TEM-t as The Universal Neural Computer

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Abstract

The abstract paragraph should be indented ½ inch (3 picas) on both the left- and right-hand margins. Use 10 point type, with a vertical spacing (leading) of 11 points. The word **Abstract** must be centered, bold, and in point size 12. Two line spaces precede the abstract. The abstract must be limited to one paragraph.

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1 Introduction

Advancements in the last few decades have brought us to a point at which what was thought to only be theorized by Tolman (1948) as he argued that for Humans and other animals to make complex inferences from sparse observations and rapidly integrate new knowledge to control their behavior there should exist a systematic organization of such knowledge on what could be called a cognitive map. (note, try to make it sound like the theory of computing)

But what was missing from these early studies, was a way to address the neuronal mechanisms that led information to be stored as memory. Further development has shown that place cells are part of a wider network of spatially modulated neurons, including grid, border, and head direction cells, each with distinct roles in the representation of space and spatial memory.

Bringing to surface a mechanistic basis for memory formation (Nobel prize winning Place Cells, Grid Cells, and Memory) which later has been suggested that relational memory and spatial reasoning might be related by a common mechanism (Eichenbaum and Cohen, 2014).

[1]

1.1 Retrieval of style files

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2 Single image

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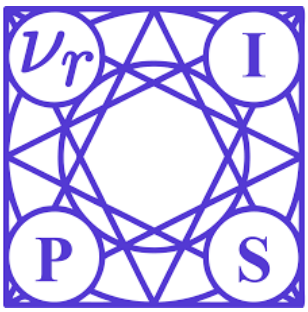

Figure 1: Example of single image

3 Multiple images

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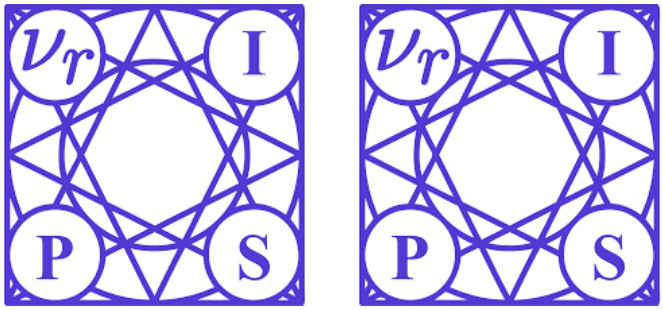

(a) (b)

Figure 2: Examples for sub-images

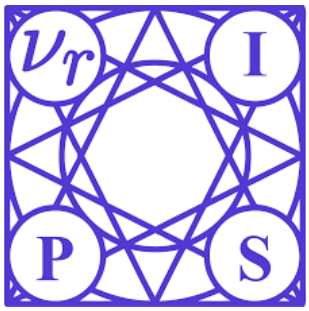

Figure 3: Logo image

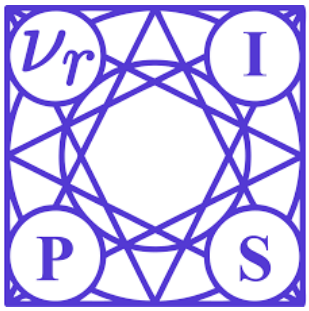

Figure 4: Logo image

4 Citations

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5 Tables

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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

6 Conclusions

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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. This example was prepared by Dennis Núñez Fernández.

References

[1] Manuel Beiran, Nicolas Meirhaeghe, Hansem Sohn, Mehrdad Jazayeri, and Srdjan Ostojic. Parametric control of flexible timing through low-dimensional neural manifolds. *Neuron*, 111(5):739–753, 2023.

[2] D. N. Fernández. A real-time recognition system for user characteristics based on deep learning. In *2018 IEEE XXV International Conference on Electronics, Electrical Engineering and Computing (INTERCON)*, pages 1–4, Aug 2018.

[3] Dennis Núñez Fernández and Bogdan Kwolek. Hand posture recognition using convolutional neural network. In Marcelo Mendoza and Sergio Velastín, editors, *Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications*, pages 441–449, Cham, 2018. Springer International Publishing.

[4] D. Núñez Fernández and S. Hosseini. Real-time handwritten letters recognition on an embedded computer using convnets. In *2018 IEEE Sciences and Humanities International Research Conference (SHIRCON)*, pages 1–4, Nov 2018.