

Latex Repository Template for Research Papers

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Abstract

This is a template for research papers in $\text{\LaTeX}$. It is based on the `elsarticle` class, so if you are submitting to a journal or conference that uses a different class, you will need to modify it accordingly. This template include automatic release of the compiled PDF on GitHub Actions. It also performs automatic checks on the bibliography. For this reason, this template cites some of my papers like [1, 2]. With this repository, I hope to make the life of researchers a bit easier.

Keywords: continuous integration, $\text{\LaTeX}$, GitHub Actions, research paper, healthy research

1. Introduction

This template is structured as follows:

`paper-xxxx-venue-topic.tex` is the main file, where you can write the content of your paper. Change the name of this file to match the year (xxxx), venue, and topic of your paper. This is done automatically by running the script `rename.rb`.

`paper-xxxx-venue-topic.sty` is the style file. Also change the name of this file to match the year (xxxx), venue, and topic of your paper.

`biblio.bib` is the bibliography file. Do not change the name of this file.

`paper-xxxx-venue-topic.pdf` is the compiled PDF. You can download it from the Actions tab in your repository.

`figures` is the directory where you can store your figures.

`tables` is the directory where you can store your tables.

Some other random citations [3, 4]

2. Quirks

There are three main features of this template: i) automatic release of the compiled PDF on GitHub Actions, ii) automatic checks and fixes on the bibliography, and iii) checks on acknowledgements.

2.1. Automatic Release

The github workflow is defined in the file `.github/workflows/build-and-deploy-latex.yml`. If everything is fine, it generates two compiled files: `paper-xxxx-venue-topic.pdf` and `paper-xxxx-venue-topic-camera-ready.pdf`. The second file is the same as the first one, but it has been processed by the script `check_acknowledgements.rb`. This script:

- checks if the string “% NO ACKNOWLEDGEMENTS %” is present in the acknowledgements section. If it is, the script just copies the file to the camera-ready version;
- if the file has no acknowledgements section, it prints an error message and stops;

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- if the file has an acknowledgements section, it prints a warning message and copies the file to the camera-ready version.
- if the file has a commented acknowledgements section, it copies the file to the camera-ready version without the comments.

2.2. Automatic Bibliographic Checks and Fixes

The bibliography is checked before the release of the PDF. The checks are performed by the Ruby script `bibtex_prettifier.rb`. What happens is the following:

- the script checks if there are duplicate keys in the bibliography, and it removes them;
- it also checks if a bibtex entry has both `doi` and `url` fields, and it removes the `url` field (this is done because it is redundant and many bibtex styles render two links, which is not good).
- if a bibtex entry has no `doi` or `url` fields, the script prints a warning message if the comment `% ALLOW NO DOI OR URL%` is present in the `.tex` file, otherwise the CI will fail with error.

3. Conclusion

Before starting to write your paper, you should run the `rename.rb` script. This script renames the `paper-xxxx-venue-topic.tex` and `paper-xxxx-venue-topic.sty` files to the new file name that you must provide as input argument to the script. It also automatically updates all the references in the other files. Beware that the script will also remove the commented acknowledgements section in the `paper-xxxx-venue-topic.tex` file. In this way the **CI will fail** if you do not provide an – possibly commented – acknowledgements section or you do not provide the string `“% NO ACKNOWLEDGEMENTS %”` in the acknowledgements section. Finally, the script will delete itself.

This is a must-read paper [5] if you are into neuro-symbolic AI.

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