A TEMPLATE FOR THE *ARXIV* STYLE

A PREPRINT

David S. Hippocampus *
Department of Computer Science
Cranberry-Lemon University
Pittsburgh, PA 15213
hippo@cs.cranberry-lemon.edu

Elias D. Striatum
Department of Electrical Engineering
Mount-Sheikh University
Santa Narimana, Levand
stariate@ee.mount-sheikh.edu

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Abstract

Enter the text of your abstract here.Resumen del documento

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

##Vectores Un vector es una estructura de datos que almacena números de doble presición.

```
mi_vector_a <- c(12,34,12,54,23,12,65,34,12,56,56)
mi_vector_b <- seq(1:16)

mi_vector_a
```

```
##  [1] 12 34 12 54 23 12 65 34 12 56 56
```

```
mi_vector_b
```

```
##  [1]  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16
```

##Matrices Las matrices se parecen a los vectores, pero tienen filas y columnas. Se alimentan de vectores.

```
mi_matriz_c <- matrix(mi_vector_b,nrow = 4,byrow = FALSE)

mi_matriz_c
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    5    9   13
## [2,]    2    6   10   14
## [3,]    3    7   11   15
## [4,]    4    8   12   16
```

```
mi_vector_f <- seq(1:100)


mi_vector_f
```

```
##   [1]   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18
##  [19]  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36
```

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

```
##  [37]  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54
##  [55]  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72
##  [73]  73  74  75  76  77  78  79  80  81  82  83  84  85  86  87  88  89  90
##  [91]  91  92  93  94  95  96  97  98  99 100
```

```
mi_matriz_d <- matrix(mi_vector_f,nrow = 10, byrow = TRUE)

mi_matriz_d
```

```
##       [,1] [,2] [,3] [,4] [,5] [,6] [,7] [,8] [,9] [,10]
##  [1,]    1    2    3    4    5    6    7    8    9    10
##  [2,]   11   12   13   14   15   16   17   18   19    20
##  [3,]   21   22   23   24   25   26   27   28   29    30
##  [4,]   31   32   33   34   35   36   37   38   39    40
##  [5,]   41   42   43   44   45   46   47   48   49    50
##  [6,]   51   52   53   54   55   56   57   58   59    60
##  [7,]   61   62   63   64   65   66   67   68   69    70
##  [8,]   71   72   73   74   75   76   77   78   79    80
##  [9,]   81   82   83   84   85   86   87   88   89    90
## [10,]   91   92   93   94   95   96   97   98   99   100
```

```
sleep_for_a_minute <- function(mi_matriz_d) {Sys.sleep(14)}

start_time <- Sys.time()
sleep_for_a_minute
```

```
## function(mi_matriz_d) {Sys.sleep(14)}
```

```
end_time <- Sys.time()

end_time - start_time
```

```
## Time difference of 0.001600981 secs
```

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.

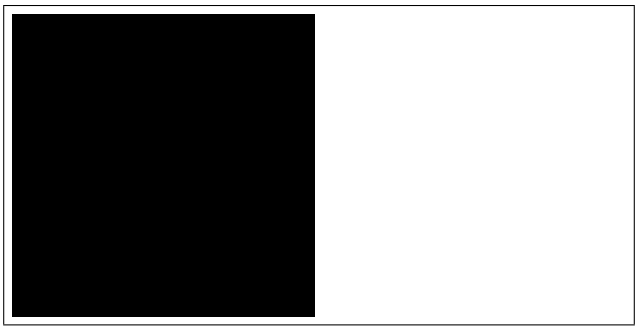

Figure 1: Sample figure caption.

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.

`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 R code for that.

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

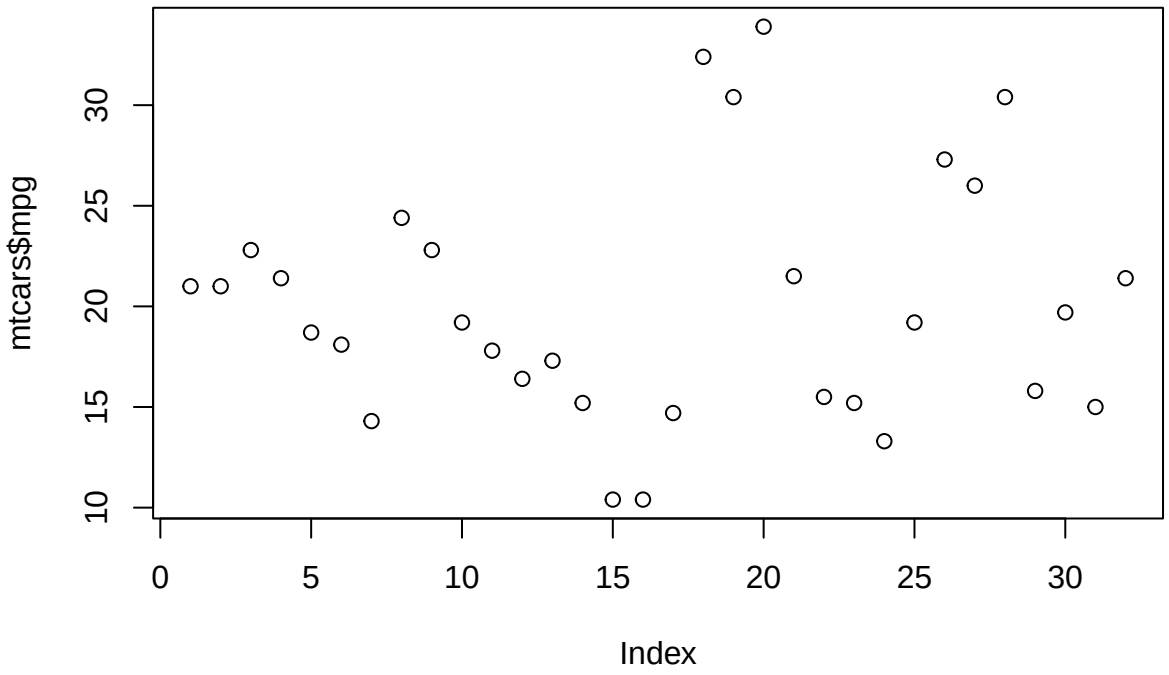

Figure 2: Another sample figure

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

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

3.3 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.