

# Writing Scientific Papers and Software

Cheng Soon Ong

*Department of Computer Science, ETH Zurich, Switzerland*

**Abstract**—A critical part of scientific discovery is the communication of research findings to peers or the general public. Mastery of the process of scientific communication improves the visibility and impact of research. While this guide is a necessary tool for learning how to write in a manner suitable for publication at a scientific venue, it is by no means sufficient, on its own, to make its reader an accomplished writer. This guide should be a starting point for further development of writing skills.

## I. INTRODUCTION

The aim of writing a paper is to infect the mind of your reader with the brilliance of your idea [1]. The hope is that after reading your paper, the audience will be convinced to try out your idea. In other words, it is the medium to transport the idea from your head to your reader's head. In the following section, we show a common structure of scientific papers and briefly outline some tips for writing good papers in Section ??.

At that point, it is important that the reader is able to reproduce your work [2], [3], [4]. This is why it is also important that if the work has a computational component, the software associated with producing the results are also made available in a useful form. Several guidelines for making your user's experience with your software as painless as possible is given in Section ??.

This brief guide is by no means sufficient, on its own, to make its reader an accomplished writer. The reader is urged to use the references to further improve his or her writing skills.

## II. MODELS AND METHODS

Describe your idea and how it was implemented to solve the problem. Survey the related work, giving credit where credit is due.

## III. RESULTS

Show evidence to support your claims made in the introduction.

## IV. DISCUSSION

Discuss the strengths and weaknesses of your approach, based on the results. Point out the implications of your novel idea on the application concerned.

## V. SUMMARY

Summarize your contributions in light of the new results.

## ACKNOWLEDGEMENTS

Agata?

## REFERENCES

- [1] S. P. Jones, "How to write a great research paper," 2008, microsoft Research Cambridge.
- [2] M. Schwab, M. Karrenbach, and J. Claerbout, "Making scientific computations reproducible," *Computing in Science and Engg.*, vol. 2, no. 6, pp. 61–67, 2000.
- [3] J. B. Buckheit and D. L. Donoho, "Wavelab and reproducible research," Stanford University, Tech. Rep., 2009.
- [4] R. Gentleman, "Reproducible research: A bioinformatics case study," *Statistical Applications in Genetics and Molecular Biology*, vol. 4, no. 1, 2005. [Online]. Available: <http://www.bepress.com/sagmb/vol4/iss1/art2>