A TEMPLATE FOR THE *ARXIV* STYLE

A PREPRINT

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Abstract

Enter the text of your abstract here.

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

1 Introduction

Here goes an introduction text

2 Headings: first level

You can use directly LaTeX command or Markdown text.

LaTeX command can be used to reference other section. See Section 2. However, you can also use **bookdown** extensions mechanism for this.

2.1 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 $z = x + y$

2.1.1 Headings: third level

Another paragraph.

3 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.

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[*]Use footnote for providing further information about author (webpage, alternative address)—*not* for acknowledging funding agencies. Optional.
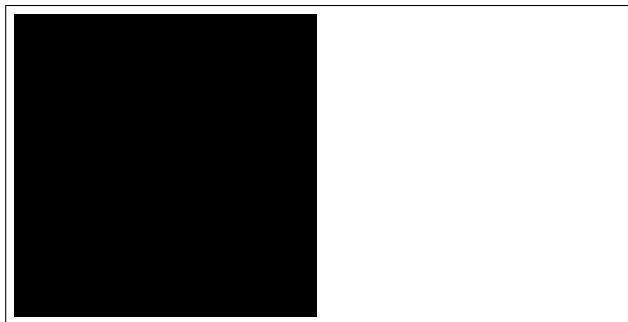
Figure 1: Sample figure caption.

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

`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`

3.1 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.

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

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

3.2 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 python code for that.

3.3 PYTHON

```
import numpy as np
d = [1,2,3,4,5,6,7,8,9,10]
```
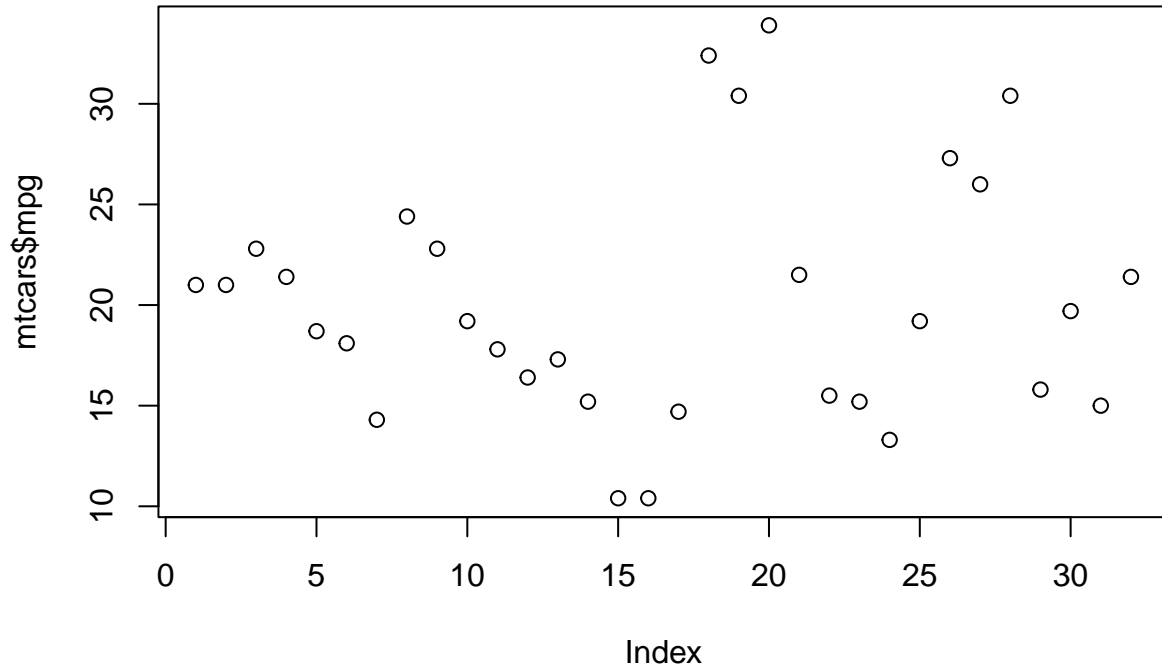
Figure 2: Another sample figure

```python
dmean = np.mean(d)
dsd = np.std(d)

#Show the centered and scaled vector
(d-dmean)/dsd
```

```
## array([-1.5666989 , -1.21854359, -0.87038828, -0.52223297, -0.17407766,
##         0.17407766,  0.52223297,  0.87038828,  1.21854359,  1.5666989 ])
```

Now, you can call on your python output to say that for a sequence of numbers, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, the mean is 5.5 and the standard deviation is 2.87.

3.4 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.