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# **Submission and Formatting Instructions for** Syns & ML at ICML 2023

#### Anonymous Authors<sup>1</sup>

#### **Abstract**

This document provides a basic paper template and submission guidelines. Abstracts must be a single paragraph, ideally between 4–6 sentences long. Gross violations will trigger corrections at the camera-ready phase.

#### 1. Electronic Submission

Submission to Syns & ML at ICML 2023 will be entirely electronic, via a web site (not email). Information about the submission process and LATEX templates are available on the conference web site at:

#### https://syns-ml.github.io/

The guidelines below will be enforced for initial submissions and camera-ready copies. Here is a brief summary:

- Submissions must be in PDF.
- If your paper has appendices, submit the appendix together with the main body and the references as a single file. Reviewers will not look for appendices as a separate PDF file. So if you submit such an extra file, reviewers will very likely miss it.
- Page limit: The main body of the paper has to be fitted to 4 pages, excluding a broader impact section, references, and appendices; the space for the latter two is not limited. For the final version of the paper, authors can add one extra page to the main body.
- · Do not include author information or acknowledgements in your initial submission of a paper.
- Your paper should be in 10 point Times font.
- Make sure your PDF file only uses Type-1 fonts.

Preliminary work. Under review by the workshop on Synergy of Scientific and Machine Learning Modeling. Do not distribute.

- Place figure captions *under* the figure (and omit titles from inside the graphic file itself). Place table captions over the table.
- References must include page numbers whenever possible and be as complete as possible. Place multiple citations in chronological order.
- Do not alter the style template; in particular, do not compress the paper format by reducing the vertical spaces.
- · Keep your abstract brief and self-contained, one paragraph and roughly 4-6 sentences. Gross violations will require correction at the camera-ready phase. The title should have content words capitalized.

#### 1.1. Submitting Papers

**Paper Deadline:** The deadline for paper submission that is advertised on the conference website is strict. If your full, anonymized, submission does not reach us on time, it will not be considered for publication.

Anonymous Submission: SynS & ML uses double-blind review: no identifying author information may appear on the title page or in the paper itself. Section 2.3 gives further details.

Simultaneous Submission: SynS & ML accepts paper which, at the time of submission, is under review for another conference or has already been published. This policy also applies to papers that overlap substantially in technical content with conference papers under review or previously published. SynS & ML submissions must not be submitted to other ICML 2023 workshop.

Authors must provide their manuscripts in PDF format. Furthermore, please make sure that files contain only embedded Type-1 fonts (e.g., using the program pdffonts in linux or using File/DocumentProperties/Fonts in Acrobat). Other fonts (like Type-3) might come from graphics files imported into the document.

Authors using Word must convert their document to PDF. Most of the latest versions of Word have the facility to do this automatically. Submissions will not be accepted in

<sup>&</sup>lt;sup>1</sup>Anonymous Institution, Anonymous City, Anonymous Region, Anonymous Country. Correspondence to: Anonymous Author <anon.email@domain.com>.

Word format or any format other than PDF. Really. We're not joking. Don't send Word.

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Those who use LATEX should avoid including Type-3 fonts. Those using latex and dvips may need the following two commands:

```
dvips -Ppdf -tletter -G0 -o paper.ps paper.dvi \synsmltitlerunning{...}
ps2pdf paper.ps
```

It is a zero following the "-G", which tells dvips to use the config.pdf file. Newer TFX distributions don't always need this option.

Using pdflatex rather than latex, often gives better results. This program avoids the Type-3 font problem, and supports more advanced features in the microtype package.

Graphics files should be a reasonable size, and included from an appropriate format. Use vector formats (.eps/.pdf) for plots, lossless bitmap formats (.png) for raster graphics with sharp lines, and jpeg for photo-like images.

The style file uses the hyperref package to make clickable links in documents. If this causes problems for you, add nohyperref as one of the options to the synsml2023 usepackage statement.

#### 1.2. Submitting Final Camera-Ready Copy

The final versions of papers accepted for publication should follow the same format and naming convention as initial submissions, except that author information (names and affiliations) should be given. See Section 2.3.2 for formatting instructions.

The footnote, "Preliminary work. Under review by the workshop on Synergy of Scientific and Machine Learning Modeling. Do not distribute." must be modified to "Accepted after peer-review at the 1st workshop on Synergy of Scientific and Machine Learning Modeling, SynS & ML at ICML, Honolulu, Hawaii, USA. July, 2023. Copyright 2023 by the author(s)."

For those using the LATEX style file, this change (and others) is handled automatically by simply changing \usepackage{synsml2023} to

```
\usepackage[accepted]{synsml2023}
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Authors using **Word** must edit the footnote on the first page of the document themselves.

Camera-ready copies should have the title of the paper as running head on each page except the first one. The running title consists of a single line centered above a horizontal rule which is 1 point thick. The running head should be centered, bold and in 9 point type. The rule should be 10 points

above the main text. For those using the LATEX style file, the original title is automatically set as running head using the fancyhdr package which is included in the Syns & ML 2023 style file package. In case that the original title exceeds the size restrictions, a shorter form can be supplied by using

just before \begin{document}. Authors using **Word** must edit the header of the document themselves.

#### 2. Format of the Paper

All submissions must follow the specified format.

#### 2.1. Dimensions

The text of the paper should be formatted in two columns, with an overall width of 6.75 inches, height of 9.0 inches, and 0.25 inches between the columns. The left margin should be 0.75 inches and the top margin 1.0 inch (2.54 cm). The right and bottom margins will depend on whether you print on US letter or A4 paper, but all final versions must be produced for US letter size. Do not write anything on the margins.

The paper body should be set in 10 point type with a vertical spacing of 11 points. Please use Times typeface throughout the text.

#### **2.2.** Title

The paper title should be set in 14 point bold type and centered between two horizontal rules that are 1 point thick, with 1.0 inch between the top rule and the top edge of the page. Capitalize the first letter of content words and put the rest of the title in lower case.

#### 2.3. Author Information for Submission

SynS & ML uses double-blind review in the paper submission track, so author information must not appear. If you are using LATEX and the synsml2023.sty file, use \synsmlauthor{...} to specify authors and \synsmlaffiliation{...} to specify affiliations. (Read the TeX code used to produce this document for an example usage.) The author information will not be printed unless accepted is passed as an argument to the style file. Submissions that include the author information will not be reviewed.

#### 2.3.1. Self-Citations

If you are citing published papers for which you are an author, refer to yourself in the third person. In particular, do not use phrases that reveal your identity (e.g., "in previous

work (Langley, 2000), we have shown ...").

Do not anonymize citations in the reference section. The only exception are manuscripts that are not yet published (e.g., under submission).

#### 2.3.2. CAMERA-READY AUTHOR INFORMATION

If a paper is accepted, a final camera-ready copy must be prepared. For camera-ready papers, author information should start 0.3 inches below the bottom rule surrounding the title. The authors' names should appear in 10 point bold type, in a row, separated by white space, and centered. Author names should not be broken across lines. Unbolded superscripted numbers, starting 1, should be used to refer to affiliations.

Affiliations should be numbered in the order of appearance. A single footnote block of text should be used to list all the affiliations. (Academic affiliations should list Department, University, City, State/Region, Country. Similarly for industrial affiliations.)

Each distinct affiliations should be listed once. If an author has multiple affiliations, multiple superscripts should be placed after the name, separated by thin spaces. If the authors would like to highlight equal contribution by multiple first authors, those authors should have an asterisk placed after their name in superscript, and the term "\*Equal contribution" should be placed in the footnote block ahead of the list of affiliations. A list of corresponding authors and their emails (in the format Full Name <email@domain.com>) can follow the list of affiliations. Ideally only one or two names should be listed.

A sample file with author names is included in the Syns & ML at ICML2023 style file package. Turn on the [accepted] option to the stylefile to see the names rendered. All of the guidelines above are implemented by the LATEX style file.

#### 2.4. Abstract

The paper abstract should begin in the left column, 0.4 inches below the final address. The heading 'Abstract' should be centered, bold, and in 11 point type. The abstract body should use 10 point type, with a vertical spacing of 11 points, and should be indented 0.25 inches more than normal on left-hand and right-hand margins. Insert 0.4 inches of blank space after the body. Keep your abstract brief and self-contained, limiting it to one paragraph and roughly 4–6 sentences. Gross violations will require correction at the camera-ready phase.

#### 2.5. Partitioning the Text

You should organize your paper into sections and paragraphs to help readers place a structure on the material and understand its contributions.

#### 2.5.1. SECTIONS AND SUBSECTIONS

Section headings should be numbered, flush left, and set in 11 pt bold type with the content words capitalized. Leave 0.25 inches of space before the heading and 0.15 inches after the heading.

Similarly, subsection headings should be numbered, flush left, and set in 10 pt bold type with the content words capitalized. Leave 0.2 inches of space before the heading and 0.13 inches afterward.

Finally, subsubsection headings should be numbered, flush left, and set in 10 pt small caps with the content words capitalized. Leave 0.18 inches of space before the heading and 0.1 inches after the heading.

Please use no more than three levels of headings.

#### 2.5.2. PARAGRAPHS AND FOOTNOTES

Within each section or subsection, you should further partition the paper into paragraphs. Do not indent the first line of a given paragraph, but insert a blank line between succeeding ones.

You can use footnotes<sup>1</sup> to provide readers with additional information about a topic without interrupting the flow of the paper. Indicate footnotes with a number in the text where the point is most relevant. Place the footnote in 9 point type at the bottom of the column in which it appears. Precede the first footnote in a column with a horizontal rule of 0.8 inches.<sup>2</sup>

Figure 1. Historical locations and number of accepted papers for International Machine Learning Conferences (ICML 1993 – ICML 2008) and International Workshops on Machine Learning (ML 1988 – ML 1992). At the time this figure was produced, the number of accepted papers for ICML 2008 was unknown and instead estimated.

#### 2.6. Figures

You may want to include figures in the paper to illustrate your approach and results. Such artwork should be centered, legible, and separated from the text. Lines should be dark

<sup>&</sup>lt;sup>1</sup>Footnotes should be complete sentences.

<sup>&</sup>lt;sup>2</sup>Multiple footnotes can appear in each column, in the same order as they appear in the text, but spread them across columns and pages if possible.

```
Algorithm 1 Bubble Sort

Input: data x_i, size m
repeat

Initialize noChange = true.

for i = 1 to m - 1 do

if x_i > x_{i+1} then

Swap x_i and x_{i+1}

noChange = false
end if
end for
until noChange is true
```

and at least 0.5 points thick for purposes of reproduction, and text should not appear on a gray background.

Label all distinct components of each figure. If the figure takes the form of a graph, then give a name for each axis and include a legend that briefly describes each curve. Do not include a title inside the figure; instead, the caption should serve this function.

Number figures sequentially, placing the figure number and caption *after* the graphics, with at least 0.1 inches of space before the caption and 0.1 inches after it, as in Figure 1. The figure caption should be set in 9 point type and centered unless it runs two or more lines, in which case it should be flush left. You may float figures to the top or bottom of a column, and you may set wide figures across both columns (use the environment figure\* in LATEX). Always place two-column figures at the top or bottom of the page.

#### 2.7. Algorithms

If you are using LaTeX, please use the "algorithm" and "algorithmic" environments to format pseudocode. These require the corresponding stylefiles, algorithm.sty and algorithmic.sty, which are supplied with this package. Algorithm 1 shows an example.

#### 2.8. Tables

You may also want to include tables that summarize material. Like figures, these should be centered, legible, and numbered consecutively. However, place the title *above* the table with at least 0.1 inches of space before the title and the same after it, as in Table 1. The table title should be set in 9 point type and centered unless it runs two or more lines, in which case it should be flush left.

Tables contain textual material, whereas figures contain graphical material. Specify the contents of each row and column in the table's topmost row. Again, you may float tables to a column's top or bottom, and set wide tables across both columns. Place two-column tables at the top or bottom of the page.

*Table 1.* Classification accuracies for naive Bayes and flexible Bayes on various data sets.

Data set	Naive	FLEXIBLE	BETTER?
BREAST	$95.9 \pm 0.2$	$96.7 \pm 0.2$	$\sqrt{}$
CLEVELAND	$83.3 \pm 0.6$	$80.0 \pm 0.6$	×
GLASS2	$61.9 \pm 1.4$	$83.8 \pm 0.7$	$\checkmark$
CREDIT	$74.8 \pm 0.5$	$78.3 \pm 0.6$	
HORSE	$73.3 \pm 0.9$	$69.7 \pm 1.0$	×
META	$67.1 \pm 0.6$	$76.5 \pm 0.5$	$\checkmark$
PIMA	$75.1 \pm 0.6$	$73.9 \pm 0.5$	_
VEHICLE	$44.9 \pm 0.6$	$61.5 \pm 0.4$	$\checkmark$

#### 2.9. Theorems and such

The preferred way is to number definitions, propositions, lemmas, etc. consecutively, within sections, as shown below.

**Definition 2.1.** A function  $f: X \to Y$  is injective if for any  $x, y \in X$  different,  $f(x) \neq f(y)$ .

Using Definition 2.1 we immediate get the following result:

**Proposition 2.2.** If f is injective mapping a set X to another set Y, the cardinality of Y is at least as large as that of X

*Proof.* Left as an exercise to the reader.  $\Box$ 

Lemma 2.3 stated next will prove to be useful.

**Lemma 2.3.** For any  $f: X \to Y$  and  $g: Y \to Z$  injective functions,  $f \circ g$  is injective.

**Theorem 2.4.** If  $f: X \to Y$  is bijective, the cardinality of X and Y are the same.

An easy corollary of Theorem 2.4 is the following:

**Corollary 2.5.** If  $f: X \to Y$  is bijective, the cardinality of X is at least as large as that of Y.

**Assumption 2.6.** The set X is finite.

*Remark* 2.7. According to some, it is only the finite case (cf. Assumption 2.6) that is interesting.

#### 2.10. Citations and References

Please use APA reference format regardless of your formatter or word processor. If you rely on the LATEX bibliographic facility, use natbib.sty and synsml2023.bst included in the style-file package to obtain this format.

Citations within the text should include the authors' last names and year. If the authors' names are included in the sentence, place only the year in parentheses, for example when referencing Arthur Samuel's pioneering work (1959). Otherwise place the entire reference in parentheses with the

authors and year separated by a comma (Samuel, 1959). List multiple references separated by semicolons (Kearns, 1989; Samuel, 1959; Mitchell, 1980). Use the 'et al.' construct only for citations with three or more authors or after listing all authors to a publication in an earlier reference (Michalski et al., 1983).

Authors should cite their own work in the third person in the initial version of their paper submitted for blind review. Please refer to Section 2.3 for detailed instructions on how to cite your own papers.

Use an unnumbered first-level section heading for the references, and use a hanging indent style, with the first line of the reference flush against the left margin and subsequent lines indented by 10 points. The references at the end of this document give examples for journal articles (Samuel, 1959), conference publications (Langley, 2000), book chapters (Newell & Rosenbloom, 1981), books (Duda et al., 2000), edited volumes (Michalski et al., 1983), technical reports (Mitchell, 1980), and dissertations (Kearns, 1989).

Alphabetize references by the surnames of the first authors, with single author entries preceding multiple author entries. Order references for the same authors by year of publication, with the earliest first. Make sure that each reference includes all relevant information (e.g., page numbers).

Please put some effort into making references complete, presentable, and consistent, e.g. use the actual current name of authors. If using bibtex, please protect capital letters of names and abbreviations in titles, for example, use {B}ayesian or {L}ipschitz in your .bib file.

#### Accessibility

Authors are kindly asked to make their submissions as accessible as possible for everyone including people with disabilities and sensory or neurological differences. Tips of how to achieve this and what to pay attention to will be provided on the conference website http://icml.cc/.

#### **Software and Data**

If a paper is accepted, we strongly encourage the publication of software and data with the camera-ready version of the paper whenever appropriate. This can be done by including a URL in the camera-ready copy. However, **do not** include URLs that reveal your institution or identity in your submission for review. Instead, provide an anonymous URL or upload the material as "Supplementary Material" into the reviewing system. Note that reviewers are not required to look at this material when writing their review.

#### **Broader impact**

**Broader impact statement is mandatory**; the authors are required to include a short statement (approximately one paragraph) about the potential broader impact of their work, including any ethical aspects and future societal consequences, which may be positive or negative. The broader impact statement should come after the main paper content. The impact statement does not count towards the page limit.

#### Acknowledgements

**Do not** include acknowledgements in the initial version of the paper submitted for blind review.

If a paper is accepted, the final camera-ready version can (and probably should) include acknowledgements. In this case, please place such acknowledgements in an unnumbered section at the end of the paper. Typically, this will include thanks to reviewers who gave useful comments, to colleagues who contributed to the ideas, and to funding agencies and corporate sponsors that provided financial support.

#### References

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# A. You can have an appendix here.

You can have as much text here as you want. The main body must be at most 4 pages long. For the final version, one more page can be added. If you want, you can use an appendix like this one, even using the one-column format.