As of March 3, 2022

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://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/ 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.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/
- 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 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 .... (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 prproperties 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, Faiesel 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 emphsize 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 - practical R, models
- Statistics Globe
- Statquest - Josh Starmer

APIs and R

Longer Reading/Documentation

- Gargle docs include discussion of a few Google Cloud features
- Mozilla MDN
- Request body
- https://oauth.com (Aaron Parecki)
- web technologies, including RESTFUL, https://www.se.rit.edu/~swen-344/expectations/
- RFC Specs

Something Linky

Videos

- Anson, 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=PLbcglKxZP5PNO7Vw-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=hHRFjbGTEOk)
*   \url{https://www.youtube.com/watch?v=rhi1eIjSbvkh} Basic Authentication: urlencode, user:pass, how browser responds, TLS

*   Curl's Creater https://youtu.be/I6id1Y0YuNk?list=PLbcglKxZP5PNO7Vw-OukcDJCxFGY2Crgc
*   Postman and GitHub: https://youtu.be/AfuL7AFpFmQ?list=PLbcglKxZP5PNO7Vw-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)

HTTP, JSON, RFC and Web Technologies Curl: https://everything.curl.dev/
https://stackoverflow.com/users/93747/daniel-stenberg https://daniel.haxx.se/blog/

```
    Command Line book:      https://datascienceatthecommandline.com/2e/index.html
```

JSON https://cran.r-project.org/web/packages/jsonlite/index.html
HTTP protocol MDN https://developer.mozilla.org/en-US/docs/Web/HTTP
HTTP Header Fields https://en.wikipedia.org/wiki/List_of_HTTP_header_fields, Media types (MIME): https://www.iana.org/assignments/media-types/media-types.xhtml HTTPS, HTTP over TLS or SSL: https://en.wikipedia.org/wiki/HTTPS HTTP mentioned by Hadley Wickham: - https://code.tutsplus.com/tutorials/http-the-protocol-every-web-developer-must-know-part-1–net-31177 - https://www.jmarshall.com/easy/http/ - https://docs.python-requests.org/en/master/user/quickstart/

Media Types (was MIME): https://en.wikipedia.org/wiki/Media_type
https://docs.github.com/en/rest/overview/media-types 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
SOAP https://en.wikipedia.org/wiki/SOAP URI https://en.wikipedia.org/wiki/Uniform_Resource_Identifier URL

OAUTH 2.0 & Security 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

Grant
identity, identify server 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 openSSL USER

Popular APIs

- GitHub API https://docs.github.com/en/rest
- GitLab API https://vulpes.cba.mit.edu/help/api/index.md
- 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::

R and related curl:: (based on C library used in cURL) https://jeroen.cran.dev/curl/index.html cloudyR project
curlconverter:: https://github.com/hrbrmstr/curlconverter
fakerapi.it fakerapi https://fakerapi.it/en
gargle:: good intro (https://www.tidyverse.org/blog/2021/07/gargle-1-2-0/)
.httr-oauth
httptest2:: https://enpiar.com/httptest2/index.html
httpuv, libuv (https://cran.r-project.org/package=httpuv) https://nikhilm.github.io/uvbook/introduction.html
httr2:: github https://github.com/r-lib/httr2 cran https://cloud.r-project.org/web/packages/httr2/index.html
httr::
S3, class httr2_token
Workload Identity federation

RESTFUL API Bearer Token
CLIENT
Client_ID
Client_Secret
endpoint
Access Token
API
OpenApi (was Swagger) https://swagger.io/docs/specification/about/ Postman
Refresh Token
Restful
https://www.ics.uci.edu/~fielding/pubs/dissertation/top.htm; https://en.wikipedia.org/wiki/Representational_state_transfer#Architectural_constraints
https://restfulapi.net/
http://www.cse.lehigh.edu/~spear/cse216_tutorials/tut_spark/index.html