This is us: making CSAFE stronger each week

CSAFE

2019-08-29

Contents

Chapter 1

Prerequisites

This is a *sample* book written in **Markdown**. You can use anything that Pandoc's Markdown supports, e.g., a math equation $a^2 + b^2 = c^2$.

The **bookdown** package can be installed from CRAN or Github:

```
install.packages("bookdown")
# or the development version
# devtools::install_github("rstudio/bookdown")
```

Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading `#`.

To compile this example to PDF, you need XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): https://yihui.name/tinytex/.

Chapter 2

Introduction

This section will become the section for the administrative updates/organization once we have figured out how to use all of the bookdown features for our purposes.

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 5.

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, 2019) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

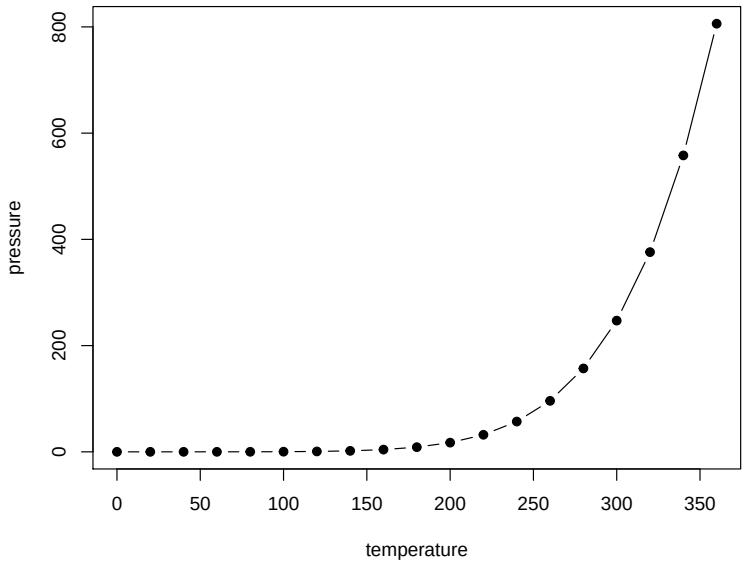

Figure 2.1: Here is a nice figure!

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

Chapter 3

Project CC: Bullets and Cartridge Cases

For both bullets and cartridge cases we are dealing with several inter-related aspects, that we want to address independently.

Those are:

1. data collection
2. computational tools
3. similarity scores
    1. for bullet lands:
        a. crosscut identification
        b. groove location
        c. curvature removal
        d. alignment of signatures
        e. feature extraction
        f. matching with trained Random Forest
    2. for breech faces
4. analysis of results
5. communication of results and methods

3.1 Data Collection

3.2 Computational Tools

3.3 Similarity Scores

3.3.1 Bullet Lands

3.3.1.1 Approaches to identify groove locations

This is a new paragraph

3.3.2 Cartridge Cases

3.4 Analysis of Results

3.5 Communication of Results and Methods

3.6 People involved

3.6.1 Faculty

- Heike Hofmann
- Susan VanderPlas

3.6.2 Graduate Students

- Ganesh Krishnan
- Kiegan Rice
- Nate Garton
- Charlotte Roigers
- Joe Zemmels
- Yawei Ge

3.6.3 Undergraduates

- Talen Fisher (fix3p)
- Andrew Maloney

- Mya Fisher, Allison Mark, Connor Hergenreter, Carley McConnell, Anyesha Ray (scanner)

Chapter 4

Handwriting

We describe our methods for going about the handwriting project here.

Chapter 5

Glass

Chapter 6

Shoes

Chapter 7

Theoretical foundations

Chapter 8

Outreach activities

Bibliography

Xie, Y. (2015). *Dynamic Documents with R and knitr*. Chapman and Hall/CRC, Boca Raton, Florida, 2nd edition. ISBN 978-1498716963.

Xie, Y. (2019). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.13.