# Effects Of Real-time Synaptic Plasticity Using A Spiking Neural Network Architecture

## **Anonymous Author(s)**

Affiliation Address email

## **Abstract**

A one paragraph abstract...

4	T 4		4 •	
	Intr	$\mathbf{v}$	10ti	Λn
	Intr	vui	ıcu	W
_				

- 2 Background
- 2.1 The Human Brain
- 2.2 Neural Networks
- 2.3 Spiking Neural Network Architecture
- 3 Design
- 4 Implementation
- 4.1 MATLAB
- 4.2 SpiNNaker
- 5 Results
- 6 Conclusion
- 7 Future Work
- **7.1** Style

blah

## 7.2 Retrieval of style files

The formatting instructions contained in these style files are summarized in sections 8, 9, and 10 below.

# General formatting instructions

blah

9 Headings: first level

blah

9.1 Headings: second level

blahblah

9.1.1 Headings: third level

blahblah

## 10 Citations, figures, tables, references

These instructions apply to everyone, regardless of the formatter being used.

#### 10.1 Citations within the text

Citations within the text should be numbered consecutively. The corresponding number is to appear enclosed in square brackets, such as [1] or [2]-[5]. The corresponding references are to be listed in the same order at the end of the paper, in the **References** section. (Note: the standard BIBTEX style unsrt produces this.) As to the format of the references themselves, any style is acceptable as long as it is used consistently.

#### 10.2 Footnotes

Indicate footnotes with a number<sup>1</sup> in the text. Place the footnotes at the bottom of the page on which they appear. Precede the footnote with a horizontal rule of 2 inches (12 picas).<sup>2</sup>

## 10.3 Figures

All artwork must be neat, clean, and legible. Lines should be dark enough for purposes of reproduction; art work should not be hand-drawn. The figure number and caption always appear after the figure. Place one line space before the figure caption, and one line space after the figure. The figure caption is lower case (except for first word and proper nouns); figures are numbered consecutively.

Make sure the figure caption does not get separated from the figure. Leave sufficient space to avoid splitting the figure and figure caption.

You may use color figures. However, it is best for the figure captions and the paper body to make sense if the paper is printed either in black/white or in color.

## 10.4 Tables

All tables must be centered, neat, clean and legible. Do not use hand-drawn tables. The table number and title always appear before the table. See Table 1.

Place one line space before the table title, one line space after the table title, and one line space after the table. The table title must be lower case (except for first word and proper nouns); tables are numbered consecutively.

<sup>&</sup>lt;sup>1</sup>Sample of the first footnote

<sup>&</sup>lt;sup>2</sup>Sample of the second footnote

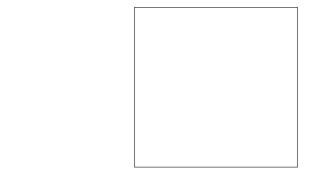


Figure 1: Sample figure caption.

Table 1: Sample table title

PART	DESCRIPTION
Dendrite	Input terminal
Axon	Output terminal
Soma	Cell body (contains cell nucleus)

## 11 Preparing PostScript or PDF files

Please prepare PostScript or PDF files with paper size "US Letter", and not, for example, "A4". The t letter option on dvips will produce US Letter files.

Fonts were the main cause of problems in the past years. Your PDF file must only contain Type 1 or Embedded TrueType fonts. Here are a few instructions to achieve this.

#### Acknowledgments

Use unnumbered third level headings for the acknowledgments. All acknowledgments go at the end of the paper. Do not include acknowledgments in the anonymized submission, only in the final paper.

#### References

References follow the acknowledgments. Use unnumbered third level heading for the references. Any choice of citation style is acceptable as long as you are consistent. It is permissible to reduce the font size to 'small' (9-point) when listing the references. Remember that this year you can use a ninth page as long as it contains *only* cited references.

- [1] Alexander, J.A. & Mozer, M.C. (1995) Template-based algorithms for connectionist rule extraction. In G. Tesauro, D. S. Touretzky and T.K. Leen (eds.), *Advances in Neural Information Processing Systems 7*, pp. 609-616. Cambridge, MA: MIT Press.
- [2] Bower, J.M. & Beeman, D. (1995) *The Book of GENESIS: Exploring Realistic Neural Models with the GEneral NEural SImulation System.* New York: TELOS/Springer-Verlag.
- [3] Hasselmo, M.E., Schnell, E. & Barkai, E. (1995) Dynamics of learning and recall at excitatory recurrent synapses and cholinergic modulation in rat hippocampal region CA3. *Journal of Neuroscience* **15**(7):5249-5262.