# **Exploring Repeatability on Mechanical Turk**

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#### Abstract

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## **Formatting Requirements in Brief**

We need source and PDF files that can be used in a variety of ways and can be output on a variety of devices. AAAI imposes some requirements on your source and PDF files that must be followed. Most of these requirements are based on our efforts to standardize conference manuscript properties and layout. These requirements are as follows, and all papers submitted to AAAI for publication must comply:

- All fonts must be embedded in the PDF file.
- No type 3 fonts may be used (even in illustrations).
- Your title must follow US capitalization rules.
- LaTeX documents must use the Times or Nimbus font package (do not use Computer Modern for the text of your paper).
- No LATEX 209 documents may be used or submitted.
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- Two-column format in AAAI style is required for all papers.

- The paper size for final submission must be US letter. No exceptions.
- The source file must exactly match the PDF.
- The document margins must be as specified in the formatting instructions.
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If you do not follow the above requirements, it is likely that we will be unable to publish your paper.

# What Files to Submit

You must submit the following items to ensure that your paper is published:

- A fully-compliant PDF file.
- Your LaTeX source file submitted as a *single* .tex file that *includes* the bibliography formatted using aaai.bib, and any custom macros your paper uses (include them in the preamble). Your source must compile on our system.
- All your graphics files.
- The .aux and .log file for your compiled source.
- All the style files used in your document.

Your LATEX source will be reviewed and recompiled on our system (if it does not compile, you may incur late fees). **Do not submit your source in multiple text files.** Your single LATEX source file must include all your text, your bibliography (formatted using aaai.bst), and any custom macros. Accompanying this source file, you must also supply all your referenced style files and graphics files.

Your files should work without any supporting files (other than the program itself) on any computer. Place your PDF and source files in a single tar, zipped, gzipped, stuffed, or compressed archive. Name your source file with your last (family) name.

Do not send files that are not actually used in the paper. We don't want you to send us any files not needed for compiling your paper, including, for example, this instructions file, unused graphics files, and so forth. A shell script that might help you create the LATEX source package is included in the Author Kit.

# Using LaTeX to Format Your Paper

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

#### **Document Preamble**

In the LaTeX source for your paper, you **must** place the following lines as shown in the example in this subsection. This command set-up is for three authors. Add or subtract author and address lines as necessary, and uncomment the portions that apply to you. 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).

Leave the setcounter for section number depth commented out and set at 0 unless you want to add section numbers to your paper. If you do add section numbers, you must uncomment this line and change the number to 1 (for section numbers), or 2 (for section and subsection numbers). The style file will not work properly with numbering of subsubsections, so do not use a number higher than 2.

To add the required metadata for your paper, uncomment one of the two metadata sections. Metadata will be explained in greater detail in the next subsection.

```
\documentclass[letterpaper]article
% Required Packages
\usepackage{aaai}
\usepackage{times}
\usepackage{helvet}
\usepackage{courier}
%%%%%%%%%%%%%
% PDFMARK for TeX and GhostScript
% Uncomment and complete the following for
% metadata if your paper is typeset using TeX and
% GhostScript (e.g if you use .ps or .eps files in your paper):
% \special{!/pdfmark where
% {pop} {userdict /pdfmark /cleartomark load put} ifelse
% [ /Author (John Doe, Jane Doe)
% /Title (Input Your Paper Title Here)
% /Subject (Input the Proceedings Title Here)
% /Keywords (Input your paper's keywords here)
% /DOCINFO pdfmark
% }
%%%%%%%%%%%%%
% PDFINFO for PDFT<sub>E</sub>X
% Uncomment and complete the following for metadata if
% your paper is typeset using PDFT<sub>E</sub>X
% \pdfinfo{
% /Title (Input Your Paper Title Here)
% /Author (John Doe, Jane Doe)
% /Subject (Input the Proceedings Title Here)
% /Keywords (Input your paper's keywords here)
%%%%%%%%%%%%%%%
% Section Numbers
% Uncomment if you want to use section numbers
% and change the 0 to a 1 or 2
% \operatorname{setcounter} {\operatorname{secnumdepth}} {0}
%%%%%%%%%%%%%
% Title, Author, and Address Information
```

```
\title{Title}
\arrowvert Author 1 \arrowvert Author 2 \
Address line\\
Address line\\
\And
Author 3\\
Address line\\
Address line}
%%%%%%%%%%%%%%
% Body of Paper Begins
\begin{document}
\maketitle
%%%%%%%%%%%%%
% References and End of Paper
\bibliography{Bibliography-File}
\bibliographystyle{aaai}
\end{document}
```

# Inserting Document Metadata with LATEX

PDF files contain document summary information that enables us to create an Acrobat index (pdx) file, and also allows search engines to locate and present your paper more accurately. *Inserting metadata is a requirement of submission*.

If your paper includes illustrations that are not compatible with PDFTeX (such as .eps or .ps documents), you will be using GhostScript to create your PDF. To add metadata to your paper, you should uncomment the *PDFMARK for TeX and GhostScript* section in the preamble shown above.

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

## **Incompatible Packages**

The following packages are incompatible with aaai.sty and/or aaai.bst and must not be used (this list is not exhaustive):

- hyperref
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- geometry
- titlesec
- layout
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Papers must be formatted to print in two-column format on 8.5 x 11 inch US letter-sized paper. The margins must be exactly as follows:

Top margin: .75 inches
Left margin: .75 inches
Right margin: .75 inches
Bottom margin: 1.25 inches

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This command is usually sufficient to change the format. Sometimes, however, it may not work, especially if you use PDFLATEX, and you may need to make some alterations to your source. **Do not use the Geometry package to alter the page size.** Use of this style file alters aaai.sty and will result in your paper being rejected.

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 may need to edit the config file to correct the problem. (Once you've edited to config file for US letter, however, don't forget to change it back — otherwise it may not be possible for you to print your papers locally.)

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If your paper is too long, turn on \frenchspacing, which will reduce the space after periods. Next, alter the linespacing to 11 point and/or shrink the size of your graphics. Use \centering instead of \begin{center} in your

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Do not use type 3 fonts for any portion of your paper, including graphics. Type 3 bitmapped fonts are designed for fixed resolution printers. Most print at 300 dpi even if the printer resolution is 1200 dpi or higher. They also often cause high resolution imagesetter devices and our PDF indexing software to crash. Consequently, AAAI will not accept electronic files containing obsolete type 3 fonts. Files containing those fonts (even in graphics) will be rejected.

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the paragraph begins directly below a heading or subheading.

**Obtaining Type 1 Computer Modern for LATEX.** If you use Computer Modern for the mathematics in your paper (you cannot use it for the text) you may need to download type 1 Computer fonts. They are available without charge from the American Mathematical Society: http://www.ams.org/tex/type1-fonts.html.

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Your title must appear in mixed case (nouns, pronouns, and verbs are capitalized) near the top of the first page, centered over both columns in sixteen-point bold type (twenty-four point leading). This style is called "mixed case." Author's names should appear below the title of the paper, centered in twelve-point type (with fifteen point leading), along with affiliation(s) and complete address(es) (including electronic mail address if available) in nine-point roman type (the twelve point leading). (If the title is long, or you have many authors, you may reduce the specified point sizes by up to two points.) You should begin the two-column format when you come to the abstract.

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

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

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

For authors from different institutions, use \And:

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

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

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## **Page Numbers**

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The main body of the paper must be formatted in ten-point with eleven-point or twelve-point leading (line spacing).

## Citations

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Long quotations and extracts should be indented ten points from the left and right margins.

This is an example of an extract or quotation. Note the indent on both sides. Quotation marks are not necessary if you offset the text in a block like this, and properly identify and cite the quotation in the text.

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Avoid footnotes as much as possible; they interrupt the reading of the text. When essential, they should be consecutively numbered throughout with superscript Arabic numbers. Footnotes should appear at the bottom of the page, separated from the text by a blank line space and a thin, half-point rule.

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**Section Headings.** Sections should be arranged and headed as follows:

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**Appendices.** Any appendices follow the acknowledgments, if included, or after the main body of text if no acknowledgments appear.

**References** The references section should be labeled "References" and should appear at the very end of the paper (don't end the paper with references, and then put a figure by itself on the last page). A sample list of references is given later on in these instructions. Please use a consistent format

for references. Poorly prepared or sloppy references reflect badly on the quality of your paper and your research. Please prepare complete and accurate citations.

## **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. If placed at the top or bottom of the paper, illustrations may run across both columns. Figures must not invade the top, bottom, or side margin areas. Figures must be inserted using your page-formatting software. Number figures sequentially, for example, figure 1, and so on.

The illustration number and caption should appear under the illustration. Leave some space between the figure and the caption and surrounding type; .25 inches should suffice. Captions should be presented in nine-point Times Roman italic. Labels, and other text in illustrations must be at least nine-point type.

**Low-Resolution Bitmaps.** You may not use low-resolution (such as 72 dpi) screen-dumps and GIF files—these files contain so few pixels that they are always blurry, and illegible when printed. If they are color, they will become an indecipherable mess when converted to black and white. This is always the case with gif files, which should never be used. The resolution of screen dumps can be increased by reducing the print size of the original file while retaining the same number of pixels. You can also enlarge files by manipulating them in software such as PhotoShop. Your figures should be a minimum of 266 dpi when incorporated into your document.

LATEX Overflow. LATEX users please beware: LATEX will sometimes put portions of the figure or table or an equation in the margin. If this happens, you need to scale the figure or table down, or reformat the equation. Check your log file! You must fix any overflow into the margin (that means no overfull boxes in LATEX). If you don't, the overflow text will simply be eliminated. Nothing is permitted to intrude into the margins.

**Using Color.** Your paper will be printed in black and white and grayscale. Consequently, because conversion to grayscale can cause undesirable effects (red changes to black, yellow can disappear, and so forth), we strongly suggest you avoid placing color figures in your document. Of course, any reference to color will be indecipherable to your reader.

**Drawings.** We suggest you use computer drawing software (such as Adobe Illustrator or, (if unavoidable), the drawing tools in Microsoft Word) to create your illustrations. Do not use Microsoft Publisher. These illustrations will look best if all line widths are uniform (half- to two-point in size), and you do not create labels over shaded areas. Shading should be 133 lines per inch if possible. Use Times Roman or Helvetica for all figure call-outs. **Do not use hairline width lines** — be sure that the stroke width of all lines is at least .5 pt. Zero point lines will print on a laser

printer, but will completely disappear on the high-resolution devices used by our printers.

**Photographs and Images.** Photographs and other images should be in grayscale (color photographs will not reproduce well; for example, red tones will reproduce as black, yellow may turn to white, and so forth) and set to a minimum of 266 dpi. Do not prescreen images.

#### References

The aaai.sty file includes a set of definitions for use in formatting references with BibTeX. These definitions make the bibliography style fairly close to the one specified below. To use these definitions, you also need the BibTeX style file "aaai.bst," available in the author kit on 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 date(s) and no parentheses.

**Warning:** The aaai.sty file is incompatible with the hyperref and natbib packages. If you use either, your references will be garbled.

Formatted bibliographies should look like the following examples.

Book with Multiple Authors

Engelmore, R., and Morgan, A. eds. 1986. *Blackboard Systems*. Reading, Mass.: Addison-Wesley.

Journal Article

Robinson, A. L. 1980a. New Ways to Make Microcircuits Smaller. *Science* 208: 1019–1026.

Magazine Article

Hasling, D. W.; Clancey, W. J.; and Rennels, G. R. 1983. Strategic Explanations in Consultation. *The International Journal of Man-Machine Studies* 20(1): 3–19.

Proceedings Paper Published by a Society

Clancey, W. J. 1983b. Communication, Simulation, and Intelligent Agents: Implications of Personal Intelligent Machines for Medical Education. In Proceedings of the Eighth International Joint Conference on Artificial Intelligence, 556–560. Menlo Park, Calif.: International Joint Conferences on Artificial Intelligence, Inc.

Proceedings Paper Published by a Press or Publisher Clancey, W. J. 1984. Classification Problem Solving. In Proceedings of the Fourth National Conference on Artificial Intelligence, 49–54. Menlo Park, Calif.: AAAI Press.

University Technical Report

Rice, J. 1986. Poligon: A System for Parallel Problem Solving, Technical Report, KSL-86-19, Dept. of Computer Science, Stanford Univ.

Dissertation or Thesis

Clancey, W. J. 1979b. Transfer of Rule-Based Expertise through a Tutorial Dialogue. Ph.D. diss., Dept. of Computer Science, Stanford Univ., Stanford, Calif.

Forthcoming Publication

Clancey, W. J. 1986a. The Engineering of Qualitative Models. Forthcoming.

# Producing Reliable PDF Documents with LATEX

Generally speaking, PDF files are platform independent and accessible to everyone. When creating a paper for a proceedings or publication in which many PDF documents must be merged and then printed on high-resolution PostScript RIPs, several requirements must be met that are not normally of concern. Thus to ensure that your paper will look like it does when printed on your own machine, you must take several precautions:

- Use type 1 fonts (not type 3 fonts)
- Use only standard Times, Nimbus, and CMR font packages (not fonts like F3 or fonts with tildes in the names or fonts—other than Computer Modern—that are created for specific point sizes, like Times~19) or fonts with strange combinations of numbers and letters
- Embed all fonts when producing the PDF
- Do not use the [T1]fontenc package (install the CM super fonts package instead)

## Traditional LATEX Output

Most authors using traditional LATEX output methods will have success by taking the following three steps in creating their paper (called, in the example, proceedingspaper.tex).

latex proceedingspaper

 $dvips \hbox{-} Ppdf \hbox{-} G0 \hbox{-} tletter proceedingspaper$ 

ps2pdf -dPDFSETTINGS=/printer

- -dCompatibilityLevel=1.4 -dMaxSubsetPct=0
- $\hbox{-dSubsetFonts=} false \hbox{-dEmbedAllFonts=} true$
- -sPAPERSIZE=letter proceedingspaper.ps

Note that the ps2pdf command should be typed all on one line. You can then proceed to distill your PostScript file into a PDF file using GhostScript or Acrobat Distiller.

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 following 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.

## Creating Output Using PDFLATEX

PDFIATEX is a good alternative solution to the LATEX font problem. By using the PDFTEX program instead of straight LATEX or TEX, you will probably avoid the type 3 font problem altogether. PDFLATEX enables you to create a PDF document directly from LATEX source. The one requirement of this software is that all your graphics and images are available in a format that PDFLATEX understands (normally PDF).

PDFLATEX's default is to create documents with type 1 fonts. If you find that it is not doing so in your case, it is likely that one or more fonts are missing from your system or are not in a path that is known to PDFLATEX.

One problem with PDFIATEX, however, is that, by default, it will not embed base 14 fonts. AAAI will embed these fonts for you, but we will not be able to proofread the results. If you are concerned that font substitution may alter your paper in an adverse way (and it can), we recommend that you alter the PDFTEX.cfg configuration file so that the following lines are present and uncommented:

map +bsr.map % CM/AMS fonts

map +bsr-interpolated.map % additional sizes

map +hoekwater.map % additional fonts

The base 14 Nimbus fonts can be embedded by replacing the line *map acrobat-std-adobe-suildin.map* with *map acrobat-std-urw-kb.map*. If this doesn't work, you should look at the PDFTEX mailing list for hints on how to configure PDFTEX or PDFLEX to properly embed the typefaces: http://tug.org/pipermail/PDFTEX/2002-July/002803.html

**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.

**dvipdfm** Do not use this dvi-PDF conversion package if your document contains graphics (and we recommend you avoid it even if your document does not contain graphics).

## **Ghostscript**

LATEX users using GhostScript 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.

# **Proofreading Your PDF**

Please check all the pages of your PDF file. Is the page size A4? Are there any type 3, Identity-H, or CID fonts? Are all the fonts embedded? Are there any areas where equations or figures run into the margins? Did you include all your figures? Did you follow mixed case capitalization rules for your title? Did you include a copyright notice? Do any of

the pages scroll slowly (because the graphics draw slowly on the page)? Are URLs underlined and in color? You will need to fix these common errors before submitting your file.

# **Improperly Formatted Files**

In the past, AAAI has corrected improperly formatted files submitted by the authors. Unfortunately, this has become an increasingly burdensome expense that we can no longer absorb. Consequently, if your file is improperly formatted, it may not be possible to include your paper in the publication. If time allows, however, you will be notified via e-mail (with a copy to the program chair) of the problems with your file and given the option of correcting the file yourself (and paying a late fee) or asking that AAAI have the file corrected for you, for an additional fee. If you opt to correct the file yourself, please note that we cannot provide you with any additional advice beyond that given in your packet. Files that are not corrected after a second attempt will be withdrawn.

## LATEX 209 Warning

If you use LATEX 209 it is extremely unlikely that we will be able to publish your paper. Convert your paper to LATEX2e.

## **Naming Your Electronic File**

We request that you name your LATEX source file with your last name (family name) so that it can easily be differentiated from other submissions. If you name your files with the name of the event or "aaai" or "paper" or "camera-ready" or some other generic or indecipherable name, you bear all risks of loss — it is extremely likely that your file may be overwritten.

## **Submitting Your Electronic Files to AAAI**

Submitting your files to AAAI is a two-step process. It is explained fully in the author registration and submission instructions. Please consult this document for details on how to submit your paper.

## **Inquiries**

If you have any questions about the preparation or submission of your paper as instructed in this document, please contact AAAI Press at the address given below. If you have technical questions about implementation of the aaai style file, please contact an expert at your site. We do not provide technical support for LATEX or any other software package. To avoid problems, please keep your paper simple, and do not incorporate complicated macros and style files.

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ticular conference or event.

# 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 author kit, 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" first. The style file is **not** guaranteed to work in all situations and on all platforms. If you make bug fixes or improvements, please let us know so that we might share them with others.

## **Additional Resources**

LATEX is a difficult program to master. If you've used that software, and this document didn't help or some items were not explained clearly, we recommend you read Michael Shell's excellent document (testflow doc.txt V1.0a 2002/08/13) about obtaining correct PS/PDF output on LATEX systems. (It was written for another purpose, but it has general application as well). It is available at www.ctan.org in the tex-archive.

## 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 Hans Guesgen, who provided several timely modifications, as well as the many others who have, from time to time, sent in suggestions on improvements to the AAAI style.

The preparation of the LATEX and BibTEX files that implement these instructions was supported by Schlumberger Palo Alto Research, AT&T Bell Laboratories, Morgan Kaufmann Publishers, The Live Oak Press, LLC, 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. Additional changes to aaai.sty and aaai.bst have been made by the AAAI staff.

Thank you for reading these instructions carefully. We look forward to receiving your electronic files!