

Formatting Your AAAI Paper Using the L^AT_EX Style Files

AAAI Press

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Abstract

This document provides a very brief overview of the AAAI style file for L^AT_EX 2_ε, as well as some general instructions on using the Times Roman font set. To use this style file, you must already be familiar with L^AT_EX and must read the general formatting instructions supplied in your author kit. This document just gives you some brief instructions on using the `aaai.sty` file. Most common formatting commands are included in this document.

About These Instructions

In the past, this instruction file has contained general formatting instructions for persons preparing their papers for an AAAI proceedings. Those instructions are now available on AAAI's website in PDF format only, and are part of the general author kit distributed to all authors whose papers have been accepted by AAAI for publication in an AAAI conference proceedings. This document only contains specific information of interest to L^AT_EX users.

Warning: If you are not an experienced L^AT_EX user, AAAI does **not** recommend that you use L^AT_EX to format your paper. No support for LaTeX is provided by AAAI, and these instructions and the accompanying style files are **not** guaranteed to work. If the results you obtain are not in accordance with the specifications you received in your packet (or online), you must correct the style files or macro to achieve the correct result. AAAI **cannot** help you with this task. The instructions herein are provided as a general guide for experienced L^AT_EX users who would like to use that software to format their paper for an AAAI Press proceedings or technical report or AAAI working notes. These instructions are generic. Consequently, they do not include specific dates, page charges, and so forth. Please consult your specific written conference instructions for details regarding your submission.

Output

To ready your paper for publication, please read the "Instructions for Authors" paper. This document is available on AAAI's website, and is supplied in your author kit.

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Paper Size

If you are outside the US, the L^AT_EX default paper size has most likely been changed from "letterpaper" to "a4." Because we require that your electronic paper be formatted in US letter size, you will need to change the default back to US letter size. Assuming you are using the 2_ε version of L^AT_EX you can do this by including the `[letterpaper]` option at the beginning of your file:

```
\documentclass[letterpaper]{article}.
```

This command is usually sufficient to change the format for LaTeX. However, it is also usually necessary to configure dvips. Try passing the `-tletter` option to dvips. Those using RedHat Linux 8.0 and LaTeX should also check the paper size setting in `"/usr/share/texmf/dvips/config/config.ps"` — it may be that "A4" is the default, rather than "letter." This can result in incorrect top and bottom margins in documents you prepare with LaTeX. You will need to edit the config file to correct the problem. (Once you've edited to config file for US letter, it may not be possible for you to print your papers locally).

The AAAI Style File

The latest version of the AAAI style file is available on AAAI's website. You should download this file and place it in a file named "`aaai.sty`" in the T_EX search path. Placing it in the same directory as the paper should also work. (We recommend that you download the complete author kit so that you will have the latest bug list and instruction set.

Using the Style File

In the L^AT_EX source for your paper, place the following lines as follows:

```
\documentclass[letterpaper]{article}
\usepackage{aaai}
\usepackage{times}
\usepackage{helvet}
\usepackage{courier}\title{Title}
\author{Author 1 \and Author 2 \and
Address line \and Address line}
\And
Author 3 \and Address line \and Address line}
\begin{document}
\maketitle
...
\end{document}
```

This command set-up is for three authors. Add or subtract author and address lines as necessary. In most instances, this is all you need to do to format your paper in the Times font. The helvet package will cause Helvetica to be used for sans serif, and the courier package will cause Courier to be used for the typewriter font. These files are part of the PSNFSS2e package, which is freely available from many Internet sites (and is often part of a standard installation. If using these commands does not work for you (and you are using L^AT_EX2e), you will need to refer to the fonts information found later on in this document.

Including a Reference List At the end of your paper, you can include your reference list by using the following commands:

```
\bibliography{Bibliography-File}
\bibliographystyle{aaai}
\end{document}
```

Formatting Author Information Author information can be set in a number of different styles, depending on the number of authors and the number of affiliations you need to display. For several authors from the same institution, use \and:

```
\author{Author 1 \and
...
\and Author n \\\
Address line \\\
...
\\ Address line}
```

If the names do not fit well on one line use:

```
\author{Author 1 \\\ {\bf Author 2} \\\
...
\\ {\bf Author n} \\\
Address line \\\
...
\\ Address line}
```

For authors from different institutions, use \And:

```
\author{Author 1 \\\ Address line \\\
...
\\ Address line
\And ... \And
Author n \\\ Address line \\\
...
\\ Address line}
```

To start a separate “row” of authors, use \AND:

```
\author{Author 1 \\\ Address line \\\
...
\\ Address line
\AND
Author 2 \\\ Address line \\\
...
\\ Address line \And
Author 3 \\\ Address line \\\
...
\\ Address line}
```

If the title and author information does not fit in the area allocated, place

```
\setlength\titlebox{\emph{height}}
```

after the \documentclass line where *height* is something like 2.5in.

Adding Acknowledgements To acknowledge other contributors, grant support, or whatever, use \thanks in either the \author or \title commands. For example:

```
\title{Very Important Results in
AI}\thanks{This work is supported by
everybody.}}
```

Multiple \thanks commands can be given. Each will result in a separate footnote indication in the author or title with the corresponding text at the bottom of the first column of the document. For example:

```
\author{A. Researcher\thanks{Now at
Microsoft.} \and B. Researcher\thanks{Not
at Microsoft.}}
```

One common error with \thanks is forgetting to use \protect on what L^AT_EX calls “fragile” commands.

Adding a Publication Note To add a comment to the header of document, use \pubnote, as in \pubnote{\emph{To appear, AI Journal}} This should be placed after the title and author information but before \maketitle. Note that \pubnote is for printing the paper yourself, and should not be used in submitted versions!

Copyright information By default, the AAAI copyright slug will be printed at the bottom of the first column of your document. To suppress the copyright slug, use \nocopyright somewhere before \maketitle. To change the year in the copyright slug from the current year, use \copyrightyear{*year*} To change the entire text of the copyright slug, use \copyrighttext{*text*} Either of these must appear before \maketitle.

Bibliography Style and References

The aaai.sty file includes a set of definitions for use in formatting references with BibTeX. These definitions make the bibliography style closer to the one specified in the “Instructions to Authors” for AAAI papers.

To use these definitions, you also need the BibTeX style file aaai.bst, available from the AAAI web site. Then, at the end of your paper but before \enddocument, you need to put the following lines:

```
\bibliographystyle{aaai}
\bibliography{bibfile1,bibfile2,...}
```

The list of files in the bibliography command should be the names of your BibTeX source files (that is, the .bib files referenced in your paper).

The following commands are available for your use in citing references:

\cite: Cites the given reference(s) with a full citation. This appears as “(Author Year)” for one reference, or “(Author Year; Author Year)” for multiple references.

\shortcite: Cites the given reference(s) with just the year. This appears as “(Year)” for one reference, or “(Year; Year)” for multiple references.

\citeauthor: Cites the given reference(s) with just the author name(s) and no parentheses.

\citeyear: Cites the given reference(s) with just the year(s) and no parentheses.

Copyright

If you were required to transfer copyright of your paper to AAAI, you must include the AAAI copyright notice and web site address on all copies of your paper, whether electronic or paper (including the camera copy you provide to AAAI.) If you use the latest AAAI style file, the copyright line will be inserted for you automatically. (If your paper doesn't include the copyright slug and it should, the paper will be returned to you for reformatting.) If we did not require you to transfer copyright, you may disable the copyright line using the `\nocopyrightcommand`.

Fonts

Papers published in AAAI publications must now be formatted using the Times family of fonts, so that all papers in the proceedings have a uniform appearance. If you've been using Computer Modern, the first advantage you will see to using Times is that the character count is smaller — that means you can put more words on a page!

Type 3 Fonts

You've probably seen PDF files containing type 3 bitmapped fonts on the web (there are files like that on AAAI's web site too). They're often the huge files that open slowly, scroll very slowly, and aren't readable unless they're enlarged many times. Aside from these problems, these files usually contain fonts designed for 300 dpi printers, so they print at 300 dpi even if the printer resolution is 1200 dpi or higher. They also often cause high resolution imagesetter devices to crash and sometimes the PDF indexing software we use can't read them.

Because of these and other problems, as well as for purposes of uniformity, **AAAI will not longer accept electronic files where the text and headings are formatted using obsolete type 3 fonts.** Documents with Type 3 bitmap fonts are not acceptable and will be returned to the authors.

Fortunately, there are effective workarounds that will prevent your file from embedding type 3 bitmapped fonts.

The easiest workaround is to use the times, helvet, and courier packages with L^AT_EX 2_ε. (Note that papers formatted in this way will still use Computer Modern for the mathematics. To make the math look good, you'll either have to use Symbol or Lucida, or you will need to install type 1 Computer Modern fonts—for more on these fonts, see the section "Obtaining Type 1 Computer Modern.")

Making dvips Behave

If your PostScript output still includes type 3 fonts, you should run dvips with option "dvips -Ppdf -G0 -o papername.ps papername.dvi" (If your machine or site has type 1 fonts, they will probably be loaded.) Note that it is a zero folloing the "-G." This tells dvips to use the config.pdf file (and this file refers to a better font mapping). If that doesn't work, you'll have to download the fonts and create a font substitution list.

dvipdf Script Scripts such as dvipdf which ostensibly bypass the Postscript intermediary should not be used since they generally do not instruct dvips to use the config.pdf file.

Pdflatex

Pdflatex is a good alternative solution to the L^AT_EXfont problem. By using the pdftex program instead of straight L^AT_EX or T_EX, you will avoid the type 3 font problem altogether. However, there is a problem with Pdflatex that you might need to overcome. The program often won't embed all fonts. To solve this potential disaster, you must ensure that all of the fonts are embedded (use pdf fonts). If they are not, you need to configure pdftex to use a font map file that specifies that the fonts be embedded. Also you should ensure that images are not downsampled or otherwise compressed in a lossy way.

If fonts aren't getting embedded, users should look at the pdftex mailing list for hints on how to configure pdftex or pdflatex to properly embed the typefaces: <http://tug.org/pipermail/pdftex/2002-July/002803.html>

Ghostscript

LaTeX users using GhsotScript should make sure that they are using v7.04 or newer. The older versions do not create acceptable PDF files on most platforms.

Graphics

If you are still finding Type 3 fonts in your PDF file, look at your graphics! LaTeX users should check all their imported graphics files as well for font problems!

Obtaining Type 1 Computer Modern

If you *must* use Computer Modern for the mathematics in your paper (you can't use it for the text anymore) you will need to download the type 1 Computer fonts. They are available without charge from the American Mathematical Society. Point your browser to the following url to find them: <http://www.ams.org/tex/type1-fonts.html>

Type 1 versions of Computer Modern are also available (for free) from the BaKoMa collection at <http://xxx.lanl.gov/ftp/pub/fonts/x-windows/>

Making A Font Substitution List Once you've installed the type 1 Computer Modern fonts, you'll need to get dvips to refrain from embedding the bitmap fonts. To do this, you'll need to create a font substitution list for use by dvips. Each line of this file should start with the name of the font that TeX uses, as shown below:

```
cmb10 </usr/local/lib/tex/fonts/type1/cmb10.pfb
cmbsy10 </usr/local/lib/tex/fonts/type1/cmbsy10.pfb
cmbsy6 </usr/local/lib/tex/fonts/type1/cmbsy6.pfb
cmbsy7 </usr/local/lib/tex/fonts/type1/cmbsy7.pfb
cmbsy8 </usr/local/lib/tex/fonts/type1/cmbsy8.pfb
cmbsy9 </usr/local/lib/tex/fonts/type1/cmbsy9.pfb
cmbx10 </usr/local/lib/tex/fonts/type1/cmbx10.pfb
cmbx12 </usr/local/lib/tex/fonts/type1/cmbx12.pfb
```

In this example, the assumption is that you have PFB versions of the Computer Modern fonts located in the directory `/usr/local/lib/tex/fonts/type1/`. The file name should be the type 1 encoding of the Postscript font in PFB or PFA format.

If your home directory contains a file called `.dvipsrc` containing the line: `"* p +fontMapFileName"` that font map will

be used by dvips for all the jobs you run. You can also create a file, like "config.embed" that contains that line. If you do that, when you invoke dvips with the command "dvips -P embed ...," dvips will look for config embed in the current directory (and perhaps your home directory). You may need to change how dvips looks for config files. To do this, read the "environment variables" section of the dvips documentation.

If you need more information, or a better and more technical explanation of how to make this all work, Kendall Whitehouse has written detailed instructions on "Creating Quality Adobe PDF Files from TeX with DVIPS." It is available from Adobe's Web Site, and other sites on the Internet (you'll need to do a quick search for it).

Checking For Improper Fonts

Once a PDF has been made, authors should check to ensure that the file contains no Type 3 fonts and further that all fonts have been embedded. This step is hardly ever used by authors, and it would save significant time (and money!) if they would simply take 45 seconds and do this. This can be done with the pdffonts utility that is included in the Xpdf package (<http://www.foolabs.com/xpdf/>). Alternatively, you can use the File–Document Properties–Fonts option in Acrobat Reader; if you chose the latter, you should be sure that no other PDF documents are open at the time.

Citations and References

Be sure to read the "Formatting Instructions for Authors" paper that was included in your author kit (and is available on the AAAI website). L^AT_EX will handle your citations properly unless you change its configuration and use the correct commands. The AAAI style file and the BibTeX files will help you in this regard. George Ferguson's paper shows you the proper commands necessary to implement AAAI citation and reference style.

Illustrations and Figures

Figures, drawings, tables, and photographs should be placed throughout the paper near the place where they are first discussed. Do not group them together at the end of the paper. L^AT_EX will sometimes put portions of the figure or table in the margin. If this happens, you need to scale the figure or table down, because **nothing** (even a line!) is allowed to intrude into the margins.

Electronic Submissions

To aid in the creation of a permanent electronic archive of all its publications and for creation of its publications, AAAI requires electronic submission of your paper in PDF format, as well as its abstract, and author–title information. Please see the Author Formatting Instructions document for additional information.

As a L^AT_EX user, you need to pay attention to the special requirements imposed on you. In particular, although you are required to submit a PDF version of your paper, we may also require that you submit, in a tar, zipped, or stuffed archive, all the source files (including any figures) you used

to create your paper. If we do request this material, please provide us with a **single** source file containing your entire paper, including the bibliography. Also please remove all commented out portions of your paper. We may also request that you send us the figures that accompany your document. Please do not send us material that is not actually used in the paper.

If we ask for this material, it is because nearly all the problems we have with electronic submissions come from persons using L^AT_EX. Many of the problems would be easy to fix if we had all the source files, which is why we may ask you to send them to us. Even if we can't take the time to fix the file, we can usually tell quite quickly what is wrong if we have your source, and give you directions on how you might fix it yourself.

Possible Bugs in the AAAI Style File

Some users have found that the aaai.sty does not work properly at their site. They have submitted suggestions for improvement of the macro. You will find those suggestions in the buglist file that is part of complete set, and also as a separate file on the AAAI website. Some of these suggestions have already been implemented, while others seem to be dependent on individual site conditions. If you're having problems with aaai.sty, we suggest you look at the "bug list." The AAAI style is **not** guaranteed to work. It is provided in the hope that it will make the preparation of papers easier. There are undoubtedly bugs in this style. If you make bug fixes, improvements, etc. please let us know so that we might include them in the buglist.

Inquiries

If you have any general questions about the preparation or submission of your paper, please contact AAAI Press. If you have technical questions about implementation of the macros, please contact an expert at your site. We do not provide technical support for L^AT_EX or any other software package. If you are new to L^AT_EX your paper is fairly straightforward, and doesn't include multilevel equations, you will probably find that you can format it much faster using a word-processing program like Microsoft Word. This is especially true if your paper includes a number of pictures or graphics.

A Note on Printing

Some laser printers have a serious problem printing T_EX output. These printing devices, commonly known as "write-white" laser printers, tend to make characters too light. To get around this problem, a darker set of fonts must be created for these devices.

Acknowledgments

AAAI is especially grateful to Peter Patel Schneider for his work in implementing the aaai.sty file, liberally using the ideas of other style hackers, including Barbara Beeton. We also acknowledge with thanks the work of George Ferguson for his guide to using the style and BibTeX files — which has

been incorporated into this document and comprises almost all the subsection entitled “Using the AAAI Style File,” as well as the many others who have, from time to time, send in suggestions on improvements to the AAAI styles.

The preparation of the L^AT_EX and BibT_EX files that implement these instructions was supported by Schlumberger Palo Alto Research, AT&T Bell Laboratories, Morgan Kaufmann Publishers, and AAAI Press. Bibliography style changes were added by Sunil Issar. \pubnote was added by J. Scott Penberthy. George Ferguson added support for printing the AAAI copyright slug. (Manning, Raghavan, and Schütze 2008)

Thank you for reading these instructions carefully. We look forward to receiving your camera-ready copy!

References

Manning, C. D.; Raghavan, P.; and Schütze, H. 2008. *Introduction to Information Retrieval*. Cambridge University Press, 1st edition.