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# Formatting Instructions For NeurIPS 2023

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Affiliation

Address

email

## Abstract

1 The abstract paragraph should be indented  $\frac{1}{2}$  inch (3 picas) on both the left-  
2 and right-hand margins. Use 10 point type, with a vertical spacing (leading) of  
3 11 points. The word **Abstract** must be centered, bold, and in point size 12. Two  
4 line spaces precede the abstract. The abstract must be limited to one paragraph.

## 5 1 Submission of papers to NeurIPS 2023

6 Please read the instructions below carefully and follow them faithfully. **Important:** This year the  
7 checklist will be submitted separately from the main paper in OpenReview, please review it well  
8 ahead of the submission deadline: <https://neurips.cc/public/guides/PaperChecklist>.

### 9 1.1 Style

10 Papers to be submitted to NeurIPS 2023 must be prepared according to the instructions presented  
11 here. Papers may only be up to **nine** pages long, including figures. Additional pages *containing*  
12 *only acknowledgments and references* are allowed. Papers that exceed the page limit will not be  
13 reviewed, or in any other way considered for presentation at the conference.

14 The margins in 2023 are the same as those in previous years.

15 Authors are required to use the NeurIPS L<sup>A</sup>T<sub>E</sub>X style files obtainable at the NeurIPS website as  
16 indicated below. Please make sure you use the current files and not previous versions. Tweaking the  
17 style files may be grounds for rejection.

### 18 1.2 Retrieval of style files

19 The style files for NeurIPS and other conference information are available on the website at

20 <http://www.neurips.cc/>

21 The file `neurips_2023.pdf` contains these instructions and illustrates the various formatting re-  
22 quirements your NeurIPS paper must satisfy.

23 The only supported style file for NeurIPS 2023 is `neurips_2023.sty`, rewritten for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. **Pre-**  
24 **vious style files for L<sup>A</sup>T<sub>E</sub>X 2.09, Microsoft Word, and RTF are no longer supported!**

25 The L<sup>A</sup>T<sub>E</sub>X style file contains three optional arguments: `final`, which creates a camera-ready copy,  
26 `preprint`, which creates a preprint for submission to, e.g., arXiv, and `nonatbib`, which will not  
27 load the `natbib` package for you in case of package clash.

28 **Preprint option** If you wish to post a preprint of your work online, e.g., on arXiv, using the  
29 NeurIPS style, please use the `preprint` option. This will create a nonanonymized version of your  
30 work with the text “Preprint. Work in progress.” in the footer. This version may be distributed as

31 you see fit, as long as you do not say which conference it was submitted to. Please **do not** use the  
32 `final` option, which should **only** be used for papers accepted to NeurIPS.

33 At submission time, please omit the `final` and `preprint` options. This will anonymize your sub-  
34 mission and add line numbers to aid review. Please do *not* refer to these line numbers in your paper  
35 as they will be removed during generation of camera-ready copies.

36 The file `neurips_2023.tex` may be used as a “shell” for writing your paper. All you have to do is  
37 replace the author, title, abstract, and text of the paper with your own.

38 The formatting instructions contained in these style files are summarized in Sections 2, 3, and 4  
39 below.

## 40 **2 General formatting instructions**

41 The text must be confined within a rectangle 5.5 inches (33 picas) wide and 9 inches (54 picas) long.  
42 The left margin is 1.5 inch (9 picas). Use 10 point type with a vertical spacing (leading) of 11 points.  
43 Times New Roman is the preferred typeface throughout, and will be selected for you by default.  
44 Paragraphs are separated by  $\frac{1}{2}$  line space (5.5 points), with no indentation.

45 The paper title should be 17 point, initial caps/lower case, bold, centered between two horizontal  
46 rules. The top rule should be 4 points thick and the bottom rule should be 1 point thick. Allow  
47  $\frac{1}{4}$  inch space above and below the title to rules. All pages should start at 1 inch (6 picas) from the  
48 top of the page.

49 For the final version, authors’ names are set in boldface, and each name is centered above the corre-  
50 sponding address. The lead author’s name is to be listed first (left-most), and the co-authors’ names  
51 (if different address) are set to follow. If there is only one co-author, list both author and co-author  
52 side by side.

53 Please pay special attention to the instructions in Section 4 regarding figures, tables, acknowledg-  
54 ments, and references.

## 55 **3 Headings: first level**

56 All headings should be lower case (except for first word and proper nouns), flush left, and bold.

57 First-level headings should be in 12-point type.

### 58 **3.1 Headings: second level**

59 Second-level headings should be in 10-point type.

#### 60 **3.1.1 Headings: third level**

61 Third-level headings should be in 10-point type.

62 **Paragraphs** There is also a `\paragraph` command available, which sets the heading in bold, flush  
63 left, and inline with the text, with the heading followed by 1 em of space.

## 64 **4 Citations, figures, tables, references**

65 These instructions apply to everyone.

### 66 **4.1 Citations within the text**

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

70 The documentation for `natbib` may be found at



Figure 1: Sample figure caption.

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

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

74 `\citet{hasselmo}` investigated\dots

75 produces

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

77 If you wish to load the `natbib` package with options, you may add the following before loading the  
78 `neurips_2023` package:

79 `\PassOptionsToPackage{options}{natbib}`

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

82 `\usepackage[nonatbib]{neurips_2023}`

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

88 **4.2 Footnotes**

89 Footnotes should be used sparingly. If you do require a footnote, indicate footnotes with a number<sup>1</sup>  
90 in the text. Place the footnotes at the bottom of the page on which they appear. Precede the footnote  
91 with a horizontal rule of 2 inches (12 picas).

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

93 **4.3 Figures**

94 All artwork must be neat, clean, and legible. Lines should be dark enough for purposes of reproduc-  
95 tion. The figure number and caption always appear after the figure. Place one line space before the  
96 figure caption and one line space after the figure. The figure caption should be lower case (except  
97 for first word and proper nouns); figures are numbered consecutively.

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

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<sup>1</sup>Sample of the first footnote.

<sup>2</sup>As in this example.

Table 1: Sample table title

Part		
Name	Description	Size ( $\mu\text{m}$ )
Dendrite	Input terminal	$\sim 100$
Axon	Output terminal	$\sim 10$
Soma	Cell body	up to $10^6$

#### 100 4.4 Tables

101 All tables must be centered, neat, clean and legible. The table number and title always appear before  
102 the table. See Table 1.

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

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

108 <https://www.ctan.org/pkg/booktabs>

109 This package was used to typeset Table 1.

#### 110 4.5 Math

111 Note that display math in bare TeX commands will not create correct line numbers for sub-  
112 mission. Please use LaTeX (or AMSTeX) commands for unnumbered display math. (You  
113 really shouldn't be using \$\$ anyway; see <https://tex.stackexchange.com/questions/503/why-is-preferable-to> and [https://tex.stackexchange.com/questions/40492/](https://tex.stackexchange.com/questions/40492/what-are-the-differences-between-align-equation-and-displaymath)  
114 [what-are-the-differences-between-align-equation-and-displaymath](https://tex.stackexchange.com/questions/40492/what-are-the-differences-between-align-equation-and-displaymath) for more infor-  
115 mation.)  
116

#### 117 4.6 Final instructions

118 Do not change any aspects of the formatting parameters in the style files. In particular, do not  
119 modify the width or length of the rectangle the text should fit into, and do not change font sizes  
120 (except perhaps in the **References** section; see below). Please note that pages should be numbered.

### 121 5 Preparing PDF files

122 Please prepare submission files with paper size "US Letter," and not, for example, "A4."

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

- 125 • You should directly generate PDF files using `pdflatex`.
- 126 • You can check which fonts a PDF files uses. In Acrobat Reader, select the menu  
127 Files>Document Properties>Fonts and select Show All Fonts. You can also use the pro-  
128 gram `pdf fonts` which comes with `xpdf` and is available out-of-the-box on most Linux  
129 machines.
- 130 • `xfig` "patterned" shapes are implemented with bitmap fonts. Use "solid" shapes instead.
- 131 • The `\bbold` package almost always uses bitmap fonts. You should use the equivalent AMS  
132 Fonts:

133 `\usepackage{amsfonts}`

134 followed by, e.g., `\mathbb{R}`, `\mathbb{N}`, or `\mathbb{C}` for  $\mathbb{R}$ ,  $\mathbb{N}$  or  $\mathbb{C}$ . You can also  
135 use the following workaround for reals, natural and complex:

```

136 \newcommand{\RR}{\mathbb{R}} %real numbers
137 \newcommand{\Nat}{\mathbb{N}} %natural numbers
138 \newcommand{\CC}{\mathbb{C}} %complex numbers

```

139 Note that `amsfonts` is automatically loaded by the `amssymb` package.

140 If your file contains type 3 fonts or non embedded TrueType fonts, we will ask you to fix it.

## 141 5.1 Margins in L<sup>A</sup>T<sub>E</sub>X

142 Most of the margin problems come from figures positioned by hand using `\special` or other com-  
143 mands. We suggest using the command `\includegraphics` from the `graphicx` package. Always  
144 specify the figure width as a multiple of the line width as in the example below:

```

145 \usepackage[pdftex]{graphicx} ...
146 \includegraphics[width=0.8\linewidth]{myfile.pdf}

```

147 See Section 4.4 in the graphics bundle documentation ([http://mirrors.ctan.org/macros/](http://mirrors.ctan.org/macros/latex/required/graphics/grfguide.pdf)  
148 [latex/required/graphics/grfguide.pdf](http://mirrors.ctan.org/macros/latex/required/graphics/grfguide.pdf))

149 A number of width problems arise when L<sup>A</sup>T<sub>E</sub>X cannot properly hyphenate a line. Please give LaTeX  
150 hyphenation hints using the `\-` command when necessary.

## 151 6 Supplementary Material

152 Authors may wish to optionally include extra information (complete proofs, additional experiments  
153 and plots) in the appendix. All such materials should be part of the supplemental material (submitted  
154 separately) and should NOT be included in the main submission.

## 155 References

156 References follow the acknowledgments in the camera-ready paper. Use unnumbered first-level  
157 heading for the references. Any choice of citation style is acceptable as long as you are consistent.  
158 It is permissible to reduce the font size to `small` (9 point) when listing the references. Note that the  
159 Reference section does not count towards the page limit.

160 [1] Alexander, J.A. & Mozer, M.C. (1995) Template-based algorithms for connectionist rule extraction. In  
161 G. Tesauro, D.S. Touretzky and T.K. Leen (eds.), *Advances in Neural Information Processing Systems 7*, pp.  
162 609–616. Cambridge, MA: MIT Press.

163 [2] Bower, J.M. & Beeman, D. (1995) *The Book of GENESIS: Exploring Realistic Neural Models with the*  
164 *GENeral NEural Simulation System*. New York: TELOS/Springer-Verlag.

165 [3] Hasselmo, M.E., Schnell, E. & Barkai, E. (1995) Dynamics of learning and recall at excitatory recurrent  
166 synapses and cholinergic modulation in rat hippocampal region CA3. *Journal of Neuroscience* **15**(7):5249-  
167 5262.