

Paper Instructions and Template for INTERSPEECH 2023

Anonymous submission to INTERSPEECH 2023

Abstract

Manuscripts submitted to INTERSPEECH 2023 must use this document as both an instruction set and as a template. Do not use a past paper as a template. Always start from a fresh copy, and read it all before replacing the content with your own.

Before submitting, check that your manuscript conforms to this template. If it does not, it may be rejected. Do not be tempted to adjust the format! Instead, edit your content to fit the allowed space. The maximum number of manuscript pages is 5. The 5th page is reserved exclusively for references, which may begin on an earlier page if there is space.

The abstract is limited to 1000 characters. The one in your manuscript and the one entered in the submission form must be identical. Avoid non-ASCII characters, symbols, maths, italics, etc as they may not display correctly in the abstract book. Do not use citations in the abstract: the abstract booklet will not include a bibliography. Index terms appear immediately below the abstract.

Index Terms: speech recognition, human-computer interaction, computational paralinguistics

1. Introduction

Templates are provided on the conference website for Microsoft Word®, and L^AT_EX. We strongly recommend L^AT_EX which can be used conveniently in a web browser on overleaf.com where this template is available in the Template Gallery.

1.1. General advice

Authors are encouraged to describe how their work relates to prior work by themselves and by others, and to make clear statements about the novelty of their work. This may require careful wording in the version submitted for review (guidance in Section 1.2). All submissions must be compliant with the ISCA Code of Ethics for Authors, the Pre-prints Policy, and the Conference Policy. These can be found on the conference website.

1.1.1. Conference theme

The theme of INTERSPEECH 2023 is Inclusive Spoken Language Science and Technology – Breaking Down Barriers. Whilst it is not a requirement to address this theme, INTERSPEECH 2023 encourages submissions that: report performance metric distributions in addition to averages; break down results by demographic; employ diverse data; evaluate with diverse target users; report barriers that could prevent other researchers adopting a technique, or users from benefitting. This is not an exhaustive list, and authors are encouraged to discuss the implications of the conference theme for their own work.

1.1.2. Reproducible research

Authors may wish to describe whether their work could be reproduced by others. The following checklist will be part of the submission form, and is intended to encourage authors to think about reproducibility, noting that not every point will be applicable to all work.

1. Reproducibility for all papers
 - The paper clearly states what claims are being investigated.
 - The main claims made in the abstract and introduction accurately reflect the paper’s contributions and scope.
 - The limitations of your work are described.
 - All assumptions made in your work are stated in the paper.
2. Data sets - for all data sets used, the paper includes information about the following:
 - Relevant details such as languages, number of examples and label distributions.
 - Details of train/validation (development)/test splits.
 - Explanation of all pre-processing steps, including any data that was excluded.
 - Reference(s) to all data set(s) drawn from the existing literature.
 - For new data collected, a complete description of the data collection process, such as subjects, instructions to annotators and methods for quality control.
 - Whether ethics approval was necessary for the data.
3. Non-public data sets
 - We use non-public data sets (if no or n/a ignore remaining questions in this section).
 - We will release a copy of the data set in connection with the final paper.
 - We are unable to release a copy of the data set due to the licence restrictions but have included full details to enable comparison to similar data sets and tasks.
 - If only non-public data set is used, we have discussed why in the paper.
4. For all experiments with hyperparameter search - you have included
 - The exact number of training and evaluation runs, and how the models were initialised in each case.
 - Bounds for each hyperparameter.
 - Hyperparameter configurations for best-performing models.
 - The method of choosing hyper parameter values and the criterion used to select among them.

- Summary statistics of the results (e.g. mean, variance, error bars etc)

5. Reported experimental results - your paper includes:

- A clear description of the mathematical formula(e), algorithm and/or model.
- Description of the computing infrastructure used.
- The average runtime for each model or algorithm (e.g. training, inference etc) or estimated energy cost.
- Number of parameters in each model.
- Explanation of evaluation metrics used.
- For publicly available software, the corresponding version numbers and links and/or references to the software.

6. Non-public source code

- We use non-public source code for experiments reports in this paper (if no or n/a ignore the remaining questions in this section).
- All source code required for conducting experiments will be made publicly available upon publication of the paper with a license that allows free usage for research purposes.
- We are unable to release a copy of the source code due to licence restrictions but have included sufficient detail for our work to be reproduced.

1.2. Double-blind review

INTERSPEECH 2023 is the first conference in this series to use double-blind review, so please pay special attention to this requirement.

1.2.1. Version submitted for review

The manuscript submitted for review must not include any information that might reveal the authors' identities or affiliations. This also applies to the metadata in the submitted PDF file (guidance in Section 4.1.2), uploaded multimedia, online material (guidance in Section 4.2), and references to pre-prints (guidance in Section 1.2.3).

Take particular care to cite your own work in a way that does not reveal that you are also the author of that work. For example, do not use constructions like “In previous work [23], we showed that ...” but instead use something like “Jones et al. [23] showed that ...”.

Authors who reveal their identity may be asked to provide a replacement manuscript. Papers for which a suitable replacement is not provided in a timely manner may be withdrawn.

Note that the full list of authors must still be provided in the online submission system, since this is necessary for detecting conflicts of interest.

1.2.2. Camera-ready version

Authors should include names and affiliations in the final version of the manuscript, for publication. \LaTeX users can do this simply by uncommenting `\interspeechcameraready`. The maximum number of authors in the author list is 20. If the number of contributing authors is more than this, they should be listed in a footnote or the Acknowledgements section. Include the country as part of each affiliation. Do not use company logos anywhere in the manuscript, including in affiliations and Acknowledgements. After acceptance, authors may of course reveal their identity in other ways, including: adjusting the wording around self-citations; adding further acknowl-

edgements; updating multimedia and online material.

1.2.3. Pre-prints

Authors should comply with the policy on pre-prints, which can be found on the conference website. Note that this policy applies not only to pre-prints (e.g., on arXiv) but also to other material being placed in the public domain that overlaps with the content of a submitted manuscript, such as blog posts.

Do not make any reference to pre-print(s) – including extended versions – of your submitted manuscript. Note that ISCA has a general policy regarding referencing publications that have not been peer-reviewed (Section 2.5.1).

2. Related work

2.1. Layout

Authors should observe the following specification for page layout by using the provided template. Do not modify the template layout! Do not reduce the line spacing!

2.1.1. Page layout

- Paper size must be DIN A4.
- Two columns are used except for the title section and for large figures that may need a full page width.
- Left and right margin are 20 mm each.
- Column width is 80 mm.
- Spacing between columns is 10 mm.
- Top margin is 25 mm (except for the first page which is 30 mm to the title top).
- Bottom margin is 35 mm.
- Text height (without headers and footers) is maximum 235 mm.
- Page headers and footers must be left empty.
- No page numbers.
- Check indentations and spacing by comparing to the example PDF file.

2.1.2. Section headings

Section headings are centred in boldface with the first word capitalised and the rest of the heading in lower case. Sub-headings appear like major headings, except they start at the left margin in the column. Sub-sub-headings appear like sub-headings, except they are in italics and not boldface. See the examples in this file. No more than 3 levels of headings should be used.

2.1.3. Fonts

Times or Times Roman font is used for the main text. Font size in the main text must be 9 points, and in the References section 8 points. Other font types may be used if needed for special purposes. \LaTeX users should use Adobe Type 1 fonts such as Times or Times Roman, which is done automatically by the provided \LaTeX class. Do not use Type 3 (bitmap) fonts. Phonetic transcriptions should be placed between forward slashes and phonetic transcriptions between square brackets, for example `/lɔːænd ɔːdʒ/` vs. `[lɔːrɛnɔːdʒ]`, and authors are encouraged to use the terms ‘phoneme’ and ‘phone’ correctly [1].

2.1.4. Hyperlinks

For technical reasons, the proceedings editor will strip all active links from the papers during processing. URLs can be included in your paper, if written in full, e.g., <https://www.interspeech2023.org/call-for-papers>. The text must be all black. Please make sure that they are legible when printed on paper.

2.2. Figures

Figures must be centred in the column or page. Figures which span 2 columns must be placed at the top or bottom of a page. Captions should follow each figure and have the format used in Figure 1. Diagrams should be preferably be vector graphics. Figures must be legible when printed in monochrome on DIN A4 paper; a minimum font size of 8 points for all text within figures is recommended. Diagrams must not use stipple fill patterns because they will not reproduce properly in Adobe PDF. Please use only solid fill colours in diagrams and graphs. All content should be viewable by individuals with colour vision deficiency (e.g., red-green colour blind) which can be achieved by using a suitable palette such one from <https://colorbrewer2.org> with the ‘colorblind safe’ and ‘print friendly’ options selected.

2.3. Tables

An example of a table is shown in Table 1. The caption text must be above the table. Tables must be legible when printed in monochrome on DIN A4 paper; a minimum font size of 8 points is recommended.

Table 1: *This is an example of a table*

Ratio	Decibels
1/10	-20
1/1	0
2/1	≈ 6
3.16/1	10
10/1	20
100/1	40
1000/1	60

2.4. Equations

Equations should be placed on separate lines and numbered. We define

$$\begin{aligned} x(t) &= s(t') \\ &= s(f_\omega(t)) \end{aligned} \quad (1)$$

where $f_\omega(t)$ is a special warping function. Equation 2 is a little more complicated.

$$f_\omega(t) = \frac{1}{2\pi j} \oint_C \frac{\nu^{-1k} d\nu}{(1 - \beta\nu^{-1})(\nu^{-1} - \beta)} \quad (2)$$

2.5. Style

Manuscripts must be written in English. Either US or UK spelling is acceptable (but do not mix them).

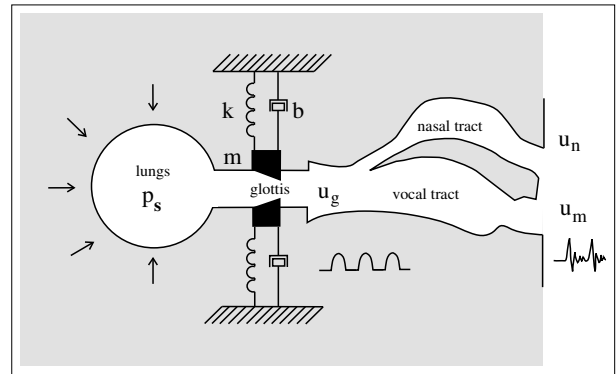


Figure 1: *Schematic diagram of speech production.*

2.5.1. References

It is ISCA policy that papers submitted to INTERSPEECH should refer to peer-reviewed publications. References to non-peer-reviewed publications (including public repositories such as arXiv, Preprints, and HAL, software, and personal communications) should only be made if there is no peer-reviewed publication available, should be kept to a minimum, and should appear as footnotes in the text (i.e., not listed in the References).

References should be in standard IEEE format, numbered in order of appearance, for example [2] is cited before [3]. For longer works such as books, provide a single entry for the complete work in the References, then cite specific pages [4, pp. 417–422] or a chapter [4, Chapter 2]. Multiple references may be cited in a list [5, 6].

2.5.2. International System of Units (SI)

Use SI units, correctly formatted with a non-breaking space between the quantity and the unit. In \LaTeX this is best achieved using the `siunitx` package (which is already included by the provided \LaTeX class). This will produce 25 ms, 44.1 kHz and so on.

Table 2: *Main predefined styles in Word*

Style Name	Entities in a Paper
Title	Title
Author	Author name
Affiliation	Author affiliation
Email	Email address
AbstractHeading	Abstract section heading
Body Text	First paragraph in abstract
Body Text Next	Following paragraphs in abstract
Index	Index terms
1. Heading 1	1 st level section heading
1.1 Heading 2	2 nd level section heading
1.1.1 Heading 3	3 rd level section heading
Body Text	First paragraph in section
Body Text Next	Following paragraphs in section
Figure Caption	Figure caption
Table Caption	Table caption
Equation	Equations
• List Bullet	Bulleted lists
[1] Reference	References

3. Specific information for Microsoft Word

For ease of formatting, please use the styles listed in Table 2. The styles are defined in the Word version of this template and are shown in the order in which they would be used when writing a paper. When the heading styles in Table 2 are used, section numbers are no longer required to be typed in because they will be automatically numbered by Word. Similarly, reference items will be automatically numbered by Word when the “Reference” style is used.

If your Word document contains equations, you must not save your Word document from “.docx” to “.doc” because this will convert all equations to images of unacceptably low resolution.

4. Results

Information on how and when to submit your paper is provided on the conference website.

4.1. Manuscript

Authors are required to submit a single PDF file of each manuscript. The PDF file should comply with the following requirements: (a) no password protection; (b) all fonts must be embedded; (c) text searchable (do ctrl-F and try to find a common word such as “the”). The conference organisers may contact authors of non-complying files to obtain a replacement. Papers for which an acceptable replacement is not provided in a timely manner will be withdrawn.

4.1.1. Embed all fonts

It is *very important* that the PDF file embeds all fonts! PDF files created using L^AT_EX, including on overleaf.com, will generally embed all fonts from the body text. However, it is possible that included figures (especially those in PDF or PS format) may use additional fonts that are not embedded, depending how they were created.

On Windows, the bullzip printer can convert any PDF to have embedded and subsetting fonts. On Linux & MacOS, converting to and from Postscript will embed all fonts:

```
pdf2ps file.pdf
ps2pdf -dPDFSETTINGS=/prepress file.ps file.pdf
```

4.1.2. Sanitise PDF metadata

Check that author identity is not revealed in the PDF metadata. The provided L^AT_EX class ensures this. Metadata can be inspected using a PDF viewer.

4.2. Optional multimedia files or links to online material

4.2.1. Submitting material for inclusion in the proceedings

INTERSPEECH offers the option of submitting multimedia files. These files are meant for audio-visual illustrations that cannot be conveyed in text, tables and graphs. Just as with figures used in your manuscript, make sure that you have sufficient author rights to all other materials that you submit for publication. The proceedings will NOT contain readers or players, so be sure to use widely accepted formats, such as MPEG, WAVE PCM (.wav), and standard codecs.

Your multimedia files must be submitted in a single ZIP file for each separate paper. Within the ZIP file you can use folders to organise the files. In the ZIP file you should include

a README.txt or index.html file to describe the content. In the manuscript, refer to a multimedia illustration by filename. Use short file names with no spaces.

The ZIP file you submit will be included as-is in the proceedings media and will be linked to your paper in the navigation interface of the proceedings. The organisers will not check that the contents of your ZIP file work.

Users of the proceedings who wish to access your multimedia files will click the link to the ZIP file which will then be opened by the operating system of their computer. Access to the contents of the ZIP file will be governed entirely by the operating system of the user’s computer.

4.2.2. Online resources such as web sites, blog posts, code, and data

It is common to provide links in manuscripts to web sites (e.g., as an alternative to including a multimedia ZIP file in the proceedings), code repositories, data sets, or other online resources. Provision of such materials is generally encouraged; however, they should not be used to circumvent the limit on manuscript length.

Authors must take particular care not to reveal their identity during the reviewing period. If a link to a particular resource is included in the version of the manuscript submitted for review, authors should attempt to provide an anonymised version of that resource for the purposes of review. If this is not possible, and a linked resource will inevitably reveal author identity, then authors should provide a warning to the reviewers, e.g., by linking to a special landing page that states ‘Clicking this link will reveal author identities’.

Online resources should comply with the policy on pre-prints, which can be found on the conference web site.

5. Discussion

Authors must proofread their PDF file prior to submission, to ensure it is correct. Do not rely on proofreading the L^AT_EX source or Word document. **Please proofread the PDF file before it is submitted.**

6. Conclusions

Nunc sed pede. Praesent vitae lectus. Praesent neque justo, vehicula eget, interdum id, facilisis et, nibh. Phasellus at purus et libero lacinia dictum. Fusce aliquet. Nulla eu ante placerat leo semper dictum. Mauris metus. Curabitur lobortis. Curabitur sollicitudin hendrerit nunc. Donec ultrices lacus id ipsum.

7. Acknowledgements

The authors would like to thank ISCA and the organising committees of past INTERSPEECH conferences for their help and for kindly providing the previous version of this template.

As a final reminder, the 5th page is reserved exclusively for references. No other content must appear on the 5th page. Appendices, if any, must be within the first 4 pages. The references may start on an earlier page, if there is space.

8. References

- [1] R. K. Moore and L. Skidmore, “On the use/misuse of the term ‘Phoneme,’” in *Proc. INTERSPEECH 2019 – 20th Annual Conference of the International Speech Communication Association*, Graz, Austria, Sep. 2019, pp. 2340–2344.

- [2] S. B. Davis and P. Mermelstein, "Comparison of parametric representations for monosyllabic word recognition in continuously spoken sentences," *IEEE Transactions on Acoustics, Speech and Signal Processing*, vol. 28, no. 4, pp. 357–366, Aug. 1980.
- [3] L. R. Rabiner, "A tutorial on hidden Markov models and selected applications in speech recognition," *Proceedings of the IEEE*, vol. 77, no. 2, pp. 257–286, Feb. 1989.
- [4] T. Hastie, R. Tibshirani, and J. Friedman, *The Elements of Statistical Learning – Data Mining, Inference, and Prediction*. New York: Springer, 2009.
- [5] J. Smith, F. Lastname2, and F. Lastname3, "A really good paper about Dynamic Time Warping," in *Proc. INTERSPEECH 2022 – 23rd Annual Conference of the International Speech Communication Association*, Incheon, Korea, Sep. 2022, pp. 100–104.
- [6] R. Jones, F. Lastname2, and F. Lastname3, "An excellent paper introducing the ABC toolkit," in *Proc. INTERSPEECH 2022 – 23rd Annual Conference of the International Speech Communication Association*, Incheon, Korea, Sep. 2022, pp. 105–109.