spmodel: Spatial Modeling in R

A Preprint

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April 22, 2022

Abstract

Enter the text of your abstract here.

***K*eywords** blah · blee · bloo · these are optional and can be removed

1 spmodel stuff

1.1 Introduction

1.2 Background / Usage

1.2.1 splmm

generics

1.2.2 spautor

generics

1.2.3 random effects

1.2.4 partitioning

1.2.5 big data (local index method)

1.2.6 anisotropy

1.2.7 initial values and known values

1.2.8 random normal simulation

2 template stuff

3 Introduction

Here goes an introduction text

*Use footnote for providing further information about author (webpage, alternative address)—*not* for acknowledging funding agencies. Optional.

4 Headings: first level

You can use directly LaTeX command or Markdown text.

LaTeX command can be used to reference other section. See Section 4. However, you can also use **bookdown** extensions mechanism for this.

4.1 Headings: second level

You can use equation in blocks

$$\xi_{ij}(t) = P(x_t = i, x_{t+1} = j|y, v, w; \theta) = \frac{\alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})}{\sum_{i=1}^{N} \sum_{j=1}^{N} \alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})}$$

But also inline i.e $z = x + y$

4.1.1 Headings: third level

Another paragraph.

5 Examples of citations, figures, tables, references

You can insert references. Here is some text (Kour and Saabne 2014b, 2014a) and see Hadash et al. (2018).

The documentation for `natbib` may be found at

You can use custom blocks with LaTeX support from **rmarkdown** to create environment.

`http://mirrors.ctan.org/macros/latex/contrib/natbib/natnotes.pdf%7D`

Of note is the command `\citet`, which produces citations appropriate for use in inline text.

You can insert LaTeX environment directly too.

```
\citet{hasselmo} investigated\dots
```

produces

> Hasselmo, et al. (1995) investigated. . .

`https://www.ctan.org/pkg/booktabs`

5.1 Figures

You can insert figure using LaTeX directly.

See Figure 1. Here is how you add footnotes. [^Sample of the first footnote.]

But you can also do that using R.

```r
plot(mtcars$mpg)
```

You can use **bookdown** to allow references for Tables and Figures.

5.2 Tables

Below we can see how to use tables.

See awesome Table~1 which is written directly in LaTeX in source Rmd file.

You can also use R code for that.

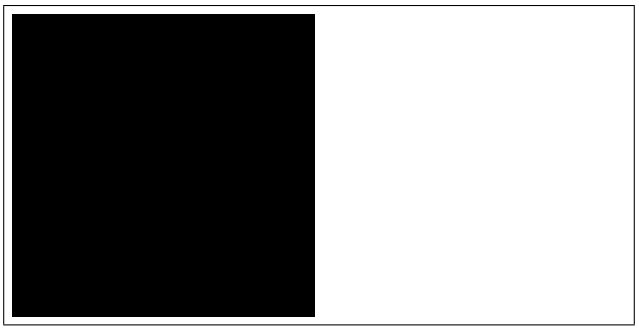

Figure 1: Sample figure caption.

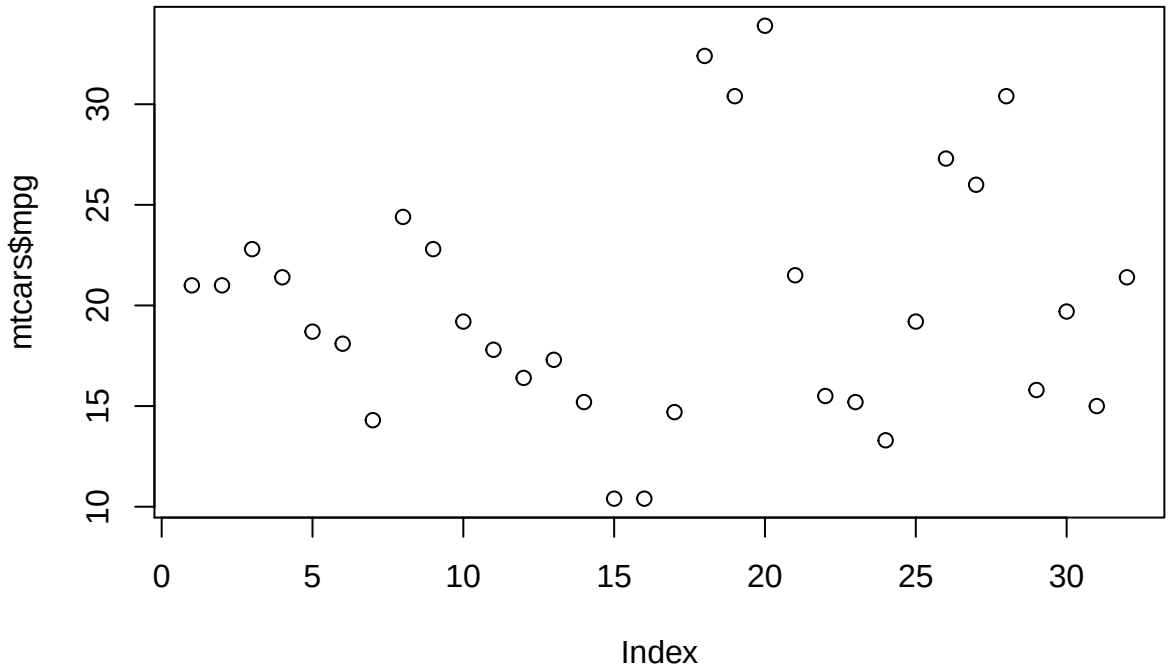

Figure 2: Another sample figure

Table 1: Sample table title

Part		
Name	Description	Size (μm)
Dendrite	Input terminal	$\sim$100
Axon	Output terminal	$\sim$10
Soma	Cell body	up to 10^6

```
knitr::kable(head(mtcars), caption = "Head of mtcars table")
```

Table 2: Head of mtcars table

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0	1	4	4
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.440	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.460	20.22	1	0	3	1

5.3 Lists

- Item 1
- Item 2
- Item 3

Hadash, Guy, Einat Kermany, Boaz Carmeli, Ofer Lavi, George Kour, and Alon Jacovi. 2018. "Estimate and Replace: A Novel Approach to Integrating Deep Neural Networks with Existing Applications." *arXiv Preprint arXiv:1804.09028*.

Kour, George, and Raid Saabne. 2014a. "Fast Classification of Handwritten on-Line Arabic Characters." In *Soft Computing and Pattern Recognition (Socpar), 2014 6th International Conference of*, 312–18. IEEE.

———. 2014b. "Real-Time Segmentation of on-Line Handwritten Arabic Script." In *Frontiers in Handwriting Recognition (Icfhr), 2014 14th International Conference on*, 417–22. IEEE.