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As of June 28, 2022

BookClub

- Janssens, DS at Command Line: <https://www.datascienceatthecommandline.com/2e/>
- Hadley, <https://mastering-shiny.org/>
- R, javascript + shiny <https://book.javascript-for-r.com/>
- HTTP Testing (book) <https://books.ropensci.org/http-testing/>

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, Lovelace (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() * Huntington <https://www.theeffectbook.net/index.html> (intuition?)

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://daviddalpiaz.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/probstatbook> 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 and Special Topics

- Data Science at Command Line (book) <https://datascienceatthecommandline.com/2e/chapter-2-getting-started.html>
- videos: <https://www.youtube.com/c/R4DSOnlineLearningCommunity>

Blogs

- <https://towardsdatascience.com>
- R-Blogger - <https://rweekly.org/{rweekly.org}> - <https://www.rstudio.com/blog/software-development-resources-for-data-scientists/> - milospopovic.net

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

- Chambers (2008) "Statistics & Computing" (much coverage of R internals) https://files.slack.com/files-pri/T6UC1DKJQ-F016BP8QPMG/download/john-chambers-software-for-data-analysis-programming-with-r.pdf?origin_team=T6UC1DKJQ
- Gaslam, Brodie - blog - several good posts * NSE: <https://www.brodieg.com/2020/05/05/on-nse/> * HP Calculator & Reverse Polish! <https://www.brodieg.com/2019/01/11/reverse-polish-notation-parsing-in-r/> * Side Effects, Macros: <https://www.brodieg.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/
- Ismay modern dive (2020)
- Kaplan (2017) ch 6.5 <https://dtkaplan.github.io/SM2-bookdown/> (wordy, but exposes nuances)
- Lane se(b_hat)
- Matloff(2020) book
- Mcelreath (videos)
- PENG | art of ... (2017) ch 6.5 (<https://bookdown.org/rdpeng/artofdatascience/>) | 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
- Shalizi <http://www.stat.cmu.edu/~cshalizi/ADAfaEPoV/ADAfaEPoV.pdf>
- <http://www.stat.cmu.edu/~cshalizi/mreg/15/>
- Davidson (Econometric) - Ch 1, 2
- **ISLRv2:** (book) https://web.stanford.edu/~hastie/ISLRv2_website.pdf - videos: <https://www.youtube.com/c/R4DSOnline-LearningCommunity>
- MATLOFF (1st book) | ch3 - lot of useful properties of x, y | ch 7 - affine transformations
- 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.

Algorithms & ML

- Berkeley, excellent glossary: <https://www.stat.berkeley.edu/~stark/SticiGui/Text/gloss.htm>
- Berkeley CRASH
- Chollet, Deep Learning for R (not online, no pdf)
- Compeau:
 - great ideas book! <http://compeau.cbd.cmu.edu/>
 - <http://compeau.cbd.cmu.edu/programming-for-lovers/> cmu - ch 8, 9 esp collinear.
- Boehmke Hands on ML | <https://bradleyboehmke.github.io/HOML/> Ch 4,5
- Deisenroth, Faiesel et al | Math4ML *book | linear alg book, regression, 2nd level
- Gagolewski Lightweight ML with R <https://lmlcr.gagolewski.com/>
- Higgens "Practical R Info?"
- Huntington "The Effect Book"
- mcelreath: https://github.com/rmcelreath/stat_rethinking_2022 (videos)
- Molnar, "Interpretable ML"
- SciLearn
- Thomas, Math for ML ... good lin alg, but quickly gets advanced. <https://gwthomas.github.io/docs/math4ml.pdf>
- mcelreath: https://github.com/rmcelreath/stat_rethinking_2022 (videos)
- <https://www.tnwr.org/>
- UCLA: Mixed Models - intro: <https://stats.oarc.ucla.edu/other/mult-pkg/introduction-to-linear-mixed-models/>
- Varma: Deep Learning <https://srdas.github.io/DLBook/>

Bayes

- Aaronson, Scott: <https://www.scottaaronson.com/qclec.pdf> Information Theory: CS, Quantum, Bayesian, linear algebra, Probability
- Barber, David: Bayesian Reasoning & ML (examples): Barber
- Clyde, Mine et al Intro To Bayesian Thinking (R,intuitive, online only)
- Cunningham, Scott: Mixtape: Causal Inference mixtape
- Downey, Allen 2012 pdf, clear intuitive, but python)
- Davidson-Pilon Bayesian for Hackers python, but ideas seem well presented.
- Gelman: DBA3 DBA 3 Gelman DBA3
- Gimenez: Easy Stats (examples)
- Huntington-Klein The Effect Book Effect Book
- Kurz: Statistical Rethinking reCoded (Bayesian) <https://bookdown.org/content/4857/#how-to-use-and-understand-this-project> (R, meant as supplement to McElreath)
- Johnson, Ott et al: BayesRules !
- McElreath: book, videos Statistical Rethinking info
- paulvanderlake (many R resources) 2012 ThinkBayes paulvanderlake
- Taubes, Lectures 1-19 Lectures 1-19

Shiny

- R, javascript + shiny <https://book.javascript-for-r.com/>
- Hadley, <https://mastering-shiny.org/>
- <https://engineering-shiny.org/>
- HTTP Testing (book) <https://books.ropensci.org/http-testing/>

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)

- <https://learnbyexample.github.io/customizing-pandoc/>
- Not So Short Introduction
- 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>
- LuaTex Manual: <http://www.pragma-ade.com/general/manuals/luatex.pdf>
- LuaTex Background Overleaf: [https://www.overleaf.com/learn/latex/Articles/An_Introduction_to_LuaTeX_\(Part_1\)%3A_What_is_it%E2%3F](https://www.overleaf.com/learn/latex/Articles/An_Introduction_to_LuaTeX_(Part_1)%3A_What_is_it%E2%3F)
- Fontspec pkg (for LuaTex) <https://mirrors.rit.edu/CTAN/macros/unicodetex/latex/fontspec/fontspec.pdf> * Video: Michelle ... (very clear!)

Math Mode

- AMS math documentation <https://www.latex-project.org/help/documentation/amslatex.pdf> * <https://www1.cmc.edu/pages/faculty/aaksoy/latex/latexthree.html#> * <http://web.mit.edu/rsi/www/pdfs/math.pdf> * <https://www.atqed.com/latex-column-vector>

Good Technical Reading

- Linux: Archiwiki, Debian, FreeBSD
- Gross, Ash et al "Elliptical Tales" - very readable, but must think! (515.983 | ASH | 2012) * Linux- insides: <https://0xax.gitbooks.io/linux-insides/content/>
- Seefeld, et al Biology & R | https://cran.r-project.org/doc/contrib/Seefeld_StatsRBio.pdf

ZSH

- Janssens, DS at Command Line: <https://www.datascienceatthecommandline.com/2e/>
Great way to improve zsh, CLI skills. * Rothgar Mastering ZSH: <https://github.com/rothgar/mastering-zsh>

Videos

- maththebeautiful - Paul?
- Bright Side of Math
- 3Blue1Brown
- Zedstatistics
- Chris Mack - practical R, models
- Statistics Globe
- Statquest - Josh Starmer * Edward Malthouse - is careful with assumptions. * Prof Christoph Scherber -03 * Lorenzo * Sadum * Tom Raby * Jazon Jiao (Alg + Regression)