Seminar Paper

My Super Fancy Thesis Title

Department of Statistics Ludwig-Maximilians-Universität München

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Munich, dd Month yyyy



Supervised by Dr Dre

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1. Introduction

This is a R Markdown template for thesis' at the Department of Statistics, LMU.

You are not obligated to work with this template (despite we highly recommend it), but for the final submission you need to provide a repository with a similar structure and running code.

To create html output of this intro chapter click the **Knit** button. To create html or pdf (see drop down menu) output of the complete thesis template click the **Knit** button in OO_thesis.Rmd.

1.1. R Markdown and Bookdown

The template builds on R Markdown and its extension Bookdown.

Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.co m.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document.

- R. Studio

For a quick overview see the R Markdown cheat sheet and for the details the R Markdown and Bookdown (esp. Ch. 2.2 and Ch. 3.4) books.

1.2. Including R (or other) Code

You can embed R code

• directly in a Rmd file, e.g.

```
##
        speed
                         dist
##
   Min.
           : 4.0
                               2.00
                    Min.
##
    1st Qu.:12.0
                    1st Qu.: 26.00
   Median:15.0
##
                    Median: 36.00
           :15.4
                            : 42.98
    Mean
                    Mean
    3rd Qu.:19.0
                    3rd Qu.: 56.00
##
##
   Max.
           :25.0
                           :120.00
                    Max.
```

• by sourcing R scripts, e.g.

```
# you need to use package `here`
source(here::here("code/example-code.R"))
```

For more on the code chunk options/parameters see R Markdown Ch. 2.6. For example, the echo = FALSE parameter was removed in the second code chunk to print of the R code that generated Figure 1.

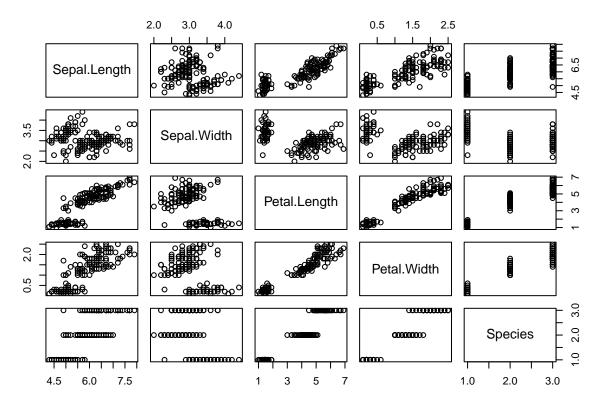


Figure 1: Example plot created in a scoured R script.

1.3. Cross referencing

You can cross-reference sections, equations, figures, and tables etc., see Bookdown Ch. 2.2 and Ch. 2.6 for details.

For example, Section 2 or Figure 1.

1.4. Citation and References

We strongly recommend to use Zotero as Reference management software (with Better Bibtex extension). It is free and open source and has a nice R Studio integration (see also https://github.com/crsh/citr and https://github.com/paleolimbot/rbbt).

See Bookdown Ch. 2.8 on how to cite references in R Markdown and some general background.

2. Background

Here goes some background, for example references on R Markdown (Xie et al., 2018) and Bookdown (Xie, 2016).

3. Experiments

Here go some experiments, for example the average speed in the cars data set is 15.4.

You can also produce tables directly from R code:

Table 1: A simple table.

Sepal.Length	${\bf Sepal. Width}$	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

4. Conclusion

Seriously, think about writing your thesis using R Markdown!

A. RStudio Options settings

Change the RStudio default options as follows:

Global Options

- General
 - Basic
 - $\ast\,$ Restore . R
Data into workspace at startup: unckeck
 - * Save workspace to .RData on exit: Never
- R Markdown
 - Basic
 - * Evaluate chunks in directory: document
 - Citations (requires Better BibTex extension for Zotero)
 - $\ast\,$ Use Better BibTex for citation keys and BibTex export: check

References

Yihui Xie. Bookdown: authoring books and technical documents with R markdown. Chapman and Hall/CRC, 2016. URL https://bookdown.org/yihui/bookdown/a-single-document.html.

Yihui Xie, Joseph J Allaire, and Garrett Grolemund. *R markdown: The definitive guide*. Chapman and Hall/CRC, 2018. URL https://bookdown.org/yihui/rmarkdown/.

Declaration of authorship

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