. Toward this end, examples use the most recent R language syntax, with recognized robust, widespread and current packages. Code scripts are exhaustively commented, making it clear to readers what happens in each command. For data collection, readers are instructed how to build their own robots from the very beginning (not only API type, but also handcrafted ones). An entire chapter focuses on the concept of spatial analysis, allowing readers to build their own maps through geo-referenced data (such as in epidemiologic research) and some basic statistical techniques. Other chapters cover ensemble and uplift modelling, and GLMM (Generalized Linear Mixed Models) estimations, both linear and nonlinear. The book will serve computer and data scientists working with researchers, clinicians, and engineers, as well as the researchers and engineers themselves who find themselves working in multidisciplinary teams and need a more in-depth understanding of machine learning, data mining and AI than is normally taught in their courses. Presents a comprehensive and practical overview of machine learning, data mining and AI techniques for a broad multidisciplinary audience

Serves both readers who are interested in statistics, analytics and modeling and those who wish to deepen their knowledge in programming through the use of R

Teaches readers how to apply machine learning techniques to a wide range of data and subject areas

Presents data in a graphically appealing way, promoting greater information transparency and interactive learning

R Apr 27 2020 Learn R Programming Today With This Easy, Step-By-Step Guide! Do you want to learn R Programming? Do you get overwhelmed by complicated lingo and want a guide that is easy to follow, detailed and written to make the process enjoyable? If so, "R: Easy R Programming for Beginners - Your Step-By-Step Guide To Learning R Programming" by Felix Alvaro is THE book for you! It covers the most essential topics you must learn to begin programming with R. With more than two million global users, the R language is rapidly turning into a top programming language specifically in the space of data science as well as statistics. What you are going to learn in this step-by-step beginner's guide is how to master the fundamentals of such a gorgeous open-source programming language which includes vectors, data frames and lists. Not only is the language growing in popularity, but the demand for R Programmers is also rising, with skilled programmers getting paid an average annual salary of \$115,000 per year! What Separates This Book From The Rest? What separates this book from all the others out there is the approach to teaching. A lot of the books you will stumble upon simply throw information at you, leaving you confused and stuck. We believe that books of this nature should be easy to grasp and written in jargon-free English you can understand, making you feel confident and allowing you to grasp each topic with ease. To help you achieve this, the guide has been crafted in a step-by-step manner which we feel is the best way for you to learn a new subject, one step at a time. It also includes various images to give you assurance you are going in the right direction, as well as having exercises where you can proudly practice your newly attained skills. You Will Learn The Following: The history of R programming and its benefits How to install R & R Studio and work with code editors The fundamentals of R syntax Function & Arguments R Programming with user packages Organizing data in Vectors Working with Data-Frames and Matrices Creating Lists Effective coding in R Controlling Logical Flow Working with base graphics Creating Faceted graphics using Lattice And much more! So don't delay it any longer. Take this opportunity and invest in this guide now. You will be amazed by the skills you will quickly attain! Buy This Guide Now! See you inside!

Machine Learning with R Cookbook Jun 10 2021 If you want to learn how to use R for machine learning and gain insights from your data, then this book is ideal for you. Regardless of your level of experience, this book covers the basics of applying R to machine learning through to advanced techniques. While it is helpful if you are familiar with basic programming or machine learning concepts, you do not require prior experience to benefit from this book.

Learning Base R Oct 22 2019 R is an open source programming language and interactive programming environment that has become the software tool of choice in data analytics. Learning Base R provides an introduction to the language for those with and without prior programming experience. It introduces the key topics that you will need to begin analyzing data and programming in R. The focus here is on the R language rather than a particular application. Nearly 200 exercises allow you to assess your understanding of R.

Machine Learning with R, the tidyverse, and mlr Nov 03 2020 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

SQL Server 2017 Machine Learning Services with R Mar 27 2020 Develop and run efficient R scripts and predictive models for SQL Server 2017 Key Features Learn how you can combine the power of R and SQL Server 2017 to build efficient, cost-effective data science solutions Leverage the capabilities of R Services to perform advanced analytics—from data exploration to predictive modeling A quick primer with practical examples to help you get up- and- running with SQL Server 2017 Machine Learning Services with R, as part of database solutions with continuous integration / continuous delivery. Book Description R Services was one of the most anticipated features in SQL Server 2016, improved significantly and rebranded as SQL Server 2017 Machine Learning Services. Prior to SQL Server 2016, many developers and data scientists were already using R to connect to SQL Server in siloed environments that left a lot to be desired, in order to do additional data analysis, superseding SSAS Data Mining or additional CLR programming functions. With R integrated within SQL Server 2017, these developers and data scientists can now benefit from its integrated, effective, efficient, and more streamlined analytics environment. This book gives you foundational knowledge and insights to help you understand SQL Server 2017 Machine Learning Services with R. First and foremost, the book provides practical examples on how to implement, use, and understand SQL Server and R integration in corporate environments, and also provides explanations and underlying motivations. It covers installing Machine Learning Services; maintaining, deploying, and managing code; and monitoring your services. Delving more deeply into predictive modeling and the RevoScaleR package, this book also provides insights into operationalizing code and exploring and visualizing data. To complete the journey, this book covers the new features in SQL Server 2017 and how they are compatible with R, amplifying their combined power. What you will learn Get an overview of SQL Server 2017 Machine Learning Services with R Manage SQL Server Machine Learning Services from installation to configuration and maintenance Handle and

operationalize R code Explore RevoScaleR R algorithms and create predictive models Deploy, manage, and monitor database solutions with R Extend R with SQL Server 2017 features Explore the power of R for database administrators Who this book is for This book is for data analysts, data scientists, and database administrators with some or no experience in R but who are eager to easily deliver practical data science solutions in their day-to-day work (or future projects) using SQL Server.

Machine Learning with R May 21 2022 Solve real-world data problems with R and machine learning Key Features Third edition of the bestselling, widely acclaimed R machine learning book, updated and improved for R 3.6 and beyond Harness the power of R to build flexible, effective, and transparent machine learning models Learn quickly with a clear, hands-on guide by experienced machine learning teacher and practitioner, Brett Lantz Book 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.

Learning Social Media Analytics with R Jul 31 2020 Tap into the realm of social media and unleash the power of analytics for data-driven insights using R About This Book A practical guide written to help leverage the power of the R eco-system to extract, process, analyze, visualize and model social media data Learn about data access, retrieval, cleaning, and curation methods for data originating from various social media platforms. Visualize and analyze data from social media platforms to understand and model complex relationships using various concepts and techniques such as Sentiment Analysis, Topic Modeling, Text Summarization, Recommendation Systems, Social Network Analysis, Classification, and Clustering. Who This Book Is For It is targeted at IT professionals, Data Scientists, Analysts, Developers, Machine Learning Enthusiasts, social media marketers and anyone with a keen interest in data, analytics, and generating insights from social data. Some background experience in R would be helpful, but not necessary, since this book is written keeping in mind, that readers can have varying levels of expertise. What You Will Learn Learn how to tap into data from diverse social media platforms using the R ecosystem Use social media data to formulate and solve real-world problems Analyze user social networks and communities using concepts from graph theory and network analysis Learn to detect opinion and sentiment, extract themes, topics, and trends from unstructured noisy text data from diverse social media channels Understand the art of representing actionable insights with effective visualizations Analyze data from major social media channels such as Twitter, Facebook, Flickr, Foursquare, Github, StackExchange, and so on Learn to leverage popular R packages such as ggplot2, topicmodels, caret, e1071, tm,

wordcloud, twittR, Rfacebook, dplyr, reshape2, and many more In Detail The Internet has truly become humongous, especially with the rise of various forms of social media in the last decade, which give users a platform to express themselves and also communicate and collaborate with each other. This book will help the reader to understand the current social media landscape and to learn how analytics can be leveraged to derive insights from it. This data can be analyzed to gain valuable insights into the behavior and engagement of users, organizations, businesses, and brands. It will help readers frame business problems and solve them using social data. The book will also cover several practical real-world use cases on social media using R and its advanced packages to utilize data science methodologies such as sentiment analysis, topic modeling, text summarization, recommendation systems, social network analysis, classification, and clustering. This will enable readers to learn different hands-on approaches to obtain data from diverse social media sources such as Twitter and Facebook. It will also show readers how to establish detailed workflows to process, visualize, and analyze data to transform social data into actionable insights. Style and approach This book follows a step-by-step approach with detailed strategies for understanding, extracting, analyzing, visualizing, and modeling data from several major social network platforms such as Facebook, Twitter, Foursquare, Flickr, Github, and StackExchange. The chapters cover several real-world use cases and leverage data science, machine learning, network analysis, and graph theory concepts along with the R ecosystem, including popular packages such as ggplot2, caret, dplyr, topicmodels, tm, and so on.

Advanced Deep Learning with R Sep 25 2022 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.

Applied Supervised Learning with R Aug 24 2022 Learn the ropes of supervised machine learning with R by studying popular real-world use-cases, and understand how it drives object detection in driver less cars, customer churn, and loan default prediction. Key Features Study supervised learning algorithms by using real-world datasets Fine tune optimal parameters with hyperparameter optimization Select the best algorithm using the model evaluation framework Book Description R provides excellent visualization features that are essential for exploring data before using it in automated learning. Applied Supervised Learning with R helps you cover the complete process of employing R to develop applications using supervised machine learning algorithms for your business needs. The book starts by helping you develop your analytical thinking to create a problem statement using business inputs and domain research. You will then learn different evaluation metrics that compare various algorithms, and later progress to using these metrics to select the best algorithm for your problem. After finalizing the algorithm you want to use, you will study the hyperparameter optimization technique to fine-tune your set of optimal parameters. To prevent you from overfitting your model, a dedicated section will even demonstrate how you can add various regularization terms. By the end of this book, you will have the advanced skills you need for modeling a supervised machine learning algorithm that precisely fulfills your business needs. What you will learn Develop analytical thinking to precisely identify a business problem Wrangle data with dplyr, tidyr, and reshape2 Visualize data with ggplot2 Validate your supervised machine learning model using k-fold Optimize hyperparameters with grid and random search, and Bayesian optimization Deploy your model on Amazon Web Services (AWS) Lambda with plumber Improve your model's performance with feature selection and dimensionality reduction Who this book is for This book is specially designed for novice and intermediate-level data analysts, data scientists, and data engineers who want to explore different methods of supervised machine learning and its various use cases. Some background in statistics, probability, calculus, linear algebra, and programming will help you thoroughly understand and follow the content of this book.

R Programming Jul 11 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.

Data Science and Machine Learning Interview Questions Using R Jul 19 2019 Get answers to frequently asked questions on Data Science and Machine Learning using R KEY FEATURES - Understand the capabilities of the R programming language - Most of the machine learning algorithms and their R implementation covered in depth - Answers on conceptual data science concepts are also covered DESCRIPTION This book prepares you for the Data Scientist and Machine Learning Engineer interview w.r.t. R programming language. The book is divided into various parts, making it easy for you to remember and associate with the questions asked in an interview. It covers multiple possible transformations and data filtering techniques in depth. You will be able to create visualizations like graphs and charts using your data. You will also see some examples of how to build complex charts with this data. This book covers the frequently asked interview questions and shares insights on the kind of answers that will help you get this job. By the end of this book, you will not only crack the interview but will also have a solid command of the concepts of Data Science as well as R programming. WHAT WILL YOU LEARN - Get answers to the basics, intermediate and advanced questions on R programming - Understand the transformation and filtering capabilities of R - Know how to perform visualization using R WHO THIS BOOK IS FOR This book is a must for anyone interested in Data Science and Machine Learning. Anyone who wants to clear the interview can use it as a last-minute revision guide. TABLE OF CONTENTS 1. Data Science basic questions and terms 2. R programming questions 3. GGLOT Questions 4. Statistics with excel sheet

R Programming Jul 23 2022 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

Mathematics and Programming for Machine Learning with R Dec 24 2019 Based on the author's experience teaching data science for more than 10 years, *Mathematics and R Programming for Machine Learning* reveals how machine learning algorithms do their magic and explains how logic can be implemented in code. It is designed to give students an understanding of the logic behind machine learning algorithms as well as how to program these algorithms. Written for novice programmers, the book goes step-by-step to develop coding skills needed to implement algorithms in R. The text begins with simple implementations and fundamental concepts of logic, sets, and probability before moving to coverage of powerful deep learning algorithms. The first eight chapters deal with probability-based machine learning algorithms, and the last eight chapters deal with artificial neural network-based machine learning. The first half of the text does not require mathematical sophistication, although familiarity with probability and statistics is helpful. The second half is written for students who have taken one semester of calculus. The book guides students, who are novice R programmers, through algorithms and their application to improve the ability to code and confidence in programming R and tackling advanced R programming challenges. Highlights of the book include: More than 400 exercises A strong emphasis on improving programming skills and guiding beginners on implementing full-fledged algorithms. Coverage of fundamental computer and mathematical concepts including logic, sets, and probability In-depth explanations of the heart of AI and machine learning as well as the mechanisms that underly machine learning algorithms

Deep Learning with R May 09 2021 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 mathematical building blocks of neural networks Getting started with neural networks 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 Hands-On Machine Learning with R Feb 06 2021 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 word 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.

Hands-On Ensemble Learning with R May 29 2020 Explore powerful R packages to create predictive models using ensemble methods Key Features Implement machine learning algorithms to build ensemble-efficient models Explore powerful R packages to create predictive models using ensemble methods Learn to build ensemble models on large datasets using a practical approach Book Description Ensemble techniques are used for combining two or more similar or dissimilar machine learning algorithms to create a stronger model. Such a model delivers superior prediction power and can give your datasets a boost in accuracy. Hands-On Ensemble Learning with R begins with the important statistical

resampling methods. You will then walk through the central trilogy of ensemble techniques – bagging, random forest, and boosting – then you'll learn how they can be used to provide greater accuracy on large datasets using popular R packages. You will learn how to combine model predictions using different machine learning algorithms to build ensemble models. In addition to this, you will explore how to improve the performance of your ensemble models. By the end of this book, you will have learned how machine learning algorithms can be combined to reduce common problems and build simple efficient ensemble models with the help of real-world examples. What you will learn Carry out an essential review of re-sampling methods, bootstrap, and jackknife Explore the key ensemble methods: bagging, random forests, and boosting Use multiple algorithms to make strong predictive models Enjoy a comprehensive treatment of boosting methods Supplement methods with statistical tests, such as ROC Walk through data structures in classification, regression, survival, and time series data Use the supplied R code to implement ensemble methods Learn stacking method to combine heterogeneous machine learning models Who this book is for This book is for you if you are a data scientist or machine learning developer who wants to implement machine learning techniques by building ensemble models with the power of R. You will learn how to combine different machine learning algorithms to perform efficient data processing. Basic knowledge of machine learning techniques and programming knowledge of R would be an added advantage.

Mastering Machine Learning with R Dec 04 2020 Machine learning is a field of AI where we build systems that learn from data. This book explains complicated concepts with real-world applications. It demonstrates the power of R and machine learning extensively while highlighting the constraints. Finally, it will walk you through topics such as text analysis, time series, and deep learning.

Learning Data Mining with R Jun 17 2019 This book is intended for the budding data scientist or quantitative analyst with only a basic exposure to R and statistics. This book assumes familiarity with only the very basics of R, such as the main data types, simple functions, and how to move data around. No prior experience with data mining packages is necessary; however, you should have a basic understanding of data mining concepts and processes.

Data Mining with R Oct 14 2021 If you want to learn how to analyze your data with R, this is your book. A broad range of real-world case studies highlights the breadth and depth of the R software. This expanded second edition delves deeper into topical explanations and updates and expands all case studies. Assuming no prior knowledge of R or data mining/statistical techniques

Introduction to Machine Learning with R Nov 22 2019 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

Deep Learning with R for Beginners Oct 02 2020 Explore the world of neural networks by building powerful deep learning models using the R ecosystem Key FeaturesGet to grips with the fundamentals of deep learning and neural networksUse R 3.5 and its libraries and APIs to build deep learning models for computer vision and text processingImplement effective deep learning systems in R with the help of end-to-end projectsBook Description Deep learning finds practical applications in several domains, while R is the preferred language for designing and deploying deep learning models. This Learning Path introduces you to the basics of deep learning and even teaches you to build a neural network model from scratch. As you make your way through the chapters, you'll explore deep learning libraries and understand how to create deep learning models for a variety of challenges, right from anomaly detection to recommendation systems. The book will then help you cover advanced topics, such as generative adversarial networks (GANs), transfer learning, and large-scale deep learning in the cloud, in addition to model optimization, overfitting, and data augmentation. Through real-world projects, you'll also get up to speed with training convolutional neural networks (CNNs), recurrent neural networks (RNNs), and long short-term memory networks (LSTMs) in R. By the end of this Learning Path, you'll be well versed with deep learning and have the skills you need to implement a number of deep learning concepts in your research work or projects. This Learning Path includes content from the following Packt products: R Deep Learning Essentials - Second Edition by Joshua F. Wiley and Mark HodnettR Deep Learning Projects by Yuxi (Hayden) Liu and Pablo MaldonadoWhat you will learnImplement credit card fraud detection with autoencodersTrain neural networks to perform handwritten digit recognition using MXNetReconstruct images using variational autoencodersExplore the applications of autoencoder neural networks in clustering and dimensionality reductionCreate natural language processing (NLP) models using Keras and TensorFlow in RPrevent models from overfitting the data to improve generalizabilityBuild shallow neural network prediction modelsWho this book is for This Learning Path is for aspiring data scientists, data analysts, machine learning developers, and deep learning enthusiasts who are well versed in machine learning concepts and are looking to explore the deep learning paradigm using R. A fundamental understanding of R programming and familiarity with the basic concepts of deep learning are necessary to get the most out of this Learning Path.

Learning Predictive Analytics with R Sep 01 2020 Get to grips with key data visualization and predictive analytic skills using R About This Book Acquire predictive analytic skills using various tools of R Make predictions about future events by discovering valuable information from data using R Comprehensive guidelines that focus on predictive model design with real-world data Who This Book Is For If you are a statistician, chief information officer, data scientist, ML engineer, ML practitioner, quantitative analyst, and student of machine learning, this is the book for you. You should have basic knowledge of the use of R. Readers without previous experience of programming in R will also be able to use the tools in the book. What You Will Learn Customize R by installing and loading new packages Explore the structure of data using clustering algorithms Turn unstructured text into ordered data, and acquire knowledge from the data Classify your observations using Naive Bayes, k-NN, and decision trees Reduce the dimensionality of your data using principal component analysis Discover association rules using Apriori Understand how statistical distributions can help retrieve information from data using correlations, linear regression, and multilevel regression Use PMML to deploy the models generated in R In Detail R is statistical software that is used for data analysis. There are two main types of learning from data: unsupervised learning, where the structure of data is extracted automatically; and supervised learning, where a labeled part of the data is used to learn the relationship or scores in a target attribute. As important information is often hidden in a lot of data, R

helps to extract that information with its many standard and cutting-edge statistical functions. This book is packed with easy-to-follow guidelines that explain the workings of the many key data mining tools of R, which are used to discover knowledge from your data. You will learn how to perform key predictive analytics tasks using R, such as train and test predictive models for classification and regression tasks, score new data sets and so on. All chapters will guide you in acquiring the skills in a practical way. Most chapters also include a theoretical introduction that will sharpen your understanding of the subject matter and invite you to go further. The book familiarizes you with the most common data mining tools of R, such as k-means, hierarchical regression, linear regression, association rules, principal component analysis, multilevel modeling, k-NN, Naive Bayes, decision trees, and text mining. It also provides a description of visualization techniques using the basic visualization tools of R as well as lattice for visualizing patterns in data organized in groups. This book is invaluable for anyone fascinated by the data mining opportunities offered by GNU R and its packages. Style and approach This is a practical book, which analyzes compelling data about life, health, and death with the help of tutorials. It offers you a useful way of interpreting the data that's specific to this book, but that can also be applied to any other data.

R Aug 12 2021

Mathematics and Programming for Machine Learning with R Jan 25 2020 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

Machine Learning with R Mar 19 2022 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.

Mastering Machine Learning with R Feb 18 2022 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.

Learning Bayesian Models with R Jun 29 2020 Become an expert in Bayesian Machine Learning methods using R and apply them to solve real-world big data problems About This Book Understand the principles of Bayesian Inference with less mathematical equations Learn state-of-the-art Machine Learning methods Familiarize yourself with the recent advances in Deep Learning and Big Data frameworks with this step-by-step guide Who This Book Is For This book is for statisticians, analysts, and data scientists who want to build a Bayes-based system with R and implement it in their day-to-day models and projects. It is mainly intended for Data Scientists and Software Engineers who are involved in the development of Advanced Analytics applications. To understand this book, it would be useful if you have basic knowledge of probability theory and analytics and some familiarity with the programming language R. What You Will Learn Set up the R environment Create a classification model to predict and explore discrete variables Get acquainted with Probability Theory to analyze random events Build Linear Regression models Use Bayesian networks to infer the probability distribution of decision variables in a problem Model a problem using Bayesian Linear Regression approach with the R package BLR Use Bayesian Logistic Regression model to classify numerical data Perform Bayesian Inference on massively large data sets using the MapReduce programs in R and Cloud computing In Detail Bayesian Inference provides a unified framework to deal with all sorts of uncertainties when learning patterns from data using machine learning models and use it for predicting future observations. However, learning and implementing Bayesian models is not easy for data science practitioners due to the level of mathematical treatment involved. Also, applying Bayesian methods to real-world problems requires high computational resources. With the recent advances in computation and several open sources packages available in R, Bayesian modeling has become more feasible to use for practical applications today. Therefore, it would be advantageous for all data scientists and engineers to understand Bayesian methods and apply them in their projects to achieve better results.

Learning Bayesian Models with R starts by giving you a comprehensive coverage of the Bayesian Machine Learning models and the R packages that implement them. It begins with an introduction to the fundamentals of probability theory and R programming for those who are new to the subject. Then the book covers some of the important machine learning methods, both supervised and unsupervised learning, implemented using

Bayesian Inference and R. Every chapter begins with a theoretical description of the method explained in a very simple manner. Then, relevant R packages are discussed and some illustrations using data sets from the UCI Machine Learning repository are given. Each chapter ends with some simple exercises for you to get hands-on experience of the concepts and R packages discussed in the chapter. The last chapters are devoted to the latest development in the field, specifically Deep Learning, which uses a class of Neural Network models that are currently at the frontier of Artificial Intelligence. The book concludes with the application of Bayesian methods on Big Data using the Hadoop and Spark frameworks. Style and approach The book first gives you a theoretical description of the Bayesian models in simple language, followed by details of its implementation in the R package. Each chapter has illustrations for the use of Bayesian model and the corresponding R package, using data sets from the UCI Machine Learning repository. Each chapter also contains sufficient exercises for you to get more hands-on practice.

Machine Learning with R Jun 22 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.

R Programming Mar 07 2021 R Programming for Beginners! Have you always wanted to learn R programming but are afraid it'll be too difficult for you? Or perhaps you know other programming languages but are interested in learning the R programming language fast? This book is for you. You no longer have to waste your time and money learning R programming from boring books that are 600 pages long, expensive online courses or complicated R programming tutorials that just leave you more confused. What this book offers... R for Beginners Complex concepts are broken down into simple steps to ensure that you can easily master the R Programming language even if you have never coded before. Carefully Chosen R Programming Examples Examples are carefully chosen to illustrate all concepts. In addition, the output for all examples are provided immediately so you do not have to wait till you have access to your computer to test the examples. Careful selection of topics Topics are carefully selected to give you a broad exposure to R, while not overwhelming you with information overload. Learn how to use R to turn raw data into insight, knowledge, and understanding. This book introduces you to R, RStudio, and the tidy verse, 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. Learn The R Programming Language Fast Concepts are presented in a "to-the-point" style to cater to the busy individual. With this book, you can learn R in just one day and start coding immediately. How is this book different... The best way to learn R programming is by doing. This book includes a unique examples. Working through the examples will not only give you an immense sense of achievement, it'll also help you retain the knowledge and master the language. Are you ready to dip your toes into the exciting world of R coding? This book is for you. Click the BUY button and download it now. What you will learn in this book: *introduction to R *environment setup *program structure *basic syntax *data types *variables *operators *decision making *loops *arrays *much,much,more! Download your R Programming copy today!

Learning R for Geospatial Analysis Dec 16 2021 This book is intended for anyone who wants to learn how to efficiently analyze geospatial data with R, including GIS analysts, researchers, educators, and students who work with spatial data and who are interested in expanding their capabilities through programming. The book assumes familiarity with the basic geographic information concepts (such as spatial coordinates), but no prior experience with R and/or programming is required. By focusing on R exclusively, you will not need to depend on any external software—a working installation of R is all that is necessary to begin.

Hands-On Programming with R Apr 20 2022 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 Grolemund 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

[An Introduction to Statistical Learning](#) Sep 13 2021 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, deep learning, survival analysis, multiple testing, 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. This Second Edition features new chapters on deep learning, survival analysis, and multiple testing, as well as expanded treatments of naïve Bayes, generalized linear models, Bayesian additive regression trees, and matrix completion. R code has been updated throughout to ensure compatibility.