UNIVERSIDAD TÉCNICA FEDERICO SANTA MARÍA

DEPARTAMENTO DE OBRAS CIVILES

USO DE REDES CONVOLUCIONALES PARA LA ESTMACIÓN DE LA INCERTIDUMBRE MEDIANTE CAMPOS ALEATORIOS

ALFONSO ANDRÉS TOBAR ARANCIBIA

Ingeniero Civil

Junio de 2020

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USO DE REDES CONVOLUCIONALES PARA LA ESTMACIÓN DE LA INCERTIDUMBRE MEDIANTE CAMPOS ALEATORIOS

Memoria de Título presentada por

ALFONSO ANDRÉS TOBAR ARANCIBIA

Como requisito parcial para optar al título de

Ingeniero Civil

Profesor Guía

Marcos Valdebenito

Junio de 2020

USO DE REDES CONVOLUCIONALES PARA LA ESTMACIÓN DE LA INCERTIDUMBRE MEDIANTE CAMPOS ALEATORIOS.

AUTOR

ALFONSO ANDRÉS TOBAR ARANCIBIA

TRABAJO DE MEMORIA, presentado en cumplimiento parcial de los requisitos para el título de Ingeniero Civil de la Universidad Técnica Federico Santa María.

COMISIÓN

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Valparaíso, Chile, Junio de 2020.

Hasta que salió

AGRADECIMIENTOS

The preface pretty much says it all.

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RESUMEN

The preface pretty much says it all.

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ABSTRACT

The preface pretty much says it all.

Second paragraph of abstract starts here.

CONTENIDO

ÍNDICE DE FIGURAS

ÍNDICE DE TABLAS

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:

```r
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/.

Capítulo 1

INTRODUCTION

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 1. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 3.

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

```r
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 1.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 1.1.

```r
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, 2020) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).
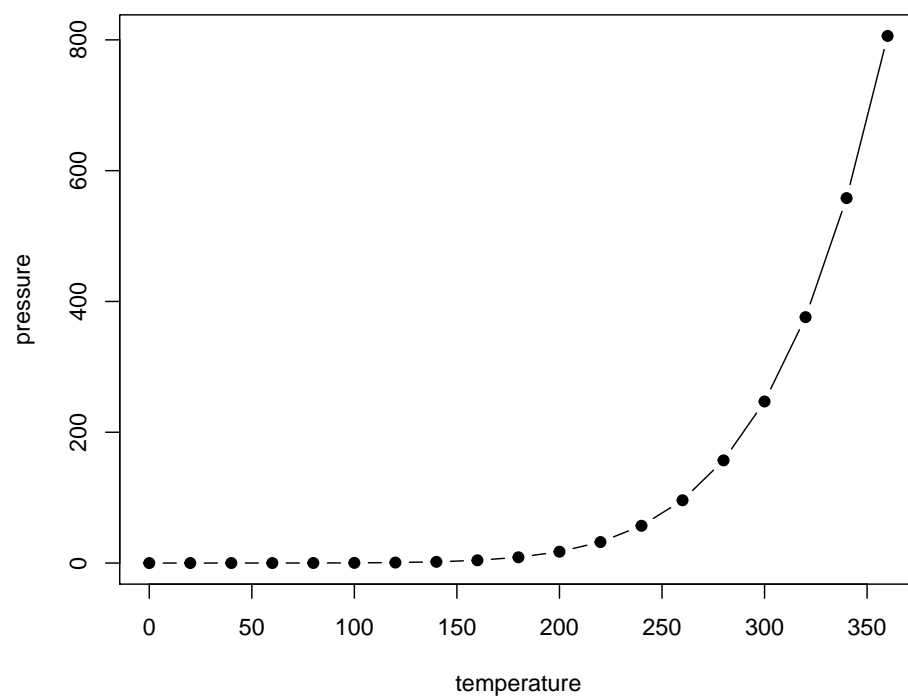
Figura 1.1. Here is a nice figure!

Cuadro 1.1. 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

Capítulo 2

LITERATURE

Here is a review of existing methods.

Capítulo 3

METHODS

We describe our methods in this chapter.

Capítulo 4

APPLICATIONS

Some *significant* applications are demonstrated in this chapter.

4.1. Example one

4.2. Example two

Capítulo 5

FINAL WORDS

We have finished a nice book.

REFERENCIAS

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

Xie, Y. (2020). *bookdown: Authoring Books and Technical Documents with R Markdown.* R package version 0.17.