

ANDRÉ MIEDE
A CLASSIC THESIS STYLE

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An Homage to The Elements of Typographic Style

October 2017 – version 4.4

André Miede: *A Classic Thesis Style*, An Homage to The Elements of
Typographic Style, © October 2017

Ohana means family.
Family means nobody gets left behind, or forgotten.
— Lilo & Stitch

Dedicated to the loving memory of Rudolf Miede.
1939–2005

ABSTRACT

Short summary of the contents in English...a great guide by Kent Beck how to write good abstracts can be found here:

<https://plg.uwaterloo.ca/~migod/research/beck00PSLA.html>

ZUSAMMENFASSUNG

Kurze Zusammenfassung des Inhaltes in deutscher Sprache...

PUBLICATIONS

This might come in handy for PhD theses: some ideas and figures have appeared previously in the following publications:

Attention: This requires a separate run of bibtex for your refsection, e.g., `ClassicThesis1-b1x` for this file. You might also use biber as the backend for biblatex. See also <http://tex.stackexchange.com/questions/128196/problem-with-refsection>.

*This is just an early
– and currently
ugly – test!*

*We have seen that computer programming is an art,
because it applies accumulated knowledge to the world,
because it requires skill and ingenuity, and especially
because it produces objects of beauty.*

— knuth:1974 [knuth:1974]

ACKNOWLEDGMENTS

Put your acknowledgments here.

Many thanks to everybody who already sent me a postcard!

Regarding the typography and other help, many thanks go to Marco Kuhlmann, Philipp Lehman, Lothar Schlesier, Jim Young, Lorenzo Pantieri and Enrico Gregorio¹, Jörg Sommer, Joachim Köstler, Daniel Gottschlag, Denis Aydin, Paride Legovini, Steffen Prochnow, Nicolas Repp, Hinrich Harms, Roland Winkler, Jörg Weber, Henri Menke, Claus Lahiri, Clemens Niederberger, Stefano Bragaglia, Jörn Hees, Scott Lowe, Dave Howcroft, and the whole L^AT_EX-community for support, ideas and some great software.

Regarding L_YX: The L_YX port was initially done by *Nicholas Mariette* in March 2009 and continued by *Ivo Pletikosić* in 2011. Thank you very much for your work and for the contributions to the original style.

¹ Members of GuIT (Gruppo Italiano Utilizzatori di T_EX e L^AT_EX)

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PRELIMINARIES

2.1 REINFORCEMENT LEARNING

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2.1.2 *mdp*

2.1.3 *π , v , q -learning (?)*

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2.2 RISK-AVERSION

2.2.1 *general*

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2.2.3 *cvar*

2.3 LITERATURE SURVEY

Part II

REINFORCEMENT LEARNING WITH CVAR

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VALUE ITERATION WITH CVAR

3.1 CVAR BELLMAN EQUATION

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Q-LEARNING WITH CVAR

4.1 TODO

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APPROXIMATE Q-LEARNING WITH CVAR

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Part III

CONCLUSION

CONCLUSION

Bäuerle and Ott [3] Bellemare, Dabney, and Munos [4] Chow et al. [7] Dabney et al. [8] Garcia and Fernández [9] Majumdar and Pavone [13] Morimura et al. [14] Morimura et al. [15] Pflug and Pichler [16] Rockafellar and Uryasev [17] Rockafellar and Uryasev [18] Majumdar and Pavone [13] Leike et al. [12] Amodei et al. [1] Shapiro [19] Artzner et al. [2] Tamar et al. [21] Sutton and Barto [20] Watkins and Dayan [23] Bellman [5] Tsitsiklis [22] Boyd and Vandenberghe [6] Kreyszig [11] Koenker and Hallock [10]

Part IV

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INTRODUCTION

This bundle for L^AT_EX has two goals:

1. Provide students with an easy-to-use template for their Master's or PhD thesis. (Though it might also be used by other types of authors for reports, books, etc.)
2. Provide a classic, high-quality typographic style that is inspired by **bringhurst:2002**'s "*The Elements of Typographic Style*" [**bringhurst:2002**].

*A Classic Thesis
Style version 4.4*

The bundle is configured to run with a *full* MiK_TE_X or T_EXLive¹ installation right away and, therefore, it uses only freely available fonts. (Minion fans can easily adjust the style to their needs.)

People interested only in the nice style and not the whole bundle can now use the style stand-alone via the file `classicthesis.sty`. This works now also with "plain" L^AT_EX.

As of version 3.0, `classicthesis` can also be easily used with L_YX² thanks to Nicholas Mariette and Ivo Pletikosić. The L_YX version of this manual will contain more information on the details.

This should enable anyone with a basic knowledge of L^AT_EX 2_ε or L_YX to produce beautiful documents without too much effort. In the end, this is my overall goal: more beautiful documents, especially theses, as I am tired of seeing so many ugly ones.

The whole template and the used style is released under the GNU General Public License.

If you like the style then I would appreciate a postcard:

André Miede
Detmolder Straße 32
31737 Rinteln
Germany

The postcards I received so far are available at:

<http://postcards.miede.de>

So far, many theses, some books, and several other publications have been typeset successfully with it. If you are interested in some typographic details behind it, enjoy Robert Bringhurst's wonderful book.

*A well-balanced line
width improves the
legibility of the text.
That's what
typography is all
about, right?*

¹ See the file `LISTOFFILES` for needed packages. Furthermore, `classicthesis` works with most other distributions and, thus, with most systems L^AT_EX is available for.

² <http://www.lyx.org>

IMPORTANT NOTE: Some things of this style might look unusual at first glance, many people feel so in the beginning. However, all things are intentionally designed to be as they are, especially these:

- No bold fonts are used. Italics or spaced small caps do the job quite well.
- The size of the text body is intentionally shaped like it is. It supports both legibility and allows a reasonable amount of information to be on a page. And, no: the lines are not too short.
- The tables intentionally do not use vertical or double rules. See the documentation for the booktabs package for a nice discussion of this topic.³
- And last but not least, to provide the reader with a way easier access to page numbers in the table of contents, the page numbers are right behind the titles. Yes, they are *not* neatly aligned at the right side and they are *not* connected with dots that help the eye to bridge a distance that is not necessary. If you are still not convinced: is your reader interested in the page number or does she want to sum the numbers up?

Therefore, please do not break the beauty of the style by changing these things unless you really know what you are doing! Please.

YET ANOTHER IMPORTANT NOTE: Since classicthesis' first release in 2006, many things have changed in the L^AT_EX world. Trying to keep up-to-date, classicthesis grew and evolved into many directions, trying to stay (some kind of) stable and be compatible with its port to L_XX. However, there are still many remains from older times in the code, many dirty workarounds here and there, and several other things I am absolutely not proud of (for example my unwise combination of KOMA and titlesec etc.).

*An outlook into the
future of
classicthesis.*

Currently, I am looking into how to completely re-design and re-implement classicthesis making it easier to maintain and to use. As a general idea, classicthesis.sty should be developed and distributed separately from the template bundle itself. Excellent spin-offs such as arsclassica could also be integrated (with permission by their authors) as format configurations. Also, current trends of microtype, fontspec, etc. should be included as well. As I am not really into deep L^AT_EX programming, I will reach out to the L^AT_EX community for their expertise and help.

³ To be found online at <http://mirror.ctan.org/macros/latex/contrib/booktabs/>.

A.1 ORGANIZATION

A very important factor for successful thesis writing is the organization of the material. This template suggests a structure as the following:

- `Chapters/` is where all the “real” content goes in separate files such as `Chapter01.tex` etc.
- `FrontBackMatter/` is where all the stuff goes that surrounds the “real” content, such as the acknowledgments, dedication, etc.
- `gfx/` is where you put all the graphics you use in the thesis. Maybe they should be organized into subfolders depending on the chapter they are used in, if you have a lot of graphics.
- `Bibliography.bib`: the Bib \TeX database to organize all the references you might want to cite.
- `classicthesis.sty`: the style definition to get this awesome look and feel. Does not only work with this thesis template but also on its own (see folder `Examples`). Bonus: works with both \LaTeX and $\PDF\LaTeX$. . . and LyX . Great tool and it’s free!
- `ClassicThesis.tex`: the main file of your thesis where all gets bundled together.
- `classicthesis-config.tex`: a central place to load all nifty packages that are used.

Make your changes and adjustments here. This means that you specify here the options you want to load `classicthesis.sty` with. You also adjust the title of your thesis, your name, and all similar information here. Refer to [Section A.3](#) for more information.

This had to change as of version 3.0 in order to enable an easy transition from the “basic” style to LyX .

In total, this should get you started in no time.

You can use these margins for summaries of the text body. . .

A.2 STYLE OPTIONS

There are a couple of options for `classicthesis.sty` that allow for a bit of freedom concerning the layout:

...or your supervisor might use the margins for some comments of her own while reading.

- General:
 - `drafting`: prints the date and time at the bottom of each page, so you always know which version you are dealing with. Might come in handy not to give your Prof. that old draft.
- Parts and Chapters:
 - `parts`: if you use Part divisions for your document, you should choose this option. (Cannot be used together with `nochapters`.)
 - `linedheaders`: changes the look of the chapter headings a bit by adding a horizontal line above the chapter title. The chapter number will also be moved to the top of the page, above the chapter title.
- Typography:
 - `eulerchapternumbers`: use figures from Hermann Zapf's Euler math font for the chapter numbers. By default, old style figures from the Palatino font are used.
 - `beramono`: loads Bera Mono as typewriter font. (Default setting is using the standard CM typewriter font.)
 - `eulermath`: loads the awesome Euler fonts for math. Palatino is used as default font.
- Table of Contents:
 - `tocaligned`: aligns the whole table of contents on the left side. Some people like that, some don't.
 - `dottedtoc`: sets pagenumbers flushed right in the table of contents.
 - `manychapters`: if you need more than nine chapters for your document, you might not be happy with the spacing between the chapter number and the chapter title in the Table of Contents. This option allows for additional space in this context. However, it does not look as "perfect" if you use `\parts` for structuring your document.
- Floats:
 - `listings`: loads the `listings` package (if not already done) and configures the List of Listings accordingly.
 - `floatperchapter`: activates numbering per chapter for all floats such as figures, tables, and listings (if used).

Options are enabled via `option=true`

Furthermore, pre-defined margins for different paper sizes are available, e.g., a4paper, a5paper, and letterpaper. These are based on your chosen option of \documentclass.

The best way to figure these options out is to try the different possibilities and see what you and your supervisor like best.

In order to make things easier, classicthesis-config.tex contains some useful commands that might help you.

A.3 CUSTOMIZATION

This section will show you some hints how to adapt classicthesis to your needs.

The file classicthesis.sty contains the core functionality of the style and in most cases will be left intact, whereas the file classicthesis-config.tex is used for some common user customizations.

The first customization you are about to make is to alter the document title, author name, and other thesis details. In order to do this, replace the data in the following lines of classicthesis-config.tex:

*Modifications in
classic-
thesis-config.tex*

```
% *****
% 2. Personal data and user ad-hoc commands
% *****
\newcommand{\myTitle}{A Classic Thesis Style\xspace}
\newcommand{\mySubtitle}{An Homage to...\xspace}
```

Further customization can be made in classicthesis-config.tex by choosing the options to classicthesis.sty (see [Section A.2](#)) in a line that looks like this:

```
\PassOptionsToPackage{
  drafting=true,      % print version information on the bottom
                      % of the pages
  totaligned=false,  % the left column of the toc will be
                      % aligned (no indentation)
  dottedtoc=false,   % page numbers in ToC flushed right
  parts=true,        % use part division
  eulerchapternumbers=true, % use AMS Euler for chapter font (
                      % otherwise Palatino)
  linedheaders=false, % chapter headers will have line
                      % above and beneath
  floatperchapter=true, % numbering per chapter for all
                      % floats (i.e., Figure 1.1)
  listings=true,     % load listings package and setup LoL
  subfig=true,       % setup for preloaded subfig package
  eulermath=false,   % use awesome Euler fonts for mathematical
                      % formulae (only with pdfLaTeX)
  beramono=true,     % toggle a nice monospaced font (w/ bold)
  minionpro=false    % setup for minion pro font; use minion pro
                      % small caps as well (only with pdfLaTeX)
}{classicthesis}
```

Many other customizations in `classicthesis-config.tex` are possible, but you should be careful making changes there, since some changes could cause errors.

A.4 ISSUES

This section will list some information about problems using `classicthesis` in general or using it with other packages.

Beta versions of `classicthesis` can be found at Bitbucket:

<https://bitbucket.org/amiede/classicthesis/>

There, you can also post serious bugs and problems you encounter.

A.5 FUTURE WORK

So far, this is a quite stable version that served a couple of people well during their thesis time. However, some things are still not as they should be. Proper documentation in the standard format is still missing. In the long run, the style should probably be published separately, with the template bundle being only an application of the style. Alas, there is no time for that at the moment. . . it could be a nice task for a small group of \LaTeX ncians.

Please do not send me email with questions concerning \LaTeX or the template, as I do not have time for an answer. But if you have comments, suggestions, or improvements for the style or the template in general, do not hesitate to write them on that postcard of yours.

A.6 BEYOND A THESIS

The layout of `classicthesis.sty` can be easily used without the framework of this template. A few examples where it was used to typeset an article, a book or a curriculum vitae can be found in the folder `Examples`. The examples have been tested with `latex` and `pdflatex` and are easy to compile. To encourage you even more, PDFs built from the sources can be found in the same folder.

A.7 LICENSE

GNU GENERAL PUBLIC LICENSE: This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

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You should have received a copy of the GNU General Public License along with this program; see the file COPYING. If not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

CLASSICHTHESIS AUTHORS' NOTE: There have been some discussions about the GPL's implications on using classicthesis for theses etc. Details can be found here:

<https://bitbucket.org/amiede/classicthesis/issues/123/>

We chose (and currently stick with) the GPL because we would not like to compete with proprietary modified versions of our own work. However, the whole template is free as free beer and free speech. We will not demand the sources for theses, books, CVs, etc. that were created using classicthesis.

Postcards are still highly appreciated.

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DECLARATION

Put your declaration here.

Saarbrücken, October 2017

André Miede

COLOPHON

This document was typeset using the typographical look-and-feel `classicthesis` developed by André Miede and Ivo Pletikosić. The style was inspired by Robert Bringhurst’s seminal book on typography “*The Elements of Typographic Style*”. `classicthesis` is available for both L^AT_EX and L^yX:

<https://bitbucket.org/amiede/classicthesis/>

Happy users of `classicthesis` usually send a real postcard to the author, a collection of postcards received so far is featured here:

<http://postcards.miede.de/>

Thank you very much for your feedback and contribution.