Contents

As of June 14, 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 (intutition?)

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_prob
- 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/mat-loff/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.obeautifulcode.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 regession/modeling books

- Shalizi: excellent:

⟨2019) http://www.stat.cmu.edu/~cshalizi/TALR/ -deeper/more explanatory. By Ch 11, use of gradient f, matrix derviatives ….

- 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/R4DSOnlineLearningCommunity
- MATLOFF (1st book) | ch3 - lot of useful prproperties 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.tmwr.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/

Bayesian

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-    Aaronson, Scott: \url{https://www.scottaaronson.com/qclec.pdf}
Information Theory:  CS, Quantum, Bayesian, linear algebra, Probability
-    Clyde, Mine et al Intro To Bayesian Thinking  (R,intuitive, online only)
- Downey, Allen "Thinking Bayes" https://www.greenteapress.com/thinkbayes/thinkbayes.pdf  (2012 pdf, clear intutive, but python)
- Davidson-Pilon Bayesian for Hackers  python, but ideas seem well
presented.
-    Johnson, Ott et al:  https://www.bayesrulesbook.com/index.html (online,
no pdf)
- paulvanderlake (many R resources) 2012 ThinkBayes
- Kurz: Statistial Rethinking reCoded (Bayesian) \url{https://bookdown.org/content/4857/#how-to-use-and-understand-this-
project} (R, meant as supplement to McElreath)
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- Aaronson, Scott: https://www.scottaaronson.com/qclec.pdf Information Theory: CS, Quantum, Bayesian, linear algebra, Probability

- Clyde, Mine et al Intro To Bayesian Thinking (R,intuitive, online only)

- Downey, Allen "Thinking Bayes" https://www.greenteapress.com/thinkbayes/thinkbayes.pdf (2012 pdf, clear intutive, but python)

- Davidson-Pilon Bayesian for Hackers python, but ideas seem well presented.

- Johnson, Ott et al: https://www.bayesrulesbook.com/index.html (online, item no pdf)

- Kurz: Statistial Rethinking reCoded (Bayesian) https://bookdown.org/content/4857/#howto-use-and-understand-this-project (R, meant as supplement to McElreath)

- Paulvanderlake (many R resources) 2012 ThinkBayes

Shiny

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-    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/
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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%80%94and_what ferent%3F
- Fontspec pkg (for LuaTex) https://mirrors.rit.edu/CTAN/macros/unicodetex/latex/fontspec/fontspec.pdf * Video: Michelle … (very clear!)

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Math Mode
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- AMS math documentation https://www.latex-project.org/help/documentation/amsldoc.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)