# Efficient Distributed Stochastic Dual Coordinate Ascent

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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. This latex file is modified from the NIPS 2016 template.

### 1 Introduction

What is the research problem that you are trying to tackle? Describe the background and motivation.

#### 2 Related Work

Are there any related work? If yes, review them and discuss their deficiencies and how your proposed work can potentially address their issues.

# 2.1 Citations within the text

The natbib package will be loaded for you by default. Citations may be author/year or numeric, as long as you maintain internal consistency. As to the format of the references themselves, any style is acceptable as long as it is used consistently.

The documentation for natbib may be found at

http://mirrors.ctan.org/macros/latex/contrib/natbib/natnotes.pdf

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

\citet{hasselmo} investigated\dots

produces

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

If you wish to load the natbib package with options, you may add the following before loading the nips\_2016 package:

\PassOptionsToPackage{options}{natbib}

29th Conference on Neural Information Processing Systems (NIPS 2016), Barcelona, Spain.

If natbib clashes with another package you load, you can add the optional argument nonatbib when loading the style file:

\usepackage[nonatbib]{nips\_2016}

As submission is double blind, refer to your own published work in the third person. That is, use "In the previous work of Jones et al. [4]," not "In our previous work [4]." If you cite your other papers that are not widely available (e.g., a journal paper under review), use anonymous author names in the citation, e.g., an author of the form "A. Anonymous."

#### 2.2 Footnotes

Footnotes should be used sparingly. If you do require a footnote, indicate footnotes with a number 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).

Note that footnotes are properly typeset after punctuation marks.<sup>2</sup>

# 2.3 Figures

All artwork must be neat, clean, and legible. Lines should be dark enough for purposes of reproduction. 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 should be lower case (except for first word and proper nouns); figures are numbered consecutively.

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

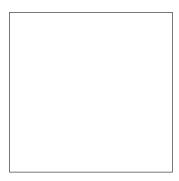


Figure 1: Sample figure caption.

### 2.4 Tables

All tables must be centered, neat, clean and legible. 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.

Note that publication-quality tables *do not contain vertical rules*. We strongly suggest the use of the booktabs package, which allows for typesetting high-quality, professional tables:

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

This package was used to typeset Table 1.

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

<sup>&</sup>lt;sup>2</sup>As in this example.

Table 1: Sample table title

	Part	
Name	Description	Size (μm)
Dendrite Axon Soma	Input terminal Output terminal Cell body	$\begin{array}{c} \sim \! 100 \\ \sim \! 10 \\ \text{up to } 10^6 \end{array}$

# 3 The Proposed Work

Describe your proposed work in this section.

# 4 Plan

Describe your plan for the project. What data you are going to use to evaluate your methods? What are the baselines that you want to compare? How will you develop your methods? A timeline with important milestones is always perferred.

#### 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

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#### References

[1] S. Shalev-Shwartz. SDCA without Duality, Regularization, and Individual Convexity. *Proceedings of The 33rd International Conference on Machine Learning*, 48:747–754, 2016.