A Dissertation Template for Care-free Typesetting

A Dissertation

Presented to the

Graduate Faculty of the

University of Louisiana at Lafayette

In Partial Fulfillment of the

Requirements for the Degree

Doctor of Philosophy

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Fall 2017

A Dissertation Template for Care-free Typesetting

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To my dears: X, Y and Z.

Acknowledgments

I sincerely thank my supervisor Prof. I. M. Older.

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Chapter 1: INTRODUCTORY MATERIAL

1.1 Introduction

Normally, you would introduce notation, give the reader a guide to what you will be presenting, and motivate the reader (i.e., say why you did what you did and why it might be interesting to the reader). However, the next section presents a totally unrelated example of typesetting.

1.2 Reliability in a two–parameter exponential stress–strain model

In this chapter[1], we want to develop inferential procedures about the reliability parameter $R = P(X > Y)$, where X and Y are independent two-parameter exponential random variables. A two-parameter exponential distribution has probability density function (pdf) given by

$$f(x; \mu, \theta) = \frac{1}{\theta} e^{-(x-\mu)/\theta}, \quad x > \mu, \quad \mu \geq 0, \quad \theta > 0, \tag{1.1}$$

where μ is the location parameter and θ is the scale parameter. In lifetime data analysis, μ is referred to as a threshold or "guarantee time" parameter, and θ is the mean time to failure. The case of the two-parameter exponential distributions is of importance because it allows us to derive confidence limits for the reliability parameters involving Pareto distributions or power distributions by means of one-one transformations. In particular, if X follows a Pareto distribution with pdf $\lambda\sigma^{\lambda}/x^{\lambda+1}$, $x > \sigma$, then $Y = \ln(X)$ has the pdf in (1.1) with $\mu = \ln(\sigma)$ and $\theta = 1/\lambda$. If X follows a power distribution with pdf $\lambda x^{\lambda-1}/\sigma^{\lambda}$, $0 < x < \lambda$, then $Y = \ln(1/X)$ has the pdf in (1.1) with $\mu = \ln(1/\sigma)$ and $\theta = 1/\lambda$. Therefore, the inferential procedures about the

[1]The content of this chapter will appear in *Metrika*.

reliability parameter that we will derive in the following sections are readily applicable to these distributions.

To formulate the present problem, let $X \sim$ exponential(μ_1, θ_1) independently of $Y \sim$ exponential(μ_2, θ_2). That is, the pdf of X is $f(x; \mu_1, \theta_1)$ and the pdf of Y is $f(y; \mu_2, \theta_2)$, where f is given in (1.1).

Chapter 2: EXAMPLES

2.1 Background

Some statements:

$$\begin{aligned} 2 &= 1+1 \\ &= \int_0^\infty e^{-\frac{1}{2}x}dx \\ &= \pi-(\pi-2). \end{aligned}$$

A table follows.

Arabic	Roman	Notes
1	I	|
2	II	| |
3	III	| | |
4	IV	| | | |

We now have a theorem.

Theorem 2.1. *Without a doubt,*

$$1+1=2,$$

and that adds up. (We can put some additional blah-blah-blah here to illustrate how this style file spaces lines in theorems.)

Some might say Theorem 2.1 is obvious, but it took Bertrand Russell about half a book to develop the logical machinery to prove it.

2.1.1 A Corollary.

Corollary 2.2. $2-1=1$.

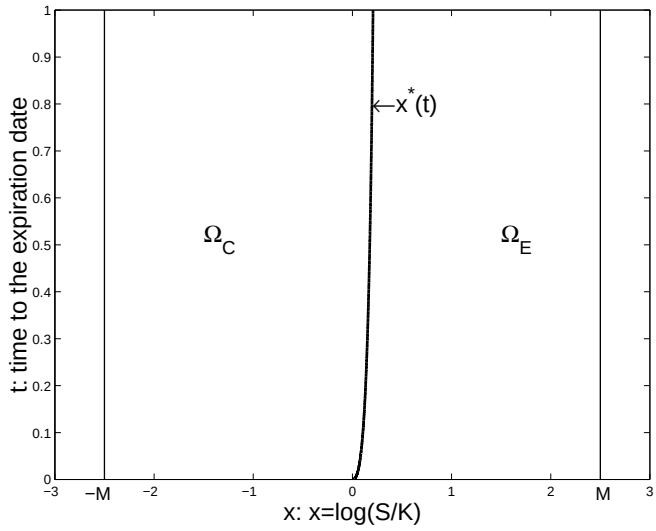
Remark 2.3. The `theorem`, `proposition`, `lemma`, `corollary`, `remark`, `definition`, and `example` environments have been defined in the style given in the class file `ullthesis.cls`. A numbering scheme acceptable to most has been chosen.

2.1.1.1 A sub-subsection. This is the least significant part of §2.1

Chapter 3: MAIN RESULTS

3.1 How to add figures

Figure 3.1. A graph passing through (0,0).



3.2 How to make tables

Table 3.1. A first finite sequence.

n	1	2	3	4	5	6
a_n	1	2	3	4	5	6

Table 3.2. A second finite sequence.

n	1	2	3	4	5	6
b_n	1	2	3	4	5	6

Figure 3.1 is not the graph of Table 3.2.

How to cite a reference [1].

Here is another one [2].

Chapter 4: CONCLUSIONS

4.1 Summary

In Chapter 2, we summed an array.

4.2 Future work

We certainly hope to have work in the future.

4.3 Writing the Bibliography

You can save yourself a lot of effort, and at the same time make sure your style is consistent with that of other dissertations (and make it more likely that the Graduate School will accept the format) if you use BibTeX and cite your references using the citation keys in the BibTeX database or databases you use (rather than "hard-wire" the reference numbers or names into your text by explicitly typing them). Contact me[1] if you have any questions about this. Along these lines, I recommend you copy BibTeX entries from any databases you use to a single database for your dissertation, and correct any minor inconsistencies. Many BibTeX databases on the web are not perfect. For example, some might have "Newton" in the title field of a record, but most BibTeX styles will typeset all words in the title except the first word as lower case. This can be corrected by enclosing "Newton" in braces, i.e., by replacing "Newton" with "{Newton}". (BibTeX treats things within braces as a unit that it does not touch.)

[1] A. U. Thor = R. Baker Kearfott, `rbk@louisiana.edu`.

Bibliography

[1] V. Alexiades. Generalized axially symmetric heat potentials and singular parabolic initial–boundary value problems. *Arch. Rational Mech.*, 79:325–350, 1982.

[2] O. Arena. On a singular parabolic equation related to axially symmetric heat potentials. *Ann. Mat. Pura Appl.*, 105(4), 1975.

Appendix A: Proof of Theorem A.1

Theorem A.1. *I am.*

Proof. I think. Therefore, I am. ∎

Appendix B: An Item That Can Be Removed

Make sure your work is not swollen with unnecessary verbiage.

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Major: Mathematics
Title of Dissertation: A Dissertation Template for Care-free Typesetting
Dissertation Director: I. M. Older
Pages in Dissertation: 21; Words in Abstract: 21

Abstract

Put your thesis abstract here. Observe the line spacing on the abstract, when we have more than one line in it.

Biographical Sketch

A. U. Thor received his Bachelor of Science in 1065 in applied military logistics from the Norman Normal School in Paris, France. After working in industry and relocating to London, he pursued graduate studies at the Royal Academy, receiving a Masters of Business Administration in 1081. After new opportunities became available, A. U. Thor relocated to Louisiana. The oldest candidate on record, A. U. Thor completed the requirements for this Doctor of Philosophy in Mathematics from the University of Louisiana at Lafayette in Spring, 2017.