
Machine Learning With R Cookbook

Eventually, you will totally discover a supplementary experience and talent by spending more cash. still when? do you admit that you require to get those every needs behind having significantly cash? Why dont you try to get something basic in the beginning? Thats something that will guide you to understand even more just about the globe, experience, some places, following history, amusement, and a lot more?

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Machine Learning With R Cookbook

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Ensemble Machine Learning Cookbook Packt Publishing Ltd
Over 80 recipes to help you breeze through your data analysis projects using R About This Book Analyse your data using the popular R packages like ggplot2 with ready-to-use and customizable recipes Find meaningful insights from your data and generate dynamic reports A practical guide to help you put your data analysis skills in R to practical use Who This Book Is For This book is for data scientists, analysts and even enthusiasts who want to learn and implement the various data analysis techniques using R in a practical way. Those looking for quick, handy solutions to common tasks and challenges in data analysis will find this book to be very useful. Basic knowledge of statistics and R programming is assumed. What You Will Learn Acquire, format and visualize your data using R Using R to perform an Exploratory data analysis Introduction to machine learning algorithms such as classification and regression Get started with social network analysis Generate dynamic reporting with Shiny Get started with geospatial analysis Handling large data with R using Spark and MongoDB Build Recommendation system- Collaborative Filtering, Content based and Hybrid Learn real world dataset examples- Fraud Detection and Image Recognition In Detail Data analytics with R has emerged as a very important focus for organizations of all kinds. R enables even those with only an intuitive grasp of the underlying concepts, without a deep mathematical background, to unleash powerful and detailed examinations of their data. This book will show you how you can put your data analysis skills in R to practical use, with recipes catering to the basic as well as advanced data analysis tasks. Right from acquiring your data and preparing it for analysis to the more complex data analysis

techniques, the book will show you how you can implement each technique in the best possible manner. You will also visualize your data using the popular R packages like ggplot2 and gain hidden insights from it. Starting with implementing the basic data analysis concepts like handling your data to creating basic plots, you will master the more advanced data analysis techniques like performing cluster analysis, and generating effective analysis reports and visualizations. Throughout the book, you will get to know the common problems and obstacles you might encounter while implementing each of the data analysis techniques in R, with ways to overcoming them in the easiest possible way. By the end of this book, you will have all the knowledge you need to become an expert in data analysis with R, and put your skills to test in real-world scenarios. Style and Approach Hands-on recipes to walk through data science challenges using R Your one-stop solution for common and not-so-common pain points while performing real-world problems to execute a series of tasks. Addressing your common and not-so-common pain points, this is a book that you must have on the shelf

Deep Learning with R Cookbook Packt Publishing Ltd
Solve real-world statistical problems using the most popular R packages and techniques Key Features Learn how to apply statistical methods to your everyday research with handy recipes Foster your analytical skills and interpret research across industries and business verticals Perform t-tests, chi-squared tests, and regression analysis using modern statistical techniques Book Description R is a popular programming language for developing statistical software. This book will be a useful guide to solving common and not-so-common challenges in statistics. With this book, you'll be equipped to confidently perform essential statistical procedures across your organization with the help of cutting-edge statistical tools. You'll start by implementing data

modeling, data analysis, and machine learning to solve real-world problems. You'll then understand how to work with nonparametric methods, mixed effects models, and hidden Markov models. This book contains recipes that will guide you in performing univariate and multivariate hypothesis tests, several regression techniques, and using robust techniques to minimize the impact of outliers in data. You'll also learn how to use the caret package for performing machine learning in R. Furthermore, this book will help you understand how to interpret charts and plots to get insights for better decision making. By the end of this book, you will be able to apply your skills to statistical computations using R 3.5. You will also become well-versed with a wide array of statistical techniques in R that are extensively used in the data science industry. What you will learn Become well versed with recipes that will help you interpret plots with R Formulate advanced statistical models in R to understand its concepts Perform Bayesian regression to predict models and input missing data Use time series analysis for modelling and forecasting temporal data Implement a range of regression techniques for efficient data modelling Get to grips with robust statistics and hidden Markov models Explore ANOVA (Analysis of Variance) and perform hypothesis testing Who this book is for If you are a quantitative researcher, statistician, data analyst, or data scientist looking to tackle various challenges in statistics, this book is what you need! Proficiency in R programming and basic knowledge of linear algebra is necessary to follow along the recipes covered in this book.

Apache Spark Deep Learning Cookbook Packt Publishing Ltd
Tackle the complex challenges faced while building end-to-end deep learning models using modern R libraries Key Features Understand the intricacies of R deep learning packages to perform a range of deep learning tasks Implement deep learning

techniques and algorithms for real-world use cases Explore various state-of-the-art techniques for fine-tuning neural network models Book Description Deep learning (DL) has evolved in recent years with developments such as generative adversarial networks (GANs), variational autoencoders (VAEs), and deep reinforcement learning. This book will get you up and running with R 3.5.x to help you implement DL techniques. The book starts with the various DL techniques that you can implement in your apps. A unique set of recipes will help you solve binomial and multinomial classification problems, and perform regression and hyperparameter optimization. To help you gain hands-on experience of concepts, the book features recipes for implementing convolutional neural networks (CNNs), recurrent neural networks (RNNs), and Long short-term memory (LSTMs) networks, as well as sequence-to-sequence models and reinforcement learning. You'll then learn about high-performance computation using GPUs, along with learning about parallel computation capabilities in R. Later, you'll explore libraries, such as MXNet, that are designed for GPU computing and state-of-the-art DL. Finally, you'll discover how to solve different problems in NLP, object detection, and action identification, before understanding how to use pre-trained models in DL apps. By the end of this book, you'll have comprehensive knowledge of DL and DL packages, and be able to develop effective solutions for different DL problems. What you will learn Work with different datasets for image classification using CNNs Apply transfer learning to solve complex computer vision problems Use RNNs and their variants such as LSTMs and Gated Recurrent Units (GRUs) for sequence data generation and classification Implement autoencoders for DL tasks such as dimensionality reduction, denoising, and image colorization Build deep generative models to create photorealistic images using GANs and VAEs Use MXNet to accelerate the training of DL models through distributed computing Who this book is for This deep learning book is for data scientists, machine learning practitioners, deep learning researchers and AI enthusiasts who want to learn key tasks in deep learning domains using a recipe-based approach. A strong understanding of machine learning and working knowledge of the R programming language is mandatory.

[R Cookbook](#) "O'Reilly Media, Inc."

Learn how to apply modern AI to create powerful cybersecurity

solutions for malware, pentesting, social engineering, data privacy, and intrusion detection Key Features Manage data of varying complexity to protect your system using the Python ecosystem Apply ML to pentesting, malware, data privacy, intrusion detection system (IDS) and social engineering Automate your daily workflow by addressing various security challenges using the recipes covered in the book Book Description Organizations today face a major threat in terms of cybersecurity, from malicious URLs to credential reuse, and having robust security systems can make all the difference. With this book, you'll learn how to use Python libraries such as TensorFlow and scikit-learn to implement the latest artificial intelligence (AI) techniques and handle challenges faced by cybersecurity researchers. You'll begin by exploring various machine learning (ML) techniques and tips for setting up a secure lab environment. Next, you'll implement key ML algorithms such as clustering, gradient boosting, random forest, and XGBoost. The book will guide you through constructing classifiers and features for malware, which you'll train and test on real samples. As you progress, you'll build self-learning, reliant systems to handle cybersecurity tasks such as identifying malicious URLs, spam email detection, intrusion detection, network protection, and tracking user and process behavior. Later, you'll apply generative adversarial networks (GANs) and autoencoders to advanced security tasks. Finally, you'll delve into secure and private AI to protect the privacy rights of consumers using your ML models. By the end of this book, you'll have the skills you need to tackle real-world problems faced in the cybersecurity domain using a recipe-based approach. What you will learn Learn how to build malware classifiers to detect suspicious activities Apply ML to generate custom malware to pentest your security Use ML algorithms with complex datasets to implement cybersecurity concepts Create neural networks to identify fake videos and images Secure your organization from one of the most popular threats - insider threats Defend against zero-day threats by constructing an anomaly detection system Detect web vulnerabilities effectively by combining Metasploit and ML Understand how to train a model without exposing the training data Who this book is for This book is for cybersecurity professionals and security researchers who are looking to implement the latest machine learning techniques to boost computer security, and gain insights into securing an

organization using red and blue team ML. This recipe-based book will also be useful for data scientists and machine learning developers who want to experiment with smart techniques in the cybersecurity domain. Working knowledge of Python programming and familiarity with cybersecurity fundamentals will help you get the most out of this book.

Deep Learning Cookbook Packt Publishing Ltd

Over 100 hands-on recipes to effectively solve real-world data problems using the most popular R packages and techniques About This Book Gain insight into how data scientists collect, process, analyze, and visualize data using some of the most popular R packages Understand how to apply useful data analysis techniques in R for real-world applications An easy-to-follow guide to make the life of data scientist easier with the problems faced while performing data analysis Who This Book Is For This book is for those who are already familiar with the basic operation of R, but want to learn how to efficiently and effectively analyze real-world data problems using practical R packages. What You Will Learn Get to know the functional characteristics of R language Extract, transform, and load data from heterogeneous sources Understand how easily R can confront probability and statistics problems Get simple R instructions to quickly organize and manipulate large datasets Create professional data visualizations and interactive reports Predict user purchase behavior by adopting a classification approach Implement data mining techniques to discover items that are frequently purchased together Group similar text documents by using various clustering methods In Detail This cookbook offers a range of data analysis samples in simple and straightforward R code, providing step-by-step resources and time-saving methods to help you solve data problems efficiently. The first section deals with how to create R functions to avoid the unnecessary duplication of code. You will learn how to prepare, process, and perform sophisticated ETL for heterogeneous data sources with R packages. An example of data manipulation is provided, illustrating how to use the "dplyr" and "data.table" packages to efficiently process larger data structures. We also focus on "ggplot2" and show you how to create advanced figures for data exploration. In addition, you will learn how to build an interactive report using the "ggvis" package. Later chapters offer insight into time series analysis on financial data, while there is detailed information on the hot topic

of machine learning, including data classification, regression, clustering, association rule mining, and dimension reduction. By the end of this book, you will understand how to resolve issues and will be able to comfortably offer solutions to problems encountered while performing data analysis. Style and approach This easy-to-follow guide is full of hands-on examples of data analysis with R. Each topic is fully explained beginning with the core concept, followed by step-by-step practical examples, and concluding with detailed explanations of each concept used.

R Deep Learning Cookbook Packt Publishing Ltd

This practical guide provides nearly 200 self-contained recipes to help you solve machine learning challenges you may encounter in your daily work. If you're comfortable with Python and its libraries, including pandas and scikit-learn, you'll be able to address specific problems such as loading data, handling text or numerical data, model selection, and dimensionality reduction and many other topics. Each recipe includes code that you can copy and paste into a toy dataset to ensure that it actually works. From there, you can insert, combine, or adapt the code to help construct your application. Recipes also include a discussion that explains the solution and provides meaningful context. This cookbook takes you beyond theory and concepts by providing the nuts and bolts you need to construct working machine learning applications. You'll find recipes for: Vectors, matrices, and arrays Handling numerical and categorical data, text, images, and dates and times Dimensionality reduction using feature extraction or feature selection Model evaluation and selection Linear and logical regression, trees and forests, and k-nearest neighbors Support vector machines (SVM), naïve Bayes, clustering, and neural networks Saving and loading trained models [Machine Learning with R Cookbook - Second Edition](#) "O'Reilly Media, Inc."

"Practical recipes for visualizing data"--Cover.

[Mastering Machine Learning with R](#) Machine Learning with R Cookbook

Over 50 practical and useful recipes to help you perform data analysis with R by unleashing every native RStudio feature About This Book 54 useful and practical tasks to improve working systems Includes optimizing performance and reliability or uptime, reporting, system management tools, interfacing to standard data ports, and so on Offers 10-15 real-life, practical

improvements for each user type Who This Book Is For This book is targeted at R statisticians, data scientists, and R programmers. Readers with R experience who are looking to take the plunge into statistical computing will find this Cookbook particularly indispensable. What You Will Learn Familiarize yourself with the latest advanced R console features Create advanced and interactive graphics Manage your R project and project files effectively Perform reproducible statistical analyses in your R projects Use RStudio to design predictive models for a specific domain-based application Use RStudio to effectively communicate your analyses results and even publish them to a blog Put yourself on the frontiers of data science and data monetization in R with all the tools that are needed to effectively communicate your results and even transform your work into a data product In Detail The requirement of handling complex datasets, performing unprecedented statistical analysis, and providing real-time visualizations to businesses has concerned statisticians and analysts across the globe. RStudio is a useful and powerful tool for statistical analysis that harnesses the power of R for computational statistics, visualization, and data science, in an integrated development environment. This book is a collection of recipes that will help you learn and understand RStudio features so that you can effectively perform statistical analysis and reporting, code editing, and R development. The first few chapters will teach you how to set up your own data analysis project in RStudio, acquire data from different data sources, and manipulate and clean data for analysis and visualization purposes. You'll get hands-on with various data visualization methods using ggplot2, and you will create interactive and multidimensional visualizations with D3.js. Additional recipes will help you optimize your code; implement various statistical models to manage large datasets; perform text analysis and predictive analysis; and master time series analysis, machine learning, forecasting; and so on. In the final few chapters, you'll learn how to create reports from your analytical application with the full range of static and dynamic reporting tools that are available in RStudio so that you can effectively communicate results and even transform them into interactive web applications. Style and approach RStudio is an open source Integrated Development Environment (IDE) for the R platform. The R programming language is used for statistical computing and graphics, which

RStudio facilitates and enhances through its integrated environment. This Cookbook will help you learn to write better R code using the advanced features of the R programming language using RStudio. Readers will learn advanced R techniques to compute the language and control object evaluation within R functions. Some of the contents are: Accessing an API with R Substituting missing values by interpolation Performing data filtering activities R Statistical implementation for Geospatial data Developing shiny add-ins to expand RStudio functionalities Using GitHub with RStudio Modelling a recommendation engine with R Using R Markdown for static and dynamic reporting Curating a blog through RStudio Advanced statistical modelling with R and RStudio

R Cookbook Packt Publishing Ltd

A step-by-step solution-based guide to preparing building, training, and deploying high-quality machine learning models with Amazon SageMaker Key Features Perform ML experiments with built-in and custom algorithms in SageMaker Explore proven solutions when working with TensorFlow, PyTorch, Hugging Face Transformers, and scikit-learn Use the different features and capabilities of SageMaker to automate relevant ML processes Book Description Amazon SageMaker is a fully managed machine learning (ML) service that helps data scientists and ML practitioners manage ML experiments. In this book, you'll use the different capabilities and features of Amazon SageMaker to solve relevant data science and ML problems. This step-by-step guide features 80 proven recipes designed to give you the hands-on machine learning experience needed to contribute to real-world experiments and projects. You'll cover the algorithms and techniques that are commonly used when training and deploying ML problems. You'll explore various solutions for working with deep learning libraries and frameworks such as TensorFlow, PyTorch, and Hugging Face Transformers in Amazon SageMaker. You'll also learn how to use SageMaker Clarify, SageMaker Model Monitor, SageMaker Debugger, and SageMaker Experiments to debug, manage, and monitor multiple ML experiments and deployments. Moreover, you'll have a better understanding of how SageMaker Feature Store, Autopilot, and Pipelines can meet the specific needs of data science teams. By the end of this book, you'll be able to combine the different solutions you've learned as

building blocks to solve real-world ML problems. What you will learn Train and deploy NLP, time series forecasting, and computer vision models to solve different business problems Push the limits of customization in SageMaker using custom container images Use AutoML capabilities with SageMaker Autopilot to create high-quality models Work with effective data analysis and preparation techniques Explore solutions for debugging and managing ML experiments and deployments Deal with bias detection and ML explainability requirements using SageMaker Clarify Automate intermediate and complex deployments and workflows using a variety of solutions Who this book is for This book is for developers, data scientists, and machine learning practitioners interested in using Amazon SageMaker to build, analyze, and deploy machine learning models with 80 step-by-step recipes. All you need is an AWS account to get things running. Prior knowledge of AWS, machine learning, and the Python programming language will help you to grasp the concepts covered in this book more effectively.

R Graphics Cookbook Packt Publishing Ltd

Machine Learning with R Cookbook Packt Publishing Ltd

Practical Data Science Cookbook Packt Publishing Ltd

A solution-based guide to put your deep learning models into production with the power of Apache Spark Key Features Discover practical recipes for distributed deep learning with Apache Spark Learn to use libraries such as Keras and TensorFlow Solve problems in order to train your deep learning models on Apache Spark Book Description With deep learning gaining rapid mainstream adoption in modern-day industries, organizations are looking for ways to unite popular big data tools with highly efficient deep learning libraries. As a result, this will help deep learning models train with higher efficiency and speed. With the help of the Apache Spark Deep Learning Cookbook, you'll work through specific recipes to generate outcomes for deep learning algorithms, without getting bogged down in theory. From setting up Apache Spark for deep learning to implementing types of neural net, this book tackles both common and not so common problems to perform deep learning on a distributed environment. In addition to this, you'll get access to deep learning code within Spark that can be reused to answer similar problems or tweaked to answer slightly different problems. You will also learn how to stream and cluster your data with Spark. Once you have got to

grips with the basics, you'll explore how to implement and deploy deep learning models, such as Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN) in Spark, using popular libraries such as TensorFlow and Keras. By the end of the book, you'll have the expertise to train and deploy efficient deep learning models on Apache Spark. What you will learn Set up a fully functional Spark environment Understand practical machine learning and deep learning concepts Apply built-in machine learning libraries within Spark Explore libraries that are compatible with TensorFlow and Keras Explore NLP models such as Word2vec and TF-IDF on Spark Organize dataframes for deep learning evaluation Apply testing and training modeling to ensure accuracy Access readily available code that may be reusable Who this book is for If you're looking for a practical and highly useful resource for implementing efficiently distributed deep learning models with Apache Spark, then the Apache Spark Deep Learning Cookbook is for you. Knowledge of the core machine learning concepts and a basic understanding of the Apache Spark framework is required to get the best out of this book.

Additionally, some programming knowledge in Python is a plus. *PyTorch 1.x Reinforcement Learning Cookbook* Packt Publishing Ltd

Over 85 recipes to help you complete real-world data science projects in R and Python About This Book Tackle every step in the data science pipeline and use it to acquire, clean, analyze, and visualize your data Get beyond the theory and implement real-world projects in data science using R and Python Easy-to-follow recipes will help you understand and implement the numerical computing concepts Who This Book Is For If you are an aspiring data scientist who wants to learn data science and numerical programming concepts through hands-on, real-world project examples, this is the book for you. Whether you are brand new to data science or you are a seasoned expert, you will benefit from learning about the structure of real-world data science projects and the programming examples in R and Python. What You Will Learn Learn and understand the installation procedure and environment required for R and Python on various platforms Prepare data for analysis by implement various data science concepts such as acquisition, cleaning and munging through R and Python Build a predictive model and an exploratory model Analyze the results of your model and create reports on the

acquired data Build various tree-based methods and Build random forest In Detail As increasing amounts of data are generated each year, the need to analyze and create value out of it is more important than ever. Companies that know what to do with their data and how to do it well will have a competitive advantage over companies that don't. Because of this, there will be an increasing demand for people that possess both the analytical and technical abilities to extract valuable insights from data and create valuable solutions that put those insights to use. Starting with the basics, this book covers how to set up your numerical programming environment, introduces you to the data science pipeline, and guides you through several data projects in a step-by-step format. By sequentially working through the steps in each chapter, you will quickly familiarize yourself with the process and learn how to apply it to a variety of situations with examples using the two most popular programming languages for data analysis—R and Python. Style and approach This step-by-step guide to data science is full of hands-on examples of real-world data science tasks. Each recipe focuses on a particular task involved in the data science pipeline, ranging from readying the dataset to analytics and visualization

Practical Machine Learning Cookbook "O'Reilly Media, Inc."

Implement machine learning algorithms to build ensemble models using Keras, H2O, Scikit-Learn, Pandas and more Key Features Apply popular machine learning algorithms using a recipe-based approach Implement boosting, bagging, and stacking ensemble methods to improve machine learning models Discover real-world ensemble applications and encounter complex challenges in Kaggle competitions Book Description Ensemble modeling is an approach used to improve the performance of machine learning models. It combines two or more similar or dissimilar machine learning algorithms to deliver superior intellectual powers. This book will help you to implement popular machine learning algorithms to cover different paradigms of ensemble machine learning such as boosting, bagging, and stacking. The Ensemble Machine Learning Cookbook will start by getting you acquainted with the basics of ensemble techniques and exploratory data analysis. You'll then learn to implement tasks related to statistical and machine learning algorithms to understand the ensemble of multiple heterogeneous algorithms. It will also ensure that you don't miss out on key topics, such as like resampling methods. As

you progress, you'll get a better understanding of bagging, boosting, stacking, and working with the Random Forest algorithm using real-world examples. The book will highlight how these ensemble methods use multiple models to improve machine learning results, as compared to a single model. In the concluding chapters, you'll delve into advanced ensemble models using neural networks, natural language processing, and more. You'll also be able to implement models such as fraud detection, text categorization, and sentiment analysis. By the end of this book, you'll be able to harness ensemble techniques and the working mechanisms of machine learning algorithms to build intelligent models using individual recipes. What you will learn

Understand how to use machine learning algorithms for regression and classification problems
 Implement ensemble techniques such as averaging, weighted averaging, and max-voting
 Get to grips with advanced ensemble methods, such as bootstrapping, bagging, and stacking
 Use Random Forest for tasks such as classification and regression
 Implement an ensemble of homogeneous and heterogeneous machine learning algorithms
 Learn and implement various boosting techniques, such as AdaBoost, Gradient Boosting Machine, and XGBoost
 Who this book is for
 This book is designed for data scientists, machine learning developers, and deep learning enthusiasts who want to delve into machine learning algorithms to build powerful ensemble models. Working knowledge of Python programming and basic statistics is a must to help you grasp the concepts in the book.

R Data Analysis Cookbook Simon and Schuster

Learn to expertly apply a range of machine learning methods to real data with this practical guide. Machine learning without advanced math! This book presents a serious, practical look at machine learning, preparing you for valuable insights on your own data. The Art of Machine Learning is packed with real dataset examples and sophisticated advice on how to make full use of powerful machine learning methods. Readers will need only an intuitive grasp of charts, graphs, and the slope of a line, as well as familiarity with the R programming language. You'll become skilled in a range of machine learning methods, starting with the simple k-Nearest Neighbors method (k-NN), then on to random forests, gradient boosting, linear/logistic models, support vector machines, the LASSO, and neural networks. Final chapters

introduce text and image classification, as well as time series. You'll learn not only how to use machine learning methods, but also why these methods work, providing the strong foundational background you'll need in practice. Additional features: How to avoid common problems, such as dealing with "dirty" data and factor variables with large numbers of levels
 A look at typical misconceptions, such as dealing with unbalanced data
 Exploration of the famous Bias-Variance Tradeoff, central to machine learning, and how it plays out in practice for each machine learning method
 Dozens of illustrative examples involving real datasets of varying size and field of application
 Standard R packages are used throughout, with a simple wrapper interface to provide convenient access. After finishing this book, you will be well equipped to start applying machine learning techniques to your own datasets.

R Cookbook "O'Reilly Media, Inc."

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.

Machine Learning with R Cookbook Packt Publishing Ltd

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.

TensorFlow Machine Learning Cookbook Packt Publishing Ltd

Understand the fundamentals of machine learning with R and build your own dynamic algorithms to tackle complicated real-world problems successfully

About This Book- Get to grips with the concepts of machine learning through exciting real-world examples- Visualize and solve complex problems by using powerful R constructs and its robust packages for machine learning- Learn to build your own machine learning system with this example-based practical guide

Who This Book Is For If you are interested in mining useful information from data using state-of-the-art techniques to make data-driven decisions, this is a go-to guide for you. No prior experience with data science is required, although basic knowledge of R is highly desirable. Prior knowledge in machine learning would be helpful but is not necessary.

What You Will Learn- Utilize the power of R to handle data extraction, manipulation, and exploration techniques- Use R to visualize data spread across multiple dimensions and extract useful features- Explore the underlying mathematical and logical concepts that drive machine learning algorithms- Dive deep into the world of analytics to predict situations correctly- Implement R machine learning algorithms from scratch and be amazed to see

the algorithms in action- Write reusable code and build complete machine learning systems from the ground up- Solve interesting real-world problems using machine learning and R as the journey unfolds- Harness the power of robust and optimized R packages to work on projects that solve real-world problems in machine learning and data science

In Detail Data science and machine learning are some of the top buzzwords in the technical world today. From retail stores to Fortune 500 companies, everyone is working hard to making machine learning give them data-driven insights to grow their business. With powerful data manipulation features, machine learning packages, and an active developer community, R empowers users to build sophisticated machine learning systems to solve real-world data problems. This book takes you on a data-driven journey that starts with the very basics of R and machine learning and gradually builds upon the concepts to work on projects that tackle real-world problems. You'll begin by getting an understanding of the core concepts and definitions required to appreciate machine learning algorithms and concepts. Building upon the basics, you will then work on three different projects to apply the concepts of machine learning, following current trends and cover major algorithms as well as popular R packages in detail. These projects have been neatly divided into six different chapters covering the worlds of e-commerce, finance, and social-media, which are at the very core of this data-driven revolution. Each of the projects will help you to understand, explore, visualize, and derive insights depending upon the domain and algorithms. Through this book, you will learn to apply the concepts of machine learning to deal with data-related problems and solve them using the powerful yet simple language, R.

Style and approach The book is an enticing journey that starts from the very basics to gradually pick up pace as the story unfolds. Each concept is first defined in the larger context of things succinctly, followed by a detailed explanation of their application. Each topic is explained with the help of a project that solves a real real-world problem involving hands-on work thus giving you a deep insight into the world of machine learning.

[Machine Learning with Python Cookbook](#) Packt Publishing Ltd

Resolving and offering solutions to your machine learning problems with R

About This Book Implement a wide range of algorithms and techniques for tackling complex data Improve predictions and recommendations to have better levels of

accuracy

Optimize performance of your machine-learning systems

Who This Book Is For This book is for analysts, statisticians, and data scientists with knowledge of fundamentals of machine learning and statistics, who need help in dealing with challenging scenarios faced every day of working in the field of machine learning and improving system performance and accuracy. It is assumed that as a reader you have a good understanding of mathematics. Working knowledge of R is expected.

What You Will Learn Get equipped with a deeper understanding of how to apply machine-learning techniques

Implement each of the advanced machine-learning techniques

Solve real-life problems that are encountered in order to make your applications produce improved results

Gain hands-on experience in problem solving for your machine-learning systems

Understand the methods of collecting data, preparing data for usage, training the model, evaluating the model's performance, and improving the model's performance

In Detail Machine learning has become the new black. The challenge in today's world is the explosion of data from existing legacy data and incoming new structured and unstructured data. The complexity of discovering, understanding, performing analysis, and predicting outcomes on the data using machine learning algorithms is a challenge. This cookbook will help solve everyday challenges you face as a data scientist. The application of various data science techniques and on multiple data sets based on real-world challenges you face will help you appreciate a variety of techniques used in various situations. The first half of the book provides recipes on fairly complex machine-learning systems, where you'll learn to explore new areas of applications of machine learning and improve its efficiency. That includes recipes on classifications, neural networks, unsupervised and supervised learning, deep learning, reinforcement learning, and more. The second half of the book focuses on three different machine learning case studies, all based on real-world data, and offers solutions and solves specific machine-learning issues in each one.

Style and approach Following a cookbook approach, we'll teach you how to solve everyday difficulties and struggles you encounter.

[R: Recipes for Analysis, Visualization and Machine Learning](#) Packt Publishing Ltd

Powerful, independent recipes to build deep learning models in

different application areas using R libraries

About This Book*

Master intricacies of R deep learning packages such as mxnet & tensorflow* Learn application on deep learning in different domains using practical examples from text, image and speech* Guide to set-up deep learning models using CPU and GPU

Who This Book Is For Data science professionals or analysts who have performed machine learning tasks and now want to explore deep learning and want a quick reference that could address the pain points while implementing deep learning. Those who wish to have an edge over other deep learning professionals will find this book quite useful.

What You Will Learn* Build deep learning models in different application areas using TensorFlow, H2O, and MXnet.* Analyzing a Deep boltzmann machine* Setting up and Analysing Deep belief networks* Building supervised model using various machine learning algorithms* Set up variants of basic convolution function* Represent data using Autoencoders.* Explore generative models available in Deep Learning.* Discover sequence modeling using Recurrent nets* Learn fundamentals of Reinforcement Learning* Learn the steps involved in applying Deep Learning in text mining* Explore application of deep learning in signal processing* Utilize Transfer learning for utilizing pre-trained model* Train a deep learning model on a GPU

Detail Deep Learning is the next big thing. It is a part of machine learning. It's favorable results in applications with huge and complex data is remarkable. Simultaneously, R programming language is very popular amongst the data miners and statisticians. This book will help you to get through the problems that you face during the execution of different tasks and understand hacks in deep learning, neural networks, and advanced machine learning techniques. It will also take you through complex deep learning algorithms and various deep learning packages and libraries in R. It will be starting with different packages in Deep Learning to neural networks and structures. You will also encounter the applications in text mining and processing along with a comparison between CPU and GPU performance. By the end of the book, you will have a logical understanding of Deep learning and different deep learning packages to have the most appropriate solutions for your problems.

Style and approach Collection of hands-on recipes that would act as your all-time reference for your deep learning needs

Packt Publishing Ltd

With more than 200 practical recipes, this book helps you perform data analysis with R quickly and efficiently. The R language

provides everything you need to do statistical work, but its structure can be difficult to master. This collection of concise, task-oriented recipes makes you productive with R immediately, with solutions ranging from basic tasks to input and output, general statistics, graphics, and linear regression. Each recipe addresses a specific problem, with a discussion that explains the solution and offers insight into how it works. If you're a beginner, R Cookbook will help get you started. If you're an experienced data programmer, it will jog your memory and expand your horizons. You'll get the job done faster and learn more about R in the process. Create vectors, handle variables, and perform other basic functions

Input and output data Tackle data structures such as matrices, lists, factors, and data frames

Work with probability, probability distributions, and random variables Calculate statistics and confidence intervals, and perform statistical tests

Create a variety of graphic displays Build statistical models with linear regressions and analysis of variance (ANOVA)

Explore advanced statistical techniques, such as finding clusters in your data

"Wonderfully readable, R Cookbook serves not only as a solutions manual of sorts, but as a truly enjoyable way to explore the R language—one practical example at a time."—Jeffrey Ryan, software consultant and R package author