

## ABSTRACT

Title of dissertation    HOW TO USE L<sup>A</sup>T<sub>E</sub>X TEMPLATE FOR WRITING YOUR  
DISSERTATION

Aravind Sundaresan, Doctor of Philosophy, 2007

Directed by            Professor Ramalingam Chellappa  
Department of Electrical and Computer Engineering

This is a sample abstract for a dissertation for the University of Maryland Graduate School. Note that the number of words for a Master's thesis is 150 words. For a doctoral dissertation the abstract should not exceed 350 words or 2450 characters.



HOW TO USE L<sup>A</sup>T<sub>E</sub>X TEMPLATE FOR WRITING YOUR  
DISSERTATION

by

Aravind Sundaresan

Dissertation submitted to the Faculty of the Graduate School of the  
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of the requirements for the degree of  
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2007

Advisory Committee:

Professor Ramalingam Chellappa, Chair  
Professor William S. Levine  
Professor Ankur Srivastava  
Professor Larry S. Davis  
Professor John Jeka



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To Tux,  
For saving me from Micro\$oft hell.



## Acknowledgments

I would like to thank my nanny for making all this possible. I really want to thank a lot more people, but I do not have the time.



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## Chapter 1

### Introduction

The main objective of my effort is to make it easy to start using the *dissertation* class easily. I have tried to deviate minimally from the book class in  $\LaTeX$ . One can compare the *book.cls* file with the *dissertation.cls* file to understand the differences.

To begin with, one should be able to download the compressed archive and compile it to get this document. One can then add content to the source files.

This is a sample chapter. I recommend putting each chapter in a single  $\TeX$  file. They can be then included in the main  $\TeX$  file. This chapter also contains some basic instructions on how to use the dissertation class to create your thesis. I have tried to put in all aspects of  $\LaTeX$  in this chapter, so that you can use the tex files as a reference. The standard reference is *LaTeX: A document preparation system* by Lamport [2], but I extensively used the *A guide to LaTeX* by Kopka and Daly [1]. There are also numerous online guides for  $\LaTeX$ <sup>1</sup>.

#### 1.1 Compiling your thesis

I have tried to make this self-contained so that without changing a word you can compile the files and get an idea of whether the whole thing works. You can then replace and edit the files as per your requirements. I am going to assume that you are using Linux, UNIX or CYGWIN style environment. I do not use *WinEdt* or *TeXNicCenter*, but I should think that they should work as well. To check if the source files compile, run the following command.

```
latex main
```

Typically, you are going to have references and labels in your source code. To make sure that all references and labels are numbered and displayed correctly, you need to run the following commands.

```
latex main  
latex main  
bibtex main  
latex main
```

---

<sup>1</sup>A number of guides are available one. *The Not So Short Introduction to  $\LaTeX$*  can be downloaded from <http://www.ctan.org/tex-archive/info/lshort/english/lshort.pdf>

To make a pretty PDF document, do the following.

```
dvips -Ppdf -t letter -GO main
ps2pdf main.ps
```

There, you should now have a pretty PDF file.

## 1.2 Structure of main T<sub>E</sub>X file

For the final draft one can just use the following document class. My dissertation which was created using this template was accepted by the graduate school at Maryland. The important details are the page margins, page numbering, font size and appropriate line spacing.

```
\documentclass{dissertation}
```

For drafts, you are better off using the following options. This leads to a more book-like format with single line spacing and slightly different page numbering and in my opinion looks better as well. You can switch to the final format at any time by simply removing these options.

```
\documentclass[single,twoside,openright]{dissertation}
```

## 1.3 General comments

This section describes miscellaneous details that you may find helpful. While L<sup>A</sup>T<sub>E</sub>X is wonderful and does all the hardwork to create beautifully typeset documents, it sometimes needs manual intervention at some stage. Beginners typically try very hard to place floating items (figures, tables) exactly where they want. I would suggest leaving it to L<sup>A</sup>T<sub>E</sub>X to worry about the placement and not fight L<sup>A</sup>T<sub>E</sub>X.

### 1.3.1 Short captions and section names

You can often specify a short version of a heading or a caption. The long version is used in the usual place and the short version is used in the table of contents, headers, etc. For instance, instead of

```
\section{This is a very long section name}
```

you can use

```
\section[Shorter version]{This is a very long section name}
```

This particularly applies to captions in the figure and table environments.

## 1.4 Figures, Tables, etc

No thesis is complete without some fancy figures and some tortuous tables. In this section I will illustrate some examples of figures and tables. You can place figures anyway you want using minipages inside the figure environment. However, remember that both the table and figure environments are floating environments and liable to jump around everytime you change the text. Do not waste time on the placement and trust in  $\text{\TeX}$ .

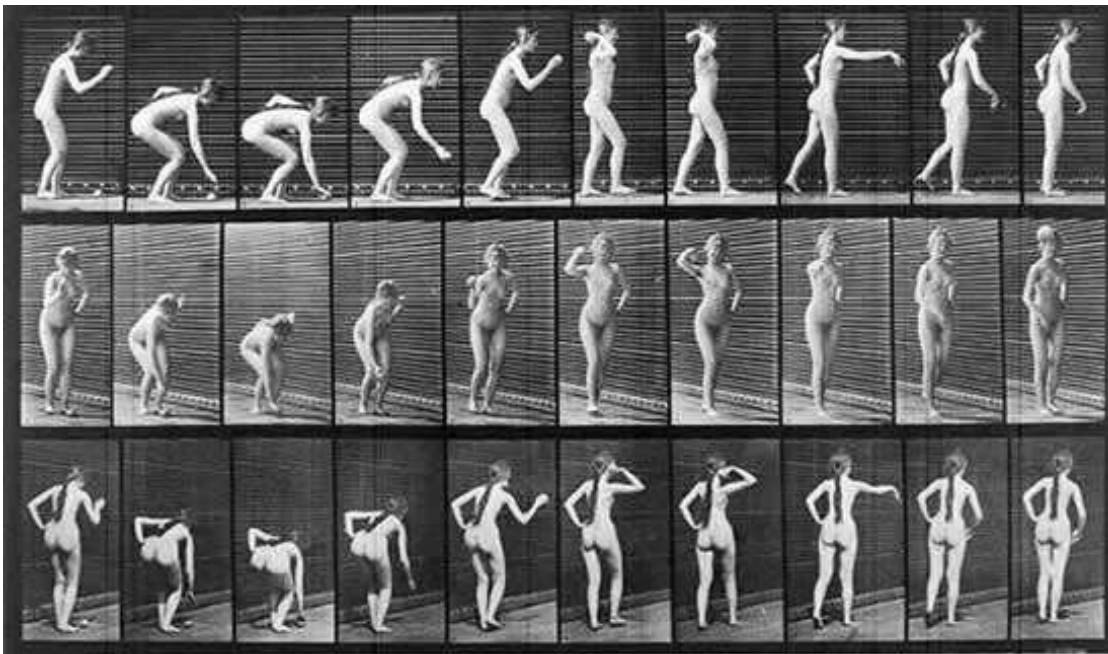


Figure 1.1: “Woman throwing a ball”, Eadweard Muybridge, *Human Locomotion*, 1890

### 1.4.1 Tables

I guess you probably have at least one table in your thesis. You can create really nice tables in both portrait and landscape format. I will illustrate them using examples from my thesis.

## 1.5 Bibliography

It is easy to cite references in  $\text{\LaTeX}$  using BibTeX. I have used the IEEE Transactions style for citations.

Method	Dimensions 1-3			Dimensions 1-6		
	$L$	MSE	MSE/ $L$	$L$	MSE	MSE/ $L$
LE	106.12	0.143	1.35e-03	265.86	1.471	5.532e-03
Isomap	54.36	8.019	1.48e-01	55.17	9.689	1.756e-01

Table 1.1: Comparison of LE and Isomap: We measure the 1D nature of the nodes in LE and Isomap.  $L$  is the length of the spline used to fit the voxels and MSE is the Mean Squared Error in the spline fit. MSE/ $L$  is a measure of the 1D structure of the nodes.

## Chapter 2

# Conclusion and future directions



## Appendix A

### The coolness factor

Adding an appendix to a thesis is cool. It is even better if noone can understand the contents of the appendix. The appendix should appear before the Bibliography.



## Bibliography

- [1] H. Kopka and P. W. Daly, *A guide to L<sup>A</sup>T<sub>E</sub>X*, 3rd ed. Addison-Wesley, 1999.
- [2] L. Lamport, *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*, 2nd ed. Addison-Wesley, 1994.