

R - always learn something new:

- Burns, R Inferno (not intro book)
- Peng, <https://bookdown.org/rdpeng/rprogdatascience/>
- Hadley, <https://r4ds.had.co.nz/index.html>
- Jennybc (book) [wtf git](#)
- Gillespie (2016) <https://bookdown.org/csgillespie/efficientR/>
- Matloff: Art of R Programming (2011)
- de Jong, Intro to Data Cleaning https://cran.r-project.org/doc/contrib/de_Jonge+van_der_Loo-Introduction_to_data_cleaning_with_R.pdf

R - more advanced

- official R CRAN: <https://cran.r-project.org/manuals.html>
- design.tidyverse.org

Basic Statistics

More Intuitive/Explanatory:

- [Rossman, know all the basics? confident?] (<https://askgoodquestions.blog/>)
- Przemyslaw Biecek and Tomasz Burzykowski | different ideas | Ch1, 2 Explanatory Model Analysis | <https://ema.drwhy.ai/>
- ML Berkeley: <https://ml.berkeley.edu/blog/posts/crash-course/part-1/>
- Goodfellow et al: <https://www.deeplearningbook.org/> ideas
- Guo: Creative site and book: <https://seeing-theory.brown.edu/#firstPage>
- navarro (learn statistics with r) review `lm()` and geometric r^2 , Ch15, 16
- navarro 2019 (learn statistics with r) study output of `lm()`

Solid, basic stats intros

- PSU Course begin with 414 | no R * <https://online.stat.psu.edu/stat414/> * <https://online.stat.psu.edu/stat462/> * <https://online.stat.psu.edu/stat415/>
- AMS Basic, good intro CLT (but not t)
- Dekking, et al Modern Introduction to Probability & Statistics (2005), no R. * https://cis.temple.edu/~latecki/Courses/CIS2033-Spring13/Modern_intro_probability_statistics_Dekking05.pdf
- Faraday, PRAR: Practical Regression, Anova, linear algebra (mature approach)
- Frey, Bruce “Statistical Hacks”
- [Dalpiaz, David, Univ of IL] (<https://davidalpiaz.github.io/appliedstats/>)
- Lindelov: Concise R examples of common stat tests.
- Matloff (Prob book) * <http://heather.cs.ucdavis.edu/~matloff/132/PLN/probstatbook/ProbStatBook.pdf> * (via pdflatex) <https://github.com/matloff/p>
- Good, maybe too good and skips a few basics?
- Siegrist CLT, stats, linear alg | aka randomservices.org | ** best book for introducing Math
- Nahim, Dueling Idiots, harder but real world stats/prob problems (pins falling on surfaces)

R, the Language: Functional, Standard and Non- Evaluation, Environments, Call Stacks:

- Gaslam, Brodie - blog - several good posts * NSE: <https://www.brodie.com/2020/05/05/on-nse/> * HP Calculator & Reverse Polish! <https://www.brodie.com/2019/01/11/reverse-polish-notation-parsing-in-r/> * Side Effects, Macros: <https://www.brodie.com/2019/10/30/visualizing-algorithms/>
- Gupta, Suraj - How R Finds objects: <https://blog.obautifulcode.com/R/How-R-Searches-And-Finds-Stuff/>
- Rnews - Lumley, Macros in R: https://www.r-project.org/doc/Rnews/Rnews_2001-3.pdf
- Rnews - 2001-2008 has lot of good articles

Other book stats/R books:

- Hannay (=rbassett) read, (avoid pkgs ch 11, 12) | https://faculty.nps.edu/rbassett/_book/
- Compeau:
 - * great ideas book! <http://compeau.cbd.cmu.edu/> |
 - * <http://compeau.cbd.cmu.edu/programming-for-lovers/> cmu - ch 8, 9 esp collinear.
- Berkeley, excellent glossary: <https://www.stat.berkeley.edu/~stark/SticiGui/Text/gloss.htm>
- Ismay modern dive (2020)
- Kaplan (2017) ch 6.5 <https://dtkaplan.github.io/SM2-bookdown/>
- Kurz: Statistial Rethinking reCoded (Bayesian)
- Lane `se(b_hat)`
- Matloff(2020) book
- McElreath (videos)
- PENG | art of ... (2017) ch 6.5 | r4ds (2019) ch 9.5
- mosaic ch 5.6, ch 24

More advanced regression/modeling books

- Shalizi: excellent: * (2019) <http://www.stat.cmu.edu/~cshalizi/TALR/> - deeper/more explanatory. By Ch 11, use of gradient f, matrix derivatives ... (following FARA?) * Shalizi <http://www.stat.cmu.edu/~cshalizi/ADAfaEPoV/ADAfaEPoV.pdf>
* <http://www.stat.cmu.edu/~cshalizi/mreg/15/>
- Boehmke Hands on ML | <https://bradleyboehmke.github.io/HOML/> Ch 4,5
- Davidson (Econometric) - Ch 1, 2
- MATLOFF (1st book) | ch3 - lot of useful properties of x,y | ch 7 - affine transformations
- Thomas, Math for ML ... good lin alg, but quickly gets advanced. <https://gwthomas.github.io/docs/math4ml.pdf>
- Deisenroth, Faisal et al | Math4ML *book | linear alg book, regression, 2nd level
- Efron, Hastie “Computer Age Statistical Inference” (advanced, but chapter intros put techniques into perspective), no R.
- Kuhn (2019): <https://bookdown.org/max/FES/>
- RAFAEL dsbook - ch 17.4, ch 18.3.4
- **Roback/Legler Beyond Multiple Linear Regression: (2021)** _ <https://bookdown.org/roback/bookdown-BeyondMLR/> (Replaces BYSH) introduces likelihood; ch6 - logistic worked problem
- Siegrist (aka random services.org) * random | (3)expected value 1..11 and |(5) random samples 1-8 (t-dist)
- Taubes, linear alg, statistics, http://people.math.harvard.edu/~knill/teaching/math19b_2011/handouts/chapters1-19.pdf Biology? math? probability? Think this is really an ideas book; not as easy as may appear.
- ISLRv2: https://web.stanford.edu/~hastie/ISLRv2_website.pdf

Linear Algebra (as mathematics)

- Beezer Linear Algebra (easier?)
- Herve Adbi | lin alg| no R, no stat, starts simple but gets to decomposition.
- Strang, Linear Algebra (classic)
- Artin, Michael “Algebra” - readable ?
- Friendly - R Pkg linear algebra
- Kazan | normal equations

Intro to Linear Alg & Models,

- Kuiper, Shonda: simple, clear: video: <https://www.youtube.com/watch?v=jQkK0XMrAdM>
- Race, Shaina gentle intro to lin alg; <https://shainarace.github.io/LinearAlgebra/index.html>
- Thomas, Garrett, Math for ML, Berkeley <https://gwthomas.github.io/docs/math4ml.pdf>
- Bendixcarstensen.com, with R & matrix models (practical; try not use api pkg) <http://www.bendixcarstensen.com/APC/linalg-notes-BxC.pdf>
- Rafael genomics - Chapter 4 matrix

Latex (.tex, latex, not knitr, markdown, pandoc)

Many, many, of course, but these emphasize basic .tex documents.

- Latex: Latex in 24 hours (iPad)
- <https://mirrors.rit.edu/CTAN/info/beginlatex/html/intro.html#intro>
- wikibooks: https://en.wikibooks.org/wiki/LaTeX/Document_Structure
- <http://ctan.imsc.res.in/info/first-latex-doc/first-latex-doc.pdf>
- <https://texfaq.org/FAQ-man-latex>

Good Technical Reading

- Linux: Archiwiki, Debian, FreeBSD
- Gross, Ash et al “Elliptical Tales” - very readable, but must think! (515.983 | ASH | 2012)
- Seefeld, et al Biology & R | https://cran.r-project.org/doc/contrib/Seefeld_StatsRBio.pdf
- Janssens, DS at Command Line: <https://www.datascienceatthecommandline.com/2e/>
Great way to improve zsh, CLI skills.

Videos

- [maththebeautiful](#) - Paul?
- [Bright Side of Math](#)
- [3Blue1Brown](#)
- [Zedstatistics](#)
- [Chris Mack] (<http://www.lithoguru.com/scientist/statistics/course.html>) - practical R, models
- [Statistics Globe](#)
- [Statquest](#) - Josh Starmer

APIs and R

Longer Reading/Documentation

- * Gargle docs include discussion of a few Google Cloud features: <https://gargle.r-lib.org/articles/get-api-credentials.html>
- * Mozilla MDN
- * RFC
- *

Videos

- * [Anson] (<https://www.youtube.com/watch?v=TE66McLMEw>) Getting Google API/Oauth2 setup.
- * [Griffith] (<https://www.youtube.com/watch?v=iLVoa1DTE60>) Curl to make resquests.

ggmaps Google Maps API https://www.youtube.com/watch?v=Of_M4kcE9yM&list=PLbcglKxZP5PN07Vw-OukcDJCxFGY2Crgc
- * [freeCodeCamp] (<https://www.youtube.com/watch?v=VywxIQ2ZXw4>) Postman Intro.
- * [OAuth 2.0 - Explain like I am 5] (<https://www.youtube.com/watch?v=hHRFjbGTE0k>)
- * Curl's Creator <https://youtu.be/I6id1Y0YuNk?list=PLbcglKxZP5PN07Vw-OukcDJCxFGY2Crgc>
- * Postman and GitHub: <https://youtu.be/AfuL6AFpFmQ?list=PLbcglKxZP5PN07Vw-OukcDJCxFGY2Crgc>

CRAN Task Views: Web Technology & Services: <https://cran.r-project.org/web/views/WebTechnologies.html>

Vocabulary (also: <https://developer.mozilla.org/en-US/docs/Glossary>) .httr-oauth

Access Token

API

AUTH Code

AUTH CODE

AUTH SERVER

AUTH Token (?? or Access Token)

Token, Service Account: <https://gargle.r-lib.org/articles/get-api-credentials.html#service-account-token> AWS

Bearer Token

CLIENT

Client_ID

Client_Secret

cloudyR project

Curl

Curl: <https://everything.curl.dev/>

curlconverter:: <https://github.com/hrbrmstr/curlconverter>

Dashboard

endpoint

fakerapi.it fakerapi <https://fakerapi.it/en>

gargle:: good intro (<https://www.tidyverse.org/blog/2021/07/gargle-1-2-0/>)

Google:

* Google Cloud <https://cloud.google.com/>

* Google Cloud Platform <https://console.developers.google.com/products> https://en.wikipedia.org/wiki/Google_Cloud_Platform

* Google Cloud Platform (GCP)

* Google Explorer

* Google Identity (<https://developers.google.com/identity>)

* Google OAuth2.0 implementation (<https://developers.google.com/identity/protocols/oauth2#installed>)

* google people api

* google web fonts api

* googleapis.com

* googleAuthR::

Grant

HTTP protocol MDN <https://developer.mozilla.org/en-US/docs/Web/HTTP>

HTTPS, HTTP over TLS or SSL: <https://en.wikipedia.org/wiki/HTTPS> httptest2:: <https://enpiar.com/httptest2/index.html>

httpuv, libuv (<https://cran.r-project.org/package=httpuv>) <https://nikhilm.github.io/uvbook/introduction.html>

httr2:: <https://github.com/r-lib/httr2> cran <https://cloud.r-project.org/web/packages/httr2/index.html>

httr::

JSON <https://cran.r-project.org/web/packages/jsonlite/index.html>

OAuth 2.0 Protocol (<https://datatracker.ietf.org/doc/html/rfc6749>)

oob (out-of-band) <https://docs.auth3.dev/grant-types/urn-ietf-wg-oauth-2.0-oob> Postman

Reading:

Refresh Token

Refresh Token

Restful

RFC

- RFC 2616 HTTP 2.1 <https://www.rfc-editor.org/rfc/rfc2616>

- RFC 2617 Basic Authentication <https://www.rfc-editor.org/rfc/rfc2617>

- RFC 3986 + RFC 8820 URI/URL * RFC 6749 OAUTH 2.0 <https://www.rfc-editor.org/rfc/rfc6749>
* RFC 6750 Bearer Token: <https://datatracker.ietf.org/doc/html/rfc6750>
S3, class httr2_token
URI
URL
USER
Workload Identity federation