



Department of Mathematics

Master Thesis Spring 2015

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The title of my thesis which should be split on several lines if it is too long

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Adviser: Prof. Dr. Peter BÃijhlmann

To some special person

iv Preface

Preface

First words and acknowledgements. bla

<u>vi</u> Abstract

Abstract

Short summary of my thesis.

viii CONTENTS

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Notation

Explain your symbols and abbreviations.

xii Notation

Chapter 1

Introduction

Description of the work. Prepare the reader for the following chapters.

You will cite litterature here, typically

2 Introduction

Chapter 2

First Chapter

2.1 To include a picture

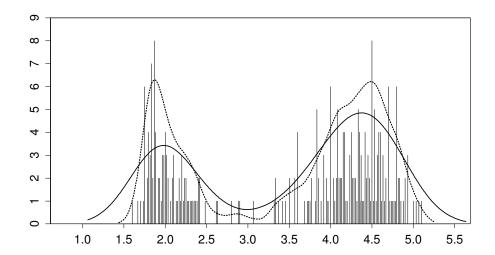


Figure 2.1: Old Faithful Geyser eruption lengths, n=272; binned data and two (Gaussian) kernel density estimates (×10) with $h=h^*=.3348$ and h=.1 (dotted).

Or also with includegraphics:

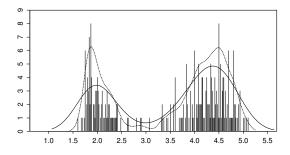


Figure 2.2: Old Faithful Geyser eruption lengths, n=272; binned data and two (Gaussian) kernel density estimates (×10) with $h=h^*=.3348$ and h=.1 (dotted).

4 First Chapter

2.2 To make a proof

Proof.
$$1 + 1 = 2$$

2.3 To include R code

See information in Appendix A.

2.4 Other information

Put a text between quotes: make sure to use nice quotes, such as "quote".

Cite a document in the bibliography (an example here): Gelman, Jakulin, Pittau, and Su (2008). Or mention that Hastie, Tibshirani, and Friedman (a person) or Bühlmann and van de Geer (two persons) have already done quite a bit work.

Referencing a different part of your work: please refer to Appendix A.

Chapter 3

Summary

Summarize the presented work. Why is it useful to the research field or institute?

3.1 Future Work

Possible ways to extend the work.

6 Summary

Bibliography

- Bühlmann, P. and S. van de Geer (2011). Statistics for High-Dimensional Data: Methods, Theory and Applications (1st ed.). Springer Publishing Company, Incorporated.
- Gelman, A., A. Jakulin, M. G. Pittau, and Y.-S. Su (2008). A weakly informative default prior distribution for logistic and other regression models. *Ann. Appl. Stat.* 2(4), 1360–1383.
- Hastie, T., R. Tibshirani, and J. Friedman (2009). The Elements of Statistical Learning, Volume 1.

8 BIBLIOGRAPHY

Appendix A

Complementary information

Additional material. For example long mathematical derivations could be given in the appendix. Or you could include part of your code that is needed in printed form. You can add several Appendices to your thesis (as you can include several chapters in the main part of your work).

A.1 Including R code with verbatim

A simple (rather too simple, see A.2) way to include code or R output is to use verbatim. It just prints the text however it is (including all spaces, "strange" symbols,...) in a slightly different font.

A.2 Including R code with the *listings* package

However, it is much nicer to use the *listings* package to include R code in your report. It allows you to number the lines, color the comments differently than the code, and so on.

```
## example to generate an .eps file with the function ps.latex()
  ## Author: Sarah Gerster and Martin Mächler
  ## Last revision: 16 Aug 2011
  require("sfsmisc") # pdf.latex(), pdf.end(), etc
  pdf.latex(file='test_plot.pdf') #, main=TRUE)
  ## no main=TRUE is needed to leave enough space for the plot title
  ## but see below
  ## make sure the legends are large enough
  par(cex=1.5)
  ## Make sure your lines are "visible" enough. Otherwise your plot
15 ## won't look very nicely in your text.
16 plot(-10:10, (-10:10)**2, type="1", lty=5,
       xlab="my_x", ylab="my_y",
       ## no main title: NOT recommended for figures in text which
       ## have a \caption{..}
       lwd=4, col='blue')
21 lines(-10:10, 0:20, type="p", lwd=4, pch=23,col='red')
  legend(-3, 90, c("func1", "func2"), lwd=4, col=c('blue', 'red'),
         lty=c(1,1),cex=1)
  pdf.end() # starts the previewer (which refreshes itself;
           # at least on Linux at SfS
```

A.3 Using Sweave to include R code (and more) in your report

The easiest (and most elegant) way to include R code and its output (and have all your figures up to date with your report) is to use Sweave. You can find an introduction Sweave in /u/sfs/StatSoftDoc/Sweave/Sweave-tutorial.pdf.

Appendix B

Yet another appendix....

B.1 Description

Something details.

Something else other definition.

B.2 Tables

Refer to Table B.1 to see a left justified table with caption on top.

Table B.1:	Results.
Student	\mathbf{Grade}
Marie	6
Alain	5.5
Josette	4.5
Pierre	5

Epilogue

A few final words. Test 2

14 Epilogue

Declaration of Originality

The signed declaration of originality is a component of every semester paper, Bachelor's thesis, Master's thesis and any other degree paper undertaken during the course of studies, including the respective electronic versions.

Lecturers may also require a declaration of originality for other written papers compiled for their courses.

their courses.	
	f the written work here enclosed and that I have ted are corrections of form and content by the
Title of work (in block letters):	
Authored by (in block letters): For papers written by groups the names of all au	thors are required.
Name(s):	First name(s):
 information sheet. I have documented all methods, data a I have not manipulated any data. I have mentioned all persons who were I am aware that the work may be screet 	significant facilitators of the work .
Place, date:	Signature(s):

For papers written by groups the names of all authors are required. Their signatures collectively guarantee the entire content of the written paper.
