

# Waling Through My Thesis

## Necessary Liberal Preconditions: A Proof System

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# Agenda

- 1 Thesis Structure
- 2 Contribution
  - More on images
- 3 Summary

# Overview: 3 Parts, 30 Pages, N Images

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Currently divided into three parts:

**Part I** Definitions, explanations, illustrations.

**Part II** Proposals, proofs, examples.

**Part III** Tables, figures, acronyms.

# Part I: Hoare Triples, Weakest Preconditions, Weakest Liberal Preconditions

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## Chapter 1: Background

- Convince that proof systems are important
- Show the structure of the thesis

## Chapter 2: Preliminaries

- Table of Notations
- Definitions of Hoare Triples, GCL, wp, wlp, sp
  - Explain the use of lfp and gfp
- Soundness: semantics of wp, wlp, sp
- Properties of wp and wlp that will be used in part II (forthcoming)

# Part II: Necessary Liberal Preconditions

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## Chapter 3: A Proof System

- (Forthcoming) Literature review: the similar triples that have been studied
- Studying a special  $G$  such that  $w/p.C.F \implies G$ : establish wlp with angelic non-determinism using  $G$  and  $sp$ .
- Studying  $G$  in general: proving things negatively

## Chapter 4: Conclusion

- Conclusion (forthcoming)
- Future work (forthcoming)

# Part III: Appendix

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# If you want to have multiple images, here is a template using minipage

- Or you can use whatever you are used to, but don't forget to include the packages!
- But using minipage, you can also easily have half image half words, or one third, or however you like.



- Now there is a game that you can play!
  - It is fun!
  - You can play it with me!
  - Also the graphic is so cute!

# This is the summary section

- Intro
- Body
- End

*Thank you!*



# References

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- [GR01] J.F. Groote and M.A. Reniers. *Algebraic process verification*, pages 1151–1208. Elsevier, Netherlands, 2001.
- [Hoa69] C. A. R. Hoare. An axiomatic basis for computer programming. *Commun. ACM*, 12(10):576–580, October 1969.