Cornell University Research Proposal ProjectX 2021

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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.

5 1 Submission of papers to NeurIPS 2021

6 Please read the instructions below carefully and follow them faithfully.

7 **1.1 Style**

- 8 Papers to be submitted to NeurIPS 2021 must be prepared according to the instructions presented
- 9 here. Papers may only be up to **nine** pages long, including figures. Additional pages containing only
- acknowledgments and references are allowed. Papers that exceed the page limit will not be reviewed,
- or in any other way considered for presentation at the conference.
- The margins in 2021 are the same as those in 2007, which allow for ${\sim}15\%$ more words in the paper
- 13 compared to earlier years.
- Authors are required to use the NeurIPS LATEX style files obtainable at the NeurIPS website as
- 15 indicated below. Please make sure you use the current files and not previous versions. Tweaking the
- style files may be grounds for rejection.

17 1.2 Retrieval of style files

18 The style files for NeurIPS and other conference information are available on the World Wide Web at

- http://www.neurips.cc/
- 20 The file neurips_2021.pdf contains these instructions and illustrates the various formatting re-
- 21 quirements your NeurIPS paper must satisfy.
- 22 The only supported style file for NeurIPS 2021 is neurips_2021.sty, rewritten for LATEX 2ε.
- 23 Previous style files for LATEX 2.09, Microsoft Word, and RTF are no longer supported!
- 24 The LATEX style file contains three optional arguments: final, which creates a camera-ready copy,
- 25 preprint, which creates a preprint for submission to, e.g., arXiv, and nonatbib, which will not
- load the natbib package for you in case of package clash.
- 27 Preprint option If you wish to post a preprint of your work online, e.g., on arXiv, using the
- 28 NeurIPS style, please use the preprint option. This will create a nonanonymized version of your

Submitted to 35th Conference on Neural Information Processing Systems (NeurIPS 2021). Do not distribute.

- 29 work with the text "Preprint. Work in progress." in the footer. This version may be distributed as
- 30 you see fit. Please do not use the final option, which should only be used for papers accepted to
- 31 NeurIPS.
- 32 At submission time, please omit the final and preprint options. This will anonymize your
- 33 submission and add line numbers to aid review. Please do not refer to these line numbers in your
- paper as they will be removed during generation of camera-ready copies.
- 35 The file neurips_2021.tex may be used as a "shell" for writing your paper. All you have to do is
- 36 replace the author, title, abstract, and text of the paper with your own.
- 37 The formatting instructions contained in these style files are summarized in Sections 2, 3, and 4
- 38 below.

2 General formatting instructions

- The text must be confined within a rectangle 5.5 inches (33 picas) wide and 9 inches (54 picas) long.
- 41 The left margin is 1.5 inch (9 picas). Use 10 point type with a vertical spacing (leading) of 11 points.
- 42 Times New Roman is the preferred typeface throughout, and will be selected for you by default.
- Paragraphs are separated by ½ line space (5.5 points), with no indentation.
- 44 The paper title should be 17 point, initial caps/lower case, bold, centered between two horizontal
- ⁴⁵ rules. The top rule should be 4 points thick and the bottom rule should be 1 point thick. Allow ¹/₄ inch
- 46 space above and below the title to rules. All pages should start at 1 inch (6 picas) from the top of the
- 47 page.
- 48 For the final version, authors' names are set in boldface, and each name is centered above the
- 49 corresponding address. The lead author's name is to be listed first (left-most), and the co-authors'
- 50 names (if different address) are set to follow. If there is only one co-author, list both author and
- 51 co-author side by side.
- 52 Please pay special attention to the instructions in Section 4 regarding figures, tables, acknowledgments,
- 53 and references.

54 3 Headings: first level

- 55 All headings should be lower case (except for first word and proper nouns), flush left, and bold.
- First-level headings should be in 12-point type.

57 3.1 Headings: second level

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

59 3.1.1 Headings: third level

- 60 Third-level headings should be in 10-point type.
- 61 Paragraphs There is also a \paragraph command available, which sets the heading in bold, flush
- left, and inline with the text, with the heading followed by 1 em of space.

4 Citations, figures, tables, references

These instructions apply to everyone.

4.1 Citations within the text

- 66 The natbib package will be loaded for you by default. Citations may be author/year or numeric, as
- 67 long as you maintain internal consistency. As to the format of the references themselves, any style is
- 68 acceptable as long as it is used consistently.
- 69 The documentation for natbib may be found at
- 70 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,
- 73 \citet{hasselmo} investigated\dots
- 74 produces
- Hasselmo, et al. (1995) investigated...
- If you wish to load the natbib package with options, you may add the following before loading the neurips_2021 package:
- 78 \PassOptionsToPackage{options}{natbib}
- If natbib clashes with another package you load, you can add the optional argument nonatbib when loading the style file:
- vusepackage[nonatbib] {neurips_2021}
- 82 As submission is double blind, refer to your own published work in the third person. That is, use "In
- 83 the previous work of Jones et al. [4]," not "In our previous work [4]." If you cite your other papers
- 84 that are not widely available (e.g., a journal paper under review), use anonymous author names in the
- 85 citation, e.g., an author of the form "A. Anonymous."

4.2 Footnotes

- Footnotes should be used sparingly. If you do require a footnote, indicate footnotes with a number 1
- 88 in the text. Place the footnotes at the bottom of the page on which they appear. Precede the footnote
- 89 with a horizontal rule of 2 inches (12 picas).
- Note that footnotes are properly typeset *after* punctuation marks.²

91 4.3 Figures

- All artwork must be neat, clean, and legible. Lines should be dark enough for purposes of reproduction.
- 93 The figure number and caption always appear after the figure. Place one line space before the figure
- 94 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
- 97 if the paper is printed in either black/white or in color.

98 **4.4 Tables**

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

¹Sample of the first footnote.

²As in this example.

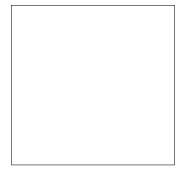


Figure 1: Sample figure caption.

Table 1: Sample table title

	Part	
Name	Description	Size (μm)
Dendrite Axon Soma	Input terminal Output terminal Cell body	~ 100 ~ 10 up to 10^6

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

103 numbered consecutively.

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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

107 This package was used to typeset Table 1.

108 5 Final instructions

Do not change any aspects of the formatting parameters in the style files. In particular, do not modify

the width or length of the rectangle the text should fit into, and do not change font sizes (except

perhaps in the **References** section; see below). Please note that pages should be numbered.

112 6 Preparing PDF files

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

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.

- You should directly generate PDF files using pdflatex.
- You can check which fonts a PDF files uses. In Acrobat Reader, select the menu Files>Document Properties>Fonts and select Show All Fonts. You can also use the program pdffonts which comes with xpdf and is available out-of-the-box on most Linux machines.
- The IEEE has recommendations for generating PDF files whose fonts are also acceptable for NeurIPS. Please see http://www.emfield.org/icuwb2010/downloads/IEEE-PDF-SpecV32.pdf
- xfig "patterned" shapes are implemented with bitmap fonts. Use "solid" shapes instead.

 The \bbold package almost always uses bitmap fonts. You should use the equivalent AMS 124 Fonts: 125

\usepackage{amsfonts}

followed by, e.g., \mathbb{R} , \mathbb{R} , \mathbb{N} or \mathbb{R} , \mathbb{N} or \mathbb{R} . use the following workaround for reals, natural and complex:

129 \newcommand{\Nat}{I\!\!N} %natural numbers 130 \newcommand{\CC}{I\!\!\!\!C} %complex numbers

Note that amsforts is automatically loaded by the amssymb package.

If your file contains type 3 fonts or non embedded TrueType fonts, we will ask you to fix it. 133

6.1 Margins in LATEX 134

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- Most of the margin problems come from figures positioned by hand using \special or other 135
- commands. We suggest using the command \includegraphics from the graphicx package. 136
- Always specify the figure width as a multiple of the line width as in the example below: 137

```
\usepackage[pdftex]{graphicx} ...
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       \includegraphics[width=0.8\linewidth] {myfile.pdf}
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- See Section 4.4 in the graphics bundle documentation (http://mirrors.ctan.org/macros/ 140
- latex/required/graphics/grfguide.pdf) 141
- A number of width problems arise when LATEX cannot properly hyphenate a line. Please give LaTeX 142
- hyphenation hints using the \- command when necessary. 143

References

- References follow the acknowledgments. Use unnumbered first-level heading for the references. Any 145
- choice of citation style is acceptable as long as you are consistent. It is permissible to reduce the font 146
- size to small (9 point) when listing the references. Note that the Reference section does not count 147
- towards the page limit. 148
- [1] Alexander, J.A. & Mozer, M.C. (1995) Template-based algorithms for connectionist rule extraction. In 149
- G. Tesauro, D.S. Touretzky and T.K. Leen (eds.), Advances in Neural Information Processing Systems 7, pp. 150
- 609-616. Cambridge, MA: MIT Press. 151
- [2] Bower, J.M. & Beeman, D. (1995) The Book of GENESIS: Exploring Realistic Neural Models with the 152
- GEneral NEural SImulation System. New York: TELOS/Springer-Verlag. 153
- 154 [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. 155

Checklist 156

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- The checklist follows the references. Please read the checklist guidelines carefully for information on 157
- how to answer these questions. For each question, change the default [TODO] to [Yes], [No], or 158
- [N/A]. You are strongly encouraged to include a justification to your answer, either by referencing 159
- the appropriate section of your paper or providing a brief inline description. For example: 160
 - Did you include the license to the code and datasets? [Yes] See Section 2.
 - Did you include the license to the code and datasets? [No] The code and the data are proprietary.
 - Did you include the license to the code and datasets? [N/A]

Please do not modify the questions and only use the provided macros for your answers. Note that the Checklist section does not count towards the page limit. In your paper, please delete this instructions block and only keep the Checklist section heading above along with the questions/answers below.

1. For all authors...

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- (a) Do the main claims made in the abstract and introduction accurately reflect the paper's contributions and scope? [TODO]
- (b) Did you describe the limitations of your work? [TODO]
- (c) Did you discuss any potential negative societal impacts of your work? [TODO]
- (d) Have you read the ethics review guidelines and ensured that your paper conforms to them? [TODO]
- 2. If you are including theoretical results...
 - (a) Did you state the full set of assumptions of all theoretical results? [TODO]
 - (b) Did you include complete proofs of all theoretical results? [TODO]
- 3. If you ran experiments...
 - (a) Did you include the code, data, and instructions needed to reproduce the main experimental results (either in the supplemental material or as a URL)? [TODO]
 - (b) Did you specify all the training details (e.g., data splits, hyperparameters, how they were chosen)? [TODO]
 - (c) Did you report error bars (e.g., with respect to the random seed after running experiments multiple times)? [TODO]
 - (d) Did you include the total amount of compute and the type of resources used (e.g., type of GPUs, internal cluster, or cloud provider)? [TODO]
- 4. If you are using existing assets (e.g., code, data, models) or curating/releasing new assets...
 - (a) If your work uses existing assets, did you cite the creators? [TODO]
 - (b) Did you mention the license of the assets? [TODO]
 - (c) Did you include any new assets either in the supplemental material or as a URL? [TODO]
 - (d) Did you discuss whether and how consent was obtained from people whose data you're using/curating? [TODO]
 - (e) Did you discuss whether the data you are using/curating contains personally identifiable information or offensive content? [TODO]
- 5. If you used crowdsourcing or conducted research with human subjects...
 - (a) Did you include the full text of instructions given to participants and screenshots, if applicable? [TODO]
 - (b) Did you describe any potential participant risks, with links to Institutional Review Board (IRB) approvals, if applicable? [TODO]
 - (c) Did you include the estimated hourly wage paid to participants and the total amount spent on participant compensation? [TODO]

203 A Appendix

Optionally include extra information (complete proofs, additional experiments and plots) in the appendix. This section will often be part of the supplemental material.