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Sharing the knowledge: user friendly books

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Recently, the way how the books are written is changed with the development of technology as well. **As a real R-addict, I am a huge fan of the books written by bookdown package in R**. As they say;

> The **bookdown** package is an open-source R package that facilitates writing books and long-form articles/reports with R Markdown.

In this story, I would like to summarize some of the books written 2021 by this swiss-army-knife friend. For sure, there is more but I tried to stick with the last year and planning to make other short summaries for previous years. **Some of them just published, some of them are the recent version of old ones as I captured.** Let's rock and roll!
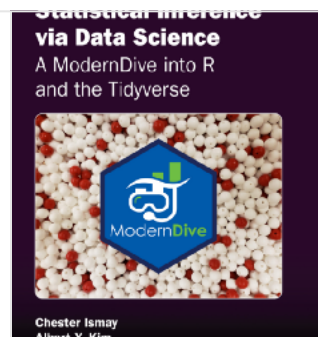
1. Statistical Inference via Data Science (*Chester Ismay and Albert Y. Kim*)

One of my favorite, really good nutshell for various concepts to start from the scratch. For sure the name and the logo is attractive enough.

Statistical Inference via Data Science

An open-source and fully-reproducible electronic textbook for teaching statistical inference using tidyverse data...

moderndive.com

2. Beyond Multiple Linear Regression (*Paul Roback and Julie Legler*)

This is the online version of *Beyond Multiple Linear Regression: Applied Generalized Linear Models and Multilevel Models in R*. You can buy the hard copy as well, but I am glad to see that it is online. For different fields, it could be **a good summary if you are dealing with the linear models and more.** I guess it deserves to be in different languages.

Beyond Multiple Linear Regression

An applied textbook on generalized linear models and multilevel models for advanced undergraduates, featuring many...

bookdown.org

3. Efficient R Programming (*Colin Gillespie, Robin Lovelace*)

We can write codes to solve our problems but if they are not efficient, we have a problem in the long-run. I need to learn more about **writing codes efficiently** and I feel that this book is a good ally and it is the online version of the O'Reilly book: Efficient R programming.

Efficient R programming

This is the online version of the O'Reilly book: Efficient R programming. Pull requests and general comments are...

csgillespie.github.io

4. i2DS: Data Analysis and Prediction Algorithms in R (*Rafael A. Irizarry*)

If you learn more about the tools of data science, this is gonna be another **well-designed nutshell** for you. In addition to classical cycle of a project, there is another section called **Productivity tools** including the use of Git, Github etc. I think it includes really good tips for all of us.

> **Introduction to Data Science**
>
> This book introduces concepts and skills that can help you tackle real-world data analysis challenges. It covers...
>
> rafalab.github.io
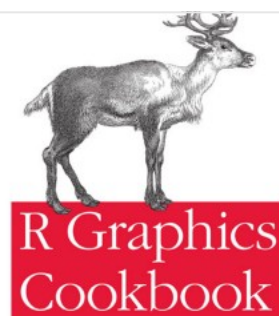
5. R Graphics Cookbook (*Winston Chang*)

Really a shining star I guess. For **data visualization** it has lots of details to work with. Without further ado, jump into the book and try to reproduce the examples to learn more.

> **R Graphics Cookbook, 2nd edition**
>
> This cookbook contains more than 150 recipes to help scientists, engineers, programmers, and data analysts generate...
>
> r-graphics.org

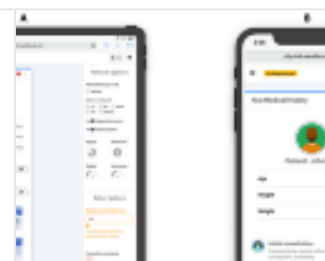## 6. Outstanding User Interfaces with Shiny (*David Granjon*)

If you are interested more in developing Shiny apps, I guess, after the book entitled **"Interactive web-based data visualization with R, plotly, and shiny", the next step might be this one.** As author says;

> *This book is the result of three years of spare time work and passion about the open source R Shiny world.*

> **Welcome | Outstanding User Interfaces with Shiny**
>
> This book is the result of three years of spare time work and passion about the open source R Shiny world. It is under...
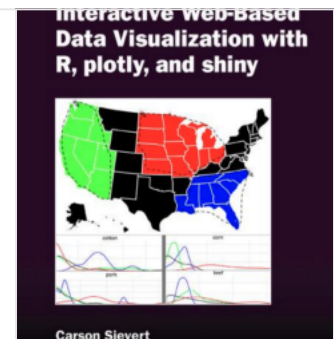>
> unleash-shiny.rinterface.com

For sure, attached to this one, the first step should be noted here. I think starting with the below one is a good strategy;

Interactive web-based data visualization with R, plotly, and shiny

This is the website for "Interactive web-based data visualization with R, plotly, and shiny". In this book, you'll gain...

plotly-r.com

Let's have a look at some field specific titles as well. There are numerous bookdowns written by experts from diverse research fields and you can find some of them (recently published) here,
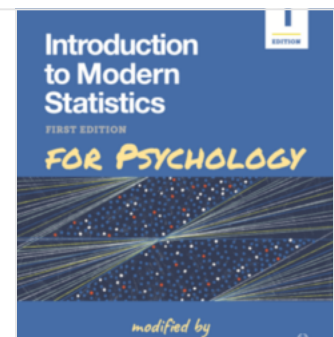
1.Introduction to Modern Statistics for Psychology (Mine Çetinkaya-Rundel, Johanna Hardin, tuned by Gregory Cox)

If I would give a course for Psychology students (maybe social science students in general), this is definitely my first choice as a general source for the course. With the help of book source, it will be **easy to prepare lecture notes** by following its general skeleton.

Introduction to Modern Statistics for Psychology

This is the website for a modified version of Introduction to Modern Statistics, First Edition by Mine Çetinkaya-Rundel...

bookdown.org

2. Reproducible Medical Research with R (*Peter D.R. Higgins*)

This is a **great helpmate** for doing research in the **medical field** with reproducibility concern. It includes all the basics for anyone in the medical field as I identified,

Reproducible Medical Research with R

Welcome to Reproducible Medical Research with R (RMRWR). I hope that this book is helpful

3. Introduction to Environmental Data Science (*Jerry Davis*)

As we all know, exploiting the data science toolkits in various fields are really common in our world. So one can find lots of books with title reflecting *inter-disciplinary* approach. This book is really **generous about data visualization** and includes basics of modeling and time series part at the end.

Introduction to Environmental Data Science

Background, concepts and exercises for using R for environmental data science. The focus is on applying the R language...

bookdown.org

4. Introduction to Computational Finance and Financial Econometrics in R (*Eric Zivot*)

It is really a dense one having lots of modeling tools in **econometrics** and **computational finance with R**. The author is really well-known in his field and have a long history about this book.

Introduction to Computational Finance and Financial Econometrics with R

Outline of preface (preliminary and incomplete). June 21, 2016. I started teaching the course Introduction to Financial...

bookdown.org

You can find an R package for the data sets used in this book as well;

> *The R package IntroCompFinR contains all of the financial data (downloaded from finance.yahoo.com) used for the examples presented in the book as well as a number of R functions for portfolio and risk analysis. The package is freely available on R-forge and can be installed using* `install.packages("IntroCompFinR", repos="http://R-Forge.R-project.org")`
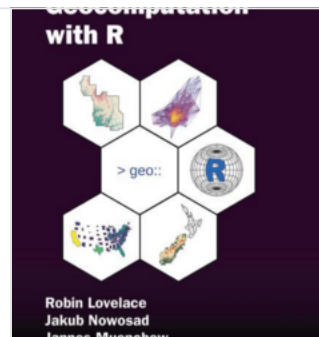
5. Geocomputation with R (*Robin Lovelace, Jakub Nowosad, Jannes Muenchow*)

This is the online version of **Geocomputation with R**, a book on geographic data analysis, visualization and modeling book written by bookdown. One of the stars in the corresponding field I guess, as an open source book and I really need to work on this soon,

Welcome | Geocomputation with R

Welcome | Geocomputation with R is for people who want to analyze, visualize and model geographic data with open source…

geocompr.robinlovelace.net

BONUS: Data Science with R: A Resource Compendium (*Martin Monkman*)

Finally, another bookdown could be a great friend for us to check resources for Data Science in R. As author declares,

> *This book grew out of my evergrowing collection of reference materials that was saved as an expanding array of markdown files in a github repo. By assembling it as a book, I hope that it will be more accessible and useful to other R users.*

Even if this is an ongoing one, you can find a **list of resources** about your interest. I guess it is worth following…

Data Science with R: A Resource Compendium

Draft This book grew out of my evergrowing collection of reference materials that was saved as an expanding array of…

bookdown.org

As I mentioned, these are just **recently (re-)published in 2021** and we have more than that. Not surprisingly, the **bookdown pool continue to grow up** and the open source books with user-friendly properties are **great allies** for the researchers, academicians and so on so forth. **I hope to start contribute soon as by myself or with a group of ambitious colleagues.**

Please keep in touch for your suggestions and questions via
https://www.linkedin.com/in/ozanevkaya/ and https://github.com/oevkaya.

R   Reprogramming   R Markdown   Data Science   Open Source