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MY AWESOME PRELIM TITLE

BY

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PRELIMINARY EXAMINATION

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Abstract

This is a comprehensive study of caffeine consumption by graduate students at the University of Illinois who are in the very final stages of completing their doctoral degrees. A study group of six hundred doctoral students. . . .

To Father and Mother.

Acknowledgments

This project would not have been possible without the support of many people. Many thanks to my adviser, Lawrence T. Strongarm, who read my numerous revisions and helped make some sense of the confusion. Also thanks to my committee members, Reginald Bottoms, Karin Vegas, and Cindy Willy, who offered guidance and support. Thanks to the University of Illinois Graduate College for awarding me a Dissertation Completion Fellowship, providing me with the financial means to complete this project. And finally, thanks to my husband, parents, and numerous friends who endured this long process with me, always offering support and love.

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List of Abbreviations

CA	Caffeine Addict.
CD	Coffee Drinker.

List of Symbols

τ	Time taken to drink one cup of coffee.
μg	Micrograms (of caffeine, generally).

Chapter 1

The first chapter

1.1 A section

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How does this relate to coffee? We direct the reader to Refs. **Trembly98**, **Childish07**, **Presso10**.

Equations are numbered within chapters:

$$a = b + c \tag{1.1}$$

$$d = \frac{e}{f}. \tag{1.2}$$

Chapter 2

Methods and Data

This chapter is split into two broad sections which describe the technical and qualitative methods used in this thesis. First, the technical section discusses economic dispatch and capacity expansion models. Followed by multi-objective optimization, genetic algorithms, and the novel framework developed by this thesis. Second, the qualitative section discusses the interview questions and the analysis methods.

2.1 Economic Dispatch

Economic dispatch models optimize the hourly power output of *dispatchable* generators in a model system [1], [2]. As shown in the previous section, there are many frameworks and tools that calculate economic dispatch using linear (LP) or mixed-integer linear programming (MILP). They all share the same fundamental formulation.

Minimize

$$F(x), \tag{2.1}$$

subject to,

$$g(x, p) \leq 0. \tag{2.2}$$

$$x \in \vec{X} \tag{2.3}$$

Chapter 3

Conclusions

We conclude that graduate students like coffee.

References

- [1] A. R. de Queiroz, D. Mulcahy, A. Sankarasubramanian, *et al.*, “Repurposing an energy system optimization model for seasonal power generation planning,” *Energy*, vol. 181, pp. 1321–1330, Aug. 2019, ISSN: 03605442. DOI: [10.1016/j.energy.2019.05.126](https://doi.org/10.1016/j.energy.2019.05.126). arXiv: [1911.03780](https://arxiv.org/abs/1911.03780). [Online]. Available: <http://arxiv.org/abs/1911.03780> (visited on 10/26/2021).
- [2] F. Neumann and T. Brown, “The near-optimal feasible space of a renewable power system model,” *Electric Power Systems Research*, vol. 190, p. 106 690, Jan. 1, 2021, ISSN: 0378-7796. DOI: [10.1016/j.epsr.2020.106690](https://doi.org/10.1016/j.epsr.2020.106690). [Online]. Available: <https://www.sciencedirect.com/science/article/pii/S0378779620304934> (visited on 10/19/2021).

Appendix A

An appendix

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