Formatting Instructions for Authors Submitting to AI Matters

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Introduction

This document details the requirements to prepare your article for publication in AI Matters. All submissions to AI Matters must be formatted in LATEX using this template. These instructions were adapted from the AAAI formatting instructions.

These instructions are provided as a general guide for experienced LATEX users. AI Matters staff cannot provide you with support in formatting your submission, and provide no warranties or guarantees that the accompanying *aimatters.sty* style files will work with all systems. However, if you notice any errors in the provided style file, please email the current AI Matters editors at aimatters@sigai.acm.org to let us know. If the results you obtain are not in accordance with the specifications you received, you must correct your source file to achieve the correct result; please do not edit the provided *aimatters.sty* file, since we will be using a fresh copy of the style file to compile your final submission.

All authors must comply with the following:

- You must use the latest AI Matters LATEX style file *aimatters.sty*, which can be downloaded from the AI Matters website.
- Read and format your paper source and PDF according to the formatting instructions for authors.
- Submit your LATEX source files, compiled PDF, and all necessary files (images, .bib files, etc.) to re-build your submission.
- Follow the submission instructions posted on the AI Matters website.
- Check every page of your paper before submitting it.

When you build your PDF using the AI Matters template, you will notice a large black box next to the title. Do not worry about this; the editors will replace it with the article category when

compiling the final version of the newsletter. Similarly, the DOI for your article and newsletter volume/number/date will be all X's as placeholders. Again, the editors will take care of filling in the correct DOI for your article, and the newsletter volume/number/date – you do not need to do anything with these.

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However, as a contributing author, you retain copyright to your article and ACM will refer requests for republication directly to you.

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. AI Matters imposes some requirements on your source and PDF files that must be followed by all submissions:

- Your .tex file must compile in PDFLATEX — **no .ps or .eps figure files.**
- All fonts must be embedded in the PDF file — **this includes your figures.**
- Modifications to the style sheet are NOT allowed.

- No type 3 fonts may be used (even in illustrations).
- Your title must follow US capitalization rules.
- No LaTeX 209 documents may be used or submitted.
- Fonts that require non-English language support (CID and Identity-H) must be converted to outlines or removed from the document (even if they are in a graphics file embedded in the document).
- Two-column format as specified in the style file 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.
- No document may be password protected.
- Your source and PDF must not have any page numbers, footers, or headers (besides those created by the style file).
- Your PDF must be compatible with Acrobat 5 or higher.

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 (do not use the "input" command to include sections of your paper — every section must be in the single source file). The only exception is the bibliography, which you may include separately. Your source must compile on our system using PDFLaTeX, which includes the standard LaTeX support files.
- All your graphics files.
- The LaTeX-generated files (e.g. .aux and .bib file, etc.) for your compiled source.
- All the nonstandard style files (ones not commonly found in standard LaTeX installations) used in your document (including, for example, old algorithm style files). If in doubt, please include it.

Your LaTeX source will be reviewed and recompiled on our system. **Please do not submit your source in multiple text files.** Your single LaTeX source file must include all your text, your bibliography (formatted using apacite.bst), and any custom macros. Accompanying this source file, you must also supply any nonstandard (or older) referenced style files and all your referenced graphics files.

Your files should work without any supporting files (other than the program itself) on any computer with a standard LaTeX distribution.

Naming your Files

We recommend that you place your PDF and source files in a single tar, zipped, gzipped, stuffed, or compressed archive. Name your source file with the first author's last (family) name, so that it can easily be differentiated from other submissions. Name the compressed archive of your submission similarly.

Using LaTeX to Format Your Paper

The latest version of the *aimatters.sty* style file is available on the AI Matters website. Download this file and place it in a file named "aimatters.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 style file and formatting instructions.

Document Structure

In the LaTeX source for your paper, you **must** place the following lines as shown in the example in this subsection. This example is set up for three authors. Add or subtract author and address lines as necessary. Please do not change the default fonts; in order to ensure this, be sure to load any other packages before including the AI Matters style via the "\usepackage{aimatters}" line.

```
\documentclass[letterpaper]{article}
\usepackage[header]{aimatters}

% Complete the title and author information below
\title{Insert Your Title Here}
\author{
\AIMauthor{Name1}{InstitutionA}{name1@instA.edu}
\AIMauthor{Name2}{InstitutionA}{name2@instA.edu}
\AIMauthor{Name3}{InstitutionB}{name3@instB.com}
}
```

```
% Complete bios for each author.
% (These will appear at the end of the document.)
% Note: Use only \textbf or \textem for emphasis in the bios;
% no other formatting commands! (E.g., don't use \bf, \em, etc.)
\AIMbio{author1.jpg}{\textbf{Author1} is a PhD student at....}
\AIMbio{author2.jpg}{\textbf{Author2} is a professor....}
\AIMbio{author3.jpg}{\textbf{Author3} works at....}


\begin{document}
\maketitle


... % Put body of paper here


% References and End of Paper
\bibliography{Bibliography-File}
\bibliographystyle{apacite}
\end{document}
```

Layout Requirements

Papers must be formatted to print in two-column format on 8.5 x 11 inch US letter-sized paper, as specified in the AI Matters style file. Do not use the Geometry package to alter the page size. Text should not extrude into the column separation or the margins.

Commands that alter page layout are forbidden. These include \columnsep, \topmargin, \topskip, \textheight, \textwidth, \oddsidemargin, and \evensizemargin (this list is not exhaustive).

Figures

Your paper must compile in PDFLATEX. Consequently, all your figures must be .jpg, .png, or .pdf. You may not use the .gif (the resolution is too low), .ps, or .eps file format for your figures.

When you include your figures, you must crop them **outside** of LATEX. The command \includegraphics*[clip=true, viewport 0 0 10 10]... might result in a PDF that looks great, but the image is **not really cropped.** The full image can reappear when page numbers are applied or color space is standardized.

Type Font and Size

Your paper must be formatted in Helvetica. Please do not change the default font or default font sizes. Use Symbol or Lucida or Computer Modern for *mathematics only.*

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, AI Matters will not accept electronic files containing obsolete type 3 fonts. Files containing those fonts (even in graphics) will be rejected.

If you are unsure if your paper contains type 3 fonts, view the PDF in Acrobat Reader. The Properties/Fonts window will display the font name, font type, and encoding properties of all the fonts in the document. If you are unsure if your graphics contain type 3 fonts (and they are PostScript or encapsulated PostScript documents), create PDF versions of them, and consult the properties window in Acrobat Reader.

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.

Title and Authors

Your title must appear in mixed case (nouns, pronouns, and verbs are capitalized) at the top of the first page. Authors' names should appear below the title of the paper, along with affiliation(s) and email address(es). We have included the \AIMauthor macro to help format the authors lines. It accepts three arguments: the name, the affiliation, and the email address, and will produce the correct formatting automatically. For example, with three authors:

```
% Complete the title and author information below
\title{Insert Your Title Here}
\author{
\AIMauthor{Sally Smith}{University of XYZ}{smith@xyz.edu}
\AIMauthor{John Doe}{ABC Corporation}{doe@abc.com}
\AIMauthor{Zoey Johns}{IJK College}{zjb7@ijk.edu}
}
```

Credits

Any credits to a sponsoring agency should appear in the acknowledgments section, unless the agency requires different placement. If it is necessary to include this information on the front page, 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 botton of the first column of the document. Note that the \thanks command is fragile. You will need to use \protect.

Please do not include \pubnote commands in your document.

Abstract

If included, the abstract must be placed at the beginning of the first column using the LATEX abstract environment. This concise, one-paragraph summary should describe the general thesis and conclusion of your paper. A reader should be able to learn the purpose of the paper and the reason for its importance from the abstract. The abstract should be no more than two hundred words in length. (Authors who are submitting short one- or two-page extended extracts should provide a short abstract of only a sentence or so.) Do not include references in your abstract.

Page Numbers

Do not print any page numbers manually on your paper. The AI Matters style file will add these automatically.

Text

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

Citations

Citations within the text should use APA format.

Footnotes

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.

Headings and Sections

When necessary, headings should be used to separate major sections of your paper. AI Matters does not use section numbers.

Acknowledgments. The acknowledgments section, if included, appears after the main body of text and is headed "Acknowledgments." This section includes acknowledgments of help from associates and colleagues, credits to sponsoring agencies, financial support, and permission to publish. Please acknowledge other contributors, grant support, and so forth, in this section. Do not put acknowledgments in a footnote on the first page. If your grant agency requires acknowledgment of the grant on page 1, limit the footnote to the required statement, and put the remaining acknowledgments at the back. Please try to limit acknowledgments to no more than three sentences.

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 as the second-to-last section 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 APA format for references. Please prepare complete and accurate citations.

LATEX and BibTeX support APA-style references automatically through the *apacite* bibliography style.

Author Biographies The last section of your paper should be the author biographies. A biography and photo is required of every author. To insert each author's photo and bio,

use the provided \AIMbio command, which takes in two arguments: an image and the biography text.

For example,

\AIMbio{shakey.jpg}{\textbf{Shakey the robot} was the first general-purpose mobile robot....}

\AIMbio{data.jpg}{Lieutenant Commander \textbf{Data} is a character in the fictional Star Trek universe....}

Due to quirks in the way LaTeX wraps text around figures, only use \textbf or \textem for emphasis in the bios; no other formatting commands! (Specifically, don't use \bf, \em, etc.)

You may place these \AIMbio commands anywhere in the document, and they will be automatically added to the end of the article.

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 the \usepackage{graphicx}. Number figures sequentially, for example, figure 1, and so on. Figures should have appropriate captions.

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. AI Matters is published in color, so the use of color in figures is highly encouraged.

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.

Resizing Graphics. Resize your graphics **before** you include them with LaTeX. You may **not** use trim or clip options as part of your \includgraphics command. Resize the media box of your PDF using a graphics program instead.

Fonts in Your Illustrations You must embed all fonts in your graphics before including them in your LaTeX document.

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 Helvet, 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)

Creating Output Using PDFLATEX Is Required

By using the PDFTEX program instead of straight LATEX or TEX, you will probably avoid the type 3 font problem altogether (unless you use a package that calls for metafont). 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 must be 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.

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 should not use GhostScript to create their PDFs.

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 US Letter? 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? 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.

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.
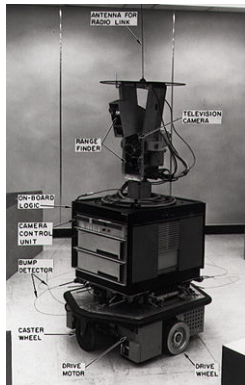
Acknowledgments

Thank you for reading these instructions carefully. We look forward to receiving your submissions to AI Matters!

The AI Matters Editors may be contacted at aimatters@sigai.acm.org with questions about the submission process for the AI Matters newsletter. Complete submission instructions may be found on the AI Matters website. If you note any bugs in the AI Matters template, please let the editors know.

Shakey the robot was the first general-purpose mobile robot to be able to reason about its own actions. The project combined research in robotics, computer vision, and natural language processing. Because of this, it was the first project that melded logical reasoning and physical action. Shakey was developed at the Artificial Intelligence Center of Stanford Research Institute (now called SRI International).