

University of Ljubljana
Faculty of Computer and Information Science

Sum Buddy

University of Ljubljana, Faculty of Computer and Information Science
L^AT_EX thesis class

A DISSERTATION PROPOSAL SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

March 13, 2013

Motivation

Give a general overview of the motivations for your research, but bear in mind that the introduction should be interesting. If you bore the reader here, then you are unlikely to revive their interest in the following sections. For the first paragraph or two, tradition permits prose that is less dry than the scientific norm. If want to wax lyrical about your topic, here is the place to do it. Remember to keep the proposal short, the sweet spot is anywhere between 3–5 pages, with the list of references included. A thesis proposal should be written in such a way, that it could serve as the leading chapter of your thesis, the thesis introduction. Try to make the reader want to read the kilogram of A4 that has arrived uninvited on their desk. Go to the library and read several thesis introductions. Did any make you want to read the on? Which ones were boring?

This section might go through several drafts to make it read well and logically, while keeping it short. For this section, I think that it is a good idea to ask someone who is not a specialist to read it and to comment. Is it an adequate introduction? Is it easy to follow? There is an argument for writing this section—or least making a major revision of it—towards the end of the writing. Your introduction should tell where the research is going, and this may become clearer during the writing.

Methodology

Provide descriptions of the methodologies that will be applied during your research. For any thing that will not been done by you or has already been done in your chosen field provide adequate acknowledgement either by referencing the scientific work [1–7]

or through the Acknowledgements chapter. The Internet and Google can serve as good starting points for writing a thesis, especially since there can be found many tutorials.¹ Make clear the way in which your research will differ from anything that has already been done.

Scientific Contributions

Explain the expected scientific contributions that will arise from this research. Be brief, list at most three key points that you feel will arise from your research. Bear in mind that a scientific contribution should be publishable *per se* as a scientific research paper. Preferably in a (Social) Science Citation Index (Expanded) indexed journal.

Bibliography

- [1] C. Adami, Introduction to Artificial Life, Springer-Verlag, New York, 1998.
- [2] P. J. Bentley, Digital Biology: How Nature is Transforming our Technology and our Lives, Simon & Schuster, New York, 2002.
- [3] C. W. Reynolds, Computer animation in the world of actors and scripts, MSc thesis, Massachusetts Institute of Technology, The Architecture Machine Group, Cambridge, MA (1978).
- [4] C. W. Reynolds, Flocks, herds, and schools: a distributed behavioral model, *Computer Graphics* 21 (4) (1987) 25–34.
- [5] I. Lebar Bajec, N. Zimic, M. Mraz, Simulating flocks on the wing: the fuzzy approach, *Journal of Theoretical Biology* 233 (2) (2005) 199–220.
- [6] I. Lebar Bajec, Fuzzy model for a computer simulation of bird flocking, PhD dissertation, University of Ljubljana, Faculty of Computer and Information Science, Ljubljana, Slovenia (2005).
- [7] F. H. Heppner, U. Grenander, A stochastic nonlinear model for coordinated bird flocks, in: S. Krasner (Ed.), *The Ubiquity of Chaos*, AAAS, Washington, 1990, pp. 233–238.

¹<http://www.phys.unsw.edu.au/~jw/thesis.html>

Biography

Sum Buddy was born a long long time ago somewhere in Middle Earth...

From the fall of the lost moon he has been a third year student of the doctoral program at the University of Ljubljana, Faculty of Computer and Information Science. He has not done much but read loads of articles, which printed out nowadays serve as both his pillow and duvet. This provides for quality time during the days that he spends sleeping at work.

Personal bibliography

1.08 Published scientific conference contributions

- [1] M. Petroni, L. Canciani, M. Mraz, M. Moškon, A qualitative method for parameter estimation in gene regulatory networks using extended Kalman filtering, *Proceedings of 21st Electrotechnical and Computer Science Conference (ERK 2012)*, 39-42, 2012

1.16 Independent scientific component part or a chapter in a monograph

- [2] M. Moškon, J. Bordon, M. Mraz, N. Zimic, M. Petroni, *Computational approaches in synthetic and systems biology*, accepted chapter for book Recent Advances in System Biology, edited by prof. A. Valente, prof. Y. Gao and prof. A. Sarkar, Nova Science Publishers Inc., USA, expected release September, 2013

2.11 Undergraduate thesis

- [3] Petroni M., *Gene regulatory networks as dataflow processing platforms: BSc thesis*, Ljubljana, 2011

2.24 Patent

- [4] JERALA, Roman, AVBELJ, Monika, BENČINA, Mojca, MORI, Jerneja, GABER, Rok, KOPRIVNJAK, Tomaž, ANDERLUH, Gregor, VOVK, Irena, LEBAR, Tina, TURNŠEK, Jernej, ILC, Tina, TOMŠIČ, Nejc, STOŠICKI, Tjaša, ŽNIDARIČ, Matej, BORDON, Jure, PETRONI, Mattia, GLAVNIK, Vesna. Improved synthesis of biosynthetic product by ordered assembly of biosynthetic enzymes guided by the nucleotide sequence motif template: patent: SI 23510 (A), 2012-04-30. Ljubljana: Urad Republike Slovenije za intelektualno lastnino, 2012. 100 str., ilustr. [COBISS.SI-ID 4959514]

3.25 Other performed works

- [5] ILC, Tina, LEBAR, Tina, STOŠICKI, Tjaša, TOMŠIČ, Nejc, TURNŠEK, Jernej, ŽNIDARIČ, Matej, BORDON, Jure, ČEŠNOVAR, Rok, PETRONI, Mattia, PUS-TOSLEMŠEK, Rok. *Competition team members: DNA coding beyond triplets*: grand prize winners at the International Genetically Engineered Machine competition - iGEM project 2010, Cambridge, Massachusetts Institute of Technology, November 2010, <http://2010.igem.org/Team:Slovenia>. [COBISS.SI-ID 4757018]