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60+ R resources to improve your data skills



More free downloads and websites from academia:

Introducing R. Slide presentation from the UCLA Institute for Digital Research and Education, with downloadable data and code.

Introducing R. Although titled for beginners and including sections on getting started and reading data, this also shows how to use R for various types of linear models. By German Rodriguez at Princeton University's Office of Population Research.

R: A self-learn tutorial. Intro PDF from National Center for Ecological Analysis and Synthesis at UC Santa Barbara. While a bit dry, it goes over a lot of fundamentals and includes exercises.

Statistics with R Computing and Graphics. Unlike many PDF downloads from academia, this one is both short (15 pages) and basic, with some suggested informal exercises as well as explanations on things like getting data into R and statistical modeling (understanding statistical concepts like linear modeling is assumed). By Kjell Konis, then at the University of Oxford.

Little Book of R for Time Series. This is extremely useful if you want to use R for analyzing data collected over time, and also has some introductory sections for general R use even if you're not doing time series. By Avril Coghlan at the Wellcome Trust Sanger Instituie, Cambridge, U.K.

Introduction to ggplot2. 11-page PDF with some ggplot basics, by N. Matloff at UC Davis.

Communities

Pretty much every social media platform has an R group. I'd particularly recommend:

Statistics and R on Google+. Community members are knowledgeable and helpful, and various conversation threads engage both newbies and experts.

Twitter #rstats hashtaq. Level of discourse here ranges from beginner to extremely advanced, with a lot of useful R resources and commentary getting posted.





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The top five ways to get started with big data

Despite the increased focus on big data over the past few years, most organizations are still talking about

You can also find R groups on <u>LinkedIn</u>, <u>Reddit</u> and <u>Facebook</u>, among other platforms.

<u>Stackoverflow</u> has a very active R community where people ask and answer coding questions. If you've got a specific coding challenge, it's definitely worth searching here to see if someone else has already asked about something similar.

There are dozens of \underline{R} User Meetups worldwide. In addition, there are other user groups not connected with Meetup.com. Revolution Analytics has an \underline{R} User Group Directory.

Blogs & blog posts

R-bloggers. This site aggregates posts and tutorials from more than 250 R blogs. While both skill level and quality can vary, this is a great place to find interesting posts about R -- especially if you look at the "top articles of the week" box on the home page.

<u>Revolutions</u>. There's plenty here of interest to all levels of R users. Although author Revolution Analytics is in the business of selling enterprise-class R platforms, the blog is not focused exclusively on their products.

<u>Post: 10 R packages I wish I knew about earlier</u>. Not sure all of these would be in *my* top 10, but unless you've spent a fair amount of time exploring packages, you'll likely find at least a couple of interesting and useful R addons.

<u>Post: R programming for those coming from other languages</u>. If you're an experienced programmer trying to learn R, you'll probably find some useful tips here

<u>Post: A brief introduction to 'apply' in R</u>. If you want to learn how the apply() function family works, this is a good primer.

Translating between R and SQL. If you're more experienced (and comfortable) with SQL than R, it can be frustrating and confusing at times to figure out how to do basic data tasks such as subsetting your data. Statistics consultant Patrick Burns shows how to do common data slicing in both SQL and R, making it easier for experienced database users to add R to their toolkit.

<u>Graphs & Charts in base R. ggplot2 and rCharts</u>. There are *lots* of sample charts with code here, showing how to do similar visualization tasks with basic R, the ggplot2 add-on package and rCharts for interactive HTML visualizations.

When to use Excel, when to use R? For spreadsheet users starting to learn R, this is a useful question to consider. Michael Milton, author of *Head First Data Analysis* (which discusses both Excel and R), offers practical (and short) advice on when to use each.

<u>A First Step Towards R From Spreadsheets</u>. Some advice on both when and how to start moving from Excel to R, with a link to a follow-up post, <u>From spreadsheet thinking to R thinking</u>.

Search

Searching for "R" on a general search engine like Google can be somewhat frustrating, given how many utterly unrelated English words include the letter r. Some search possibilities:

RSeek is a Web search engine that just returns results from certain R-focused websites.

R site search returns results just from R functions, package "vignettes" (documentation that helps explain how a function works) and task views

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(focusing on a particular field such as social science or econometrics).

You can also search the R mailing list archives.

Misc

Google's R Style Guide. Want to write neat code with a consistent style? You'll probably want a style guide; and Google has helpfully posted their internal R style for all to use. If that one doesn't work for you, Hadley Wickham has a fairly abbreviated R style guide based on Google's but "with a few tweaks."

<u>RStudio documentation</u>. If you're using RStudio, it's worth taking a look at parts of the documentation at some point so you can take advantage of all it has to offer.

<u>History of R Financial Time Series Plotting</u>. Although, as the name implies, this focuses on financial time-series graphics, it's also a useful look at various options for plotting any data over time. With lots of code samples along with graphics. By Timely Portfolio on GitHub.

Grouping & Summarizing Data in R. There are so many ways to do these tasks in R that it can be a little overwhelming even for those beyond the beginner stage to decide which to use when. This downloadable Slideshare presentation by analyst Jeffrey Breen from the Greater Boston useR Group is a useful overview.

Apps

R Instructor. This app is primarily a well-designed, very thorough index to R, offering snippets on how to import, summarize and plot data, as well as an introductory section. An "I want to..." section gives short how-to's on a variety of tasks such as changing data classes or column/row names, ordering or subsetting data and more. Similar information is available free online; the value-add is if you want the info organized in an attractive mobile app. Extras include instructional videos and a "statistical tests" section explaining when to use various tests as well as R code for each. For iOS and Android, about \$5.

Software

Comprehensive R Archive Network (CRAN). The most important of all: home of the R Project for Statistical Computing, including downloading the basic R platform, FAQs and tutorials as well as thousands of add-on-packages. Also features detailed documentation and a number of links to more resources.

RStudio. You can download the free RStudio IDE as well as RStudio's Shiny project aimed at turning R analyses into interactive Web applications.

Revolution Analytics. In addition to its commercial Revolution R Enterprise, you can request a download of their free Revolution R Community (you'll need to provide an email address). Both are designed to improve R performance and reliability.

<u>Tibco</u>. This software company recently released a free <u>Tibco Enterprise</u> <u>Runtime for R Developers Edition</u> to go along with its commercial <u>Tibco Enterprise Runtime for R engine</u> aimed at helping to integrate R analysis into other enterprise platforms.

Learn to use R: Your hands-on guide

If you're just starting with R, don't miss the Computerworld Beginner's Guide to R:

<u>Part 1: Introduction</u> - get started with this popular programming language.

Part 2: Getting your data into R - tips on how to import data in various formats, both local and on the Web.



Part 3: Easy ways to do basic data analysis - extract some simple stats.

<u>Part 4: Painless data visualization</u> - simple graphics, bar graphs and a few more complex charts.

Part 5: Syntax quirks you'll want to know - some R idiosyncrasies.

This article, 60+ R resources to improve your data skills, was originally published at <u>Computerworld.com</u> as part of the <u>Computerworld Beginner's Guide to R</u>, which was written by Sharon Machlis and edited by Johanna Ambrosio.

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Jan Galkowski • 8 days ago

There's a similar and sometimes overlapping list for Bayesian computation at the ISBA, specifically http://bayescomp.wikidot.com/s...



Ipf1836 · 6 months ago

The next session of Jeff Leek's Coursera course is scheduled to begin on Oct. 28

3 ^ V · Reply · Share >



cmatere · 6 months ago

This is an excellent list of R resources. Thank you very much Sharon for this wonderful piece of work.

Crispin Matere

National AIDS Control Council,

Kenya

2 ^ V · Reply · Share >

hrlngrv • 6 months ago

R is the offspring of S/S-Plus, which was developed by John M. Chambers. Chambers's book Programming with Data: A Guide to the S Language is just as relevant for R. It's a very good text, written in the Bell Labs style. Maybe as much about stats as it is about S (so also R), which to me isn't a bad thing.

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