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# **Unitary Entity Representations for Knowledge Base Completion**

# **Anonymous EMNLP submission**

#### **Abstract**

This document contains instructions for preparing EMNLP 2017 submissions and camera-ready manuscripts. The document itself conforms to its own specifications, and is therefore an example of what your manuscript should look like. Papers are required to conform to all the directions reported in this document. By using the provided LATEX and BIBTEX styles (emnlp2017.sty, emnlp2017.bst), the required formatting will be enabled by default.

# 1 Introduction

The following instructions are directed to authors of papers submitted to and accepted for publication in the EMNLP 2017 proceedings. All authors are required to adhere to these specifications. Authors are required to provide a Portable Document Format (PDF) version of their papers. The proceedings are designed for printing on A4 paper. Authors from countries where access to word-processing systems is limited should contact the publication chairs as soon as possible. Grayscale readability of all figures and graphics will be encouraged for all accepted papers (Section 2.9).

Submitted and camera-ready formatting is similar, however, the submitted paper should have:

- 1. Author-identifying information removed
- 2. A 'ruler' on the left and right margins
- 3. Page numbers
- 4. A confidentiality header.

In contrast, the camera-ready **should not have** a ruler, page numbers, nor a confidentiality header. By uncommenting \makebox{emnlpfinalcopy} at the top of

the LATEX source of this document, it will compile to produce a PDF document in the camera-ready formatting; by leaving it commented out, the resulting PDF document will be anonymized for initial submission. Authors should place this command after the \usepackage declarations when preparing their camera-ready manuscript with the EMNLP 2017 style.

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### 2 General Instructions

Manuscripts must be in two-column format. Exceptions to the two-column format include the title, as well as the authors' names and complete addresses (only in the final version, not in the version submitted for review), which must be centered at the top of the first page (see the guidelines in Subsection 2.5), and any full-width figures or tables. Type single-spaced. Start all pages directly under the top margin. See the guidelines later regarding formatting the first page. Also see Section 3 for the page limits. Do not number the pages in the camera-ready version.

By uncommenting \emnlpfinalcopy at the top of this document, it will compile to produce an example of the camera-ready formatting; by leaving it commented out, the document will be anonymized for initial submission. When you first create your submission on softconf, please fill in your submitted paper ID where \*\*\* appears in the \def\emnlppaperid{\*\*\*} definition at the top.

The review process is double-blind, so do not include any author information (names, addresses) when submitting a paper for review. However, you should maintain space for names and addresses so that they will fit in the final (accepted) version. The EMNLP 2017 LATEX style will create a titlebox space of 2.5in for you when \emplosubstitute{\text{mnlpfinalcopy}} is commented out.

## 2.1 The Ruler

The EMNLP 2017 style defines a printed ruler which should be present in the version submitted for review. The ruler is provided in order that reviewers may comment on particular lines in the paper without circumlocution. If you are preparing a document without the provided style files, please arrange for an equivalent ruler to appear on the final output pages. The presence or absence of the ruler should not change the appearance of any other content on the page. The camera ready copy should not contain a ruler. (LATEX users may uncomment the \emnlpfinalcopy command in the document preamble.)

Reviewers: note that the ruler measurements do not align well with lines in the paper — this turns out to be very difficult to do well when the paper contains many figures and equations, and, when done, looks ugly. In most cases one would expect that the approximate location will be adequate, although you can also use fractional references (*e.g.*, the body of this section begins at mark 112.5).

# 2.2 Electronically-Available Resources

EMNLP provides this description to authors in LATEX2e format and PDF format, along with the LATEX2e style file used to format it (emnlp2017.sty) and an ACL bibliography style (emnlp2017.bst) and example bibliography (emnlp2017.bib). A Microsoft Word template file (emnlp17-word.docx) and example submission pdf (emnlp17-word.pdf) is available at http://emnlp2017.org/downloads/acl17word.zip. We strongly recommend the use of these style files, which have been appropriately tailored for the EMNLP 2017 proceedings. We strongly recommend the use of these style files, which have been appropriately tailored for the EMNLP 2017 proceedings.

### 2.3 Format of Electronic Manuscript

For the production of the electronic manuscript, you must use Adobe's Portable Document Format (PDF). This format can be generated from postscript files: on Unix systems, you can use ps2pdf for this purpose; under Microsoft Windows, you can use Adobe's Distiller, or if you have cygwin installed, you can use dvipdf or ps2pdf. Note that some word processing programs generate PDF that may not include all the necessary fonts (esp. tree diagrams, symbols). When you

print or create the PDF file, there is usually an option in your printer setup to include none, all, or just non-standard fonts. Please make sure that you select the option of including ALL the fonts. Before sending it, test your PDF by printing it from a computer different from the one where it was created. Moreover, some word processors may generate very large postscript/PDF files, where each page is rendered as an image. Such images may reproduce poorly. In this case, try alternative ways to obtain the postscript and/or PDF. One way on some systems is to install a driver for a postscript printer, send your document to the printer specifying "Output to a file", then convert the file to PDF.

For reasons of uniformity, Adobe's **Times Roman** font should be used. In LATEX2e this is accomplished by putting

```
\usepackage{times}
\usepackage{latexsym}
```

in the preamble.

It is of utmost importance to specify the A4 format (21 cm x 29.7 cm) when formatting the paper. When working with dvips, for instance, one should specify -t a4. Or using the command \special {papersize=210mm, 297mm} in the latex preamble (directly below the \usepackage commands). Then using dvipdf and/or pdflatex which would make it easier for some.

Print-outs of the PDF file on A4 paper should be identical to the hardcopy version. If you cannot meet the above requirements about the production of your electronic submission, please contact the publication chairs as soon as possible.

#### 2.4 Layout

Format manuscripts with two columns to a page, following the manner in which these instructions are formatted. The exact dimensions for a page on A4 paper are:

- Left and right margins: 2.5 cm
- Top margin: 2.5 cm
- Bottom margin: 2.5 cm
- Column width: 7.7 cm
- Column height: 24.7 cm
- Gap between columns: 0.6 cm

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Table 1: Example commands for accented characters, to be used in, e.g., BIBTEX names.

Papers should not be submitted on any other paper size. If you cannot meet the above requirements about the production of your electronic submission, please contact the publication chairs above as soon as possible.

# 2.5 The First Page

Center the title, author name(s) and affiliation(s) across both columns (or, in the case of initial submission, space for the names). Do not use footnotes for affiliations. Use the two-column format only when you begin the abstract.

Title: Place the title centered at the top of the first page, in a 15 point bold font. (For a complete guide to font sizes and styles, see Table 2.) Long titles should be typed on two lines without a blank line intervening. Approximately, put the title at 2.5 cm from the top of the page, followed by a blank line, then the author name(s), and the affiliation(s) on the following line. Do not use only initials for given names (middle initials are allowed). Do not format surnames in all capitals (e.g., "Mitchell," not "MITCHELL"). The affiliation should contain the author's complete address, and if possible, an email address. Leave about 7.5 cm between the affiliation and the body of the first page.

**Abstract**: Type the abstract at the beginning of the first column. The width of the abstract text should be smaller than the width of the columns for the text in the body of the paper by about 0.6 cm on each side. Center the word **Abstract** in a 12 point bold font above the body of the abstract. The abstract should be a concise summary of the general thesis and conclusions of the paper. It should be no longer than 200 words. The abstract text should be in 10 point font.

**Text**: Begin typing the main body of the text immediately after the abstract, observing the two-column format as shown in the present document. Do not include page numbers in the camera-ready manuscript.

Indent when starting a new paragraph. For reasons of uniformity, use Adobe's **Times Roman** fonts, with 11 points for text and subsection headings, 12 points for section headings and 15 points for the title. If Times Roman is unavailable, use **Computer Modern Roman** (LATEX2e's default; see section 2.3 above). Note that the latter is about 10% less dense than Adobe's Times Roman font.

#### 2.6 Sections

**Headings**: Type and label section and subsection headings in the style shown on the present document. Use numbered sections (Arabic numerals) in order to facilitate cross references. Number subsections with the section number and the subsection number separated by a dot, in Arabic numerals.

Citations: Citations within the text appear in parentheses as (Gusfield, 1997) or, if the author's name appears in the text itself, as Gusfield (1997). Using the provided LATEX style, the former is accomplished using \cite and the latter with \shortcite or \newcite. Collapse multiple citations as in (Gusfield, 1997; Aho and Ullman, 1972); this is accomplished with the provided style using commas within the \cite command, e.g., \cite{Gusfield:97, Aho:72}. Append lowercase letters to the year in cases of ambiguities. Treat double authors as in (Aho and Ullman, 1972), but write as in (Chandra et al., 1981) when more than two authors are involved.

References: We recommend including references in a separate .bib file, and include an example file in this release (emnlp2017.bib). Some commands for names with accents are provided for convenience in Table 1. References stored in the separate .bib file are inserted into the document using the following commands:

```
\bibliography{emnlp2017}
\bibliographystyle{emnlp2017}
```

References should appear under the heading References at the end of the document, but before any Appendices, unless the appendices contain references. Arrange the references alphabetically by first author, rather than by order of occurrence in the text. Provide as complete a reference list as possible, using a consistent format, such as the one for *Computational Linguistics* or the one in the *Publication Manual of the American Psychological Association* (American Psychological Association, 1983). Authors' full names rather

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Table 2: Font guide.

than initials are preferred. You may use **standard** abbreviations for conferences<sup>1</sup> and journals<sup>2</sup>.

**Appendices**: Appendices, if any, directly follow the text and the references (unless appendices contain references; see above). Letter them in sequence and provide an informative title: **A. Title of Appendix**. However, in a submission for review the appendices should be filed as a separate PDF. For more details, see Section 4.

**Acknowledgments**: A section for acknowledgments to funding agencies, colleagues, collaborators, etc. should go as a last (unnumbered) section immediately before the references. Keep in mind that, during review, anonymization guidelines apply to the contents of this section too.

## 2.7 Footnotes

**Footnotes**: Put footnotes at the bottom of the page. They may be numbered or referred to by asterisks or other symbols.<sup>3</sup> Footnotes should be separated from the text by a line.<sup>4</sup> Footnotes should be in 9 point font.

### 2.8 Graphics

Illustrations: Place figures, tables, and photographs in the paper near where they are first discussed, rather than at the end, if possible. Wide illustrations may run across both columns and should be placed at the top of a page. Color illustrations are discouraged, unless you have verified that they will be understandable when printed in black ink.

**Captions**: Provide a caption for every illustration; number each one sequentially in the form: "**Figure 1**: Figure caption.", "**Table 1**: Table caption."

Type the captions of the figures and tables below the body, using 9 point text. Table and Figure labels should be bold-faced. 

# 2.9 Accessibility

In an effort to accommodate the color-blind (and those printing to paper), grayscale readability of papers is encouraged. Color is not forbidden, but authors should ensure that tables and figures do not rely solely on color to convey critical distinctions.

# 3 Length of Submission

The EMNLP 2017 main conference accepts submissions of long papers and short papers. Long papers may consist of up to eight (8) pages of content, plus unlimited pages for references. Upon acceptance, final versions of long papers will be given one additional page up to nine (9) pages with unlimited pages for references so that reviewers comments can be taken into account. Short papers may consist of up to four (4) pages of content, plus unlimited pages for references. Upon acceptance, short papers will be given five (5) pages in the proceedings and unlimited pages for references.

For both long and short papers, all figures and tables that are part of the main text must be accommodated within these page limits, observing the formatting instructions given in the present document. Supplementary material in the form of appendices does not count towards the page limit.

However, note that supplementary material should be supplementary (rather than central) to the paper, and that reviewers may ignore supplementary material when reviewing the paper (see Appendix A). Papers that do not conform to the specified length and formatting requirements are subject to be rejected without review.

Workshop chairs may have different rules for allowed length and whether supplemental material is welcome. As always, the corresponding call for papers is the authoritative source.

# 4 Supplemental Materials

EMNLP 2017 encourages submitting software and data that is described in the paper as supplementary material. EMNLP 2017 also encourages reporting preprocessing decisions, model parameters, and other details necessary for the exact replication of the experiments described in the pa-

https://en.wikipedia.org/wiki/ List\_of\_computer\_science\_conference\_acronyms

<sup>&</sup>lt;sup>2</sup>http://www.abbreviations.com/jas.php

<sup>&</sup>lt;sup>3</sup>This is how a footnote should appear.

<sup>&</sup>lt;sup>4</sup>Note the line separating the footnotes from the text.

per. Papers may be accompanied by supplementary material, consisting of software, data, pseudocode, detailed proofs or derivations that do not fit into the paper, lists of features or feature templates, parameter specifications, and sample inputs and outputs for a system. Appendices are considered to be supplementary materials, and should be submitted as such.

The paper should be self-contained and not rely on the supplementary material. Reviewers are not asked to review or even download the supplemental material. If the pseudo-code or derivations or model specifications are an important part of the contribution, or if they are important for the reviewers to assess the technical correctness of the work, they should be a part of the main paper, not as appendices.

### 5 Double-Blind Review Process

As the reviewing will be blind, the paper must not include the authors' names and affiliations. Furthermore, self-references that reveal the authors' identity, e.g., "We previously showed (Smith,1991) ..." must be avoided. Instead, use citations such as "Smith previously showed (Smith, 1991) ..." Papers that do not conform to these requirements will be rejected without review. In addition, please do not post your submissions on the web until after the review process is complete (in special cases this is permitted: see the multiple submission policy below).

We will reject without review any papers that do not follow the official style guidelines, anonymity conditions and page limits.

# **6 Multiple Submission Policy**

Papers that have been or will be submitted to other meetings or publications must indicate this at submission time, and must be withdrawn from the other venues if accepted by EMNLP 2017. We will not accept for publication or presentation papers that overlap significantly in content or results with papers that will be (or have been) published elsewhere. Authors submitting more than one paper to EMNLP 2017 must ensure that submissions do not overlap significantly (>25%) with each other in content or results.

Preprint servers such as arXiv.org and workshops that do not have published proceedings are not considered archival for purposes of submission. However, to preserve the spirit of blind review, authors are encouraged to refrain from posting until the completion of the review process. Otherwise, authors must state in the online submission form the name of the workshop or preprint server and title of the non-archival version. The submitted version should be suitably anonymized and not contain references to the prior non-archival version. Reviewers will be told: "The author(s) have notified us that there exists a non-archival previous version of this paper with significantly overlapping text. We have approved submission under these circumstances, but to preserve the spirit of blind review, the current submission does not reference the non-archival version."

# Acknowledgments

Do not number the acknowledgment section.

## References

Alfred V. Aho and Jeffrey D. Ullman. 1972. *The Theory of Parsing, Translation and Compiling*, volume 1. Prentice-Hall, Englewood Cliffs, NJ.

American Psychological Association. 1983. *Publications Manual*. American Psychological Association, Washington, DC.

Ashok K. Chandra, Dexter C. Kozen, and Larry J. Stockmeyer. 1981. Alternation. *Journal of the Association for Computing Machinery* 28(1):114–133. https://doi.org/10.1145/322234.322243.

Dan Gusfield. 1997. *Algorithms on Strings, Trees and Sequences*. Cambridge University Press, Cambridge, UK.