An Introduction to Statistical Learning

with (Tidy) Applications in R

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Contents

Chapter 1

What this is about

- Reimplement *An Introduction to Statistical Learning* (James et al. (2013)) using primarily `tidyverse` packages and design philosophy.

1.1 Session Info

```
devtools::session_info()
```

```
## Session info -------------------------------------------------------------
##  setting  value
##  version  R version 3.5.0 (2018-04-23)
##  system   x86_64, darwin15.6.0
##  ui       X11
##  language (EN)
##  collate  en_US.UTF-8
##  tz       America/Chicago
##  date     2018-07-23
## Packages -----------------------------------------------------------------
##  package    * version date       source
##  backports    1.1.2   2017-12-13 CRAN (R 3.5.0)
##  base       * 3.5.0   2018-04-24 local
##  bookdown     0.7     2018-02-18 CRAN (R 3.5.0)
##  compiler     3.5.0   2018-04-24 local
##  datasets   * 3.5.0   2018-04-24 local
##  devtools     1.13.5  2018-02-18 CRAN (R 3.5.0)
##  digest       0.6.15  2018-01-28 CRAN (R 3.5.0)
##  evaluate     0.10.1  2017-06-24 CRAN (R 3.5.0)
##  graphics   * 3.5.0   2018-04-24 local
##  grDevices  * 3.5.0   2018-04-24 local
##  highr        0.6     2016-05-09 CRAN (R 3.5.0)
##  htmltools    0.3.6   2017-04-28 CRAN (R 3.5.0)
##  knitr        1.20    2018-02-20 CRAN (R 3.5.0)
##  magrittr     1.5     2014-11-22 CRAN (R 3.5.0)
##  memoise      1.1.0   2017-04-21 CRAN (R 3.5.0)
##  methods    * 3.5.0   2018-04-24 local
```

```
##  Rcpp         0.12.17 2018-05-18 CRAN (R 3.5.0)
##  rmarkdown    1.9     2018-03-01 CRAN (R 3.5.0)
##  rprojroot    1.3-2   2018-01-03 CRAN (R 3.5.0)
##  rstudioapi   0.7     2017-09-07 CRAN (R 3.5.0)
##  stats      * 3.5.0   2018-04-24 local
##  stringi      1.2.2   2018-05-02 CRAN (R 3.5.0)
##  stringr      1.3.1   2018-05-10 CRAN (R 3.5.0)
##  tools        3.5.0   2018-04-24 local
##  utils      * 3.5.0   2018-04-24 local
##  withr        2.1.2   2018-03-15 CRAN (R 3.5.0)
##  xfun         0.1     2018-01-22 CRAN (R 3.5.0)
##  yaml         2.1.19  2018-05-01 CRAN (R 3.5.0)
```

Chapter 2

Introduction

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter **??**.

Figures and tables with captions will be placed in `figure` and `table` environments, respectively.

```
par(mar = c(4, 4, .1, .1))
plot(pressure, type = 'b', pch = 19)
```

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure 2.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 2.1.

```
knitr::kable(
  head(iris, 20), caption = 'Here is a nice table!',
  booktabs = TRUE
)
```

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2018) in this sample book, which was built on top of R Markdown and **knitr** (**?**).

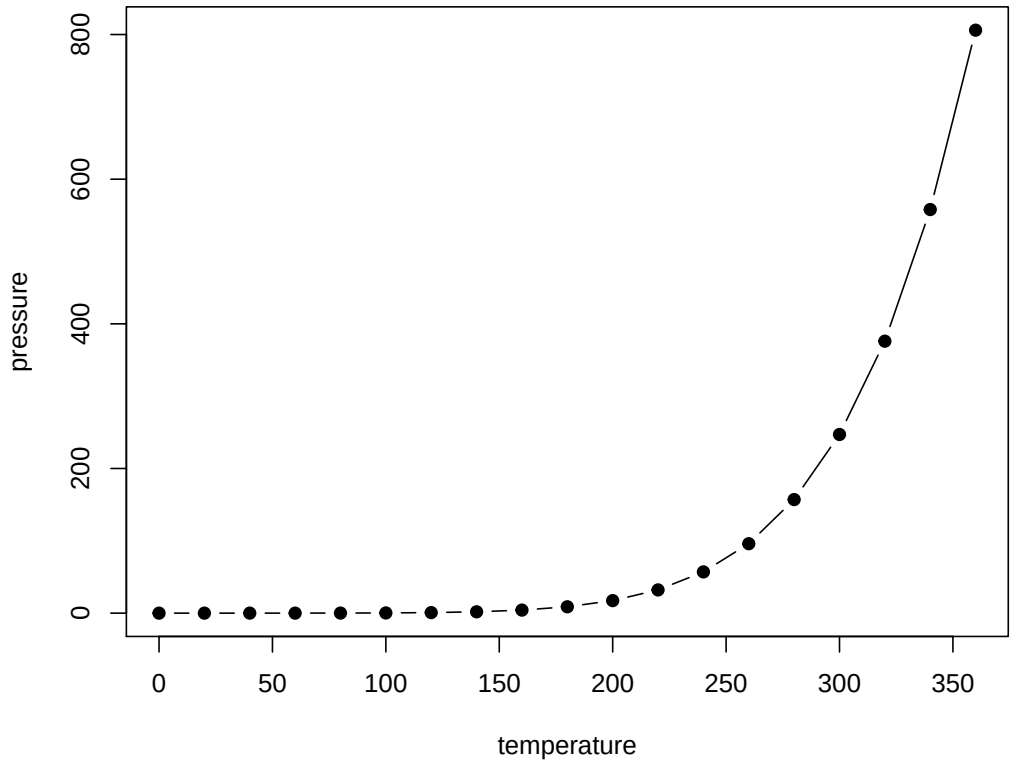

Figure 2.1: Here is a nice figure!

Table 2.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Bibliography

James, G., Witten, D., Hastie, T., and Tibshirani, R. (2013). *An introduction to statistical learning*, volume 112. Springer.

Xie, Y. (2018). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.7.