Report Template

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This is a template for a report of the computer architecture course TDT4260. It serves as illustration for the structure of computer architecture research papers and highlights the meaning and importance of individual sections. It is meant as guidance for students who have never been in touch with research and hopefully conveys the expected report structure and quality.

***Abstract*—The abstract of a publication gives a short introduction the the problem at hand, presents your solution to this problem, highlights the contributions of the paper as well as summarizes the results obtained.**

I. Introduction

The introduction section introduces the larger research area the paper is a part of and illustrates the concrete problem(s) at hand the paper tries to solve. It explains the proposed solution from a 20.000 feet abstraction level. Furthermore, it states the contributions of the paper and briefly highlights its main results. It finishes with an outline of the paper, giving a short explanation of the contribution/meaning of each section.

II. Background

The background section covers knowledge that is necessary for understanding the proposed solution, but you cannot expect the audience of the paper to be familiar with. This is commonly the case when you propose solutions that incorporate knowledge from different research areas. An example would be an implementation of a compression scheme between memory and processor in order to decrease memory bandwidth utilization. It is very likely that you would need to explain the compression scheme, since most computer architecture researchers would not be familiar with it.

III. The Scheme (substitute with descriptive title)

This section explains your proposed solution in full detail. It needs to strike a fine balance between unnecessary implementation details and a level of abstraction that is too high. The goal is to give enough detail such that the audience of your paper is able to reimplement your scheme, but not more. Informative figures and examples are a very powerful tool for conveying necessary information to your audience, and are often worth more than a thousand words.

IV. Methodology

The methodology section explains your experimental setup. It should state every bit of information that is necessary in order to be able to reproduce your results. It further covers your actions taken in order to ensure that you are really measuring what you think you are measuring as well as your actions that were taken in order to validate your results. The goals are to set up *realistic* experiments and be absolutely convinced that you took care of all side-effects as well as to state enough information such that your experiments are fully reproducible.

V. Results

This section presents the results of your experiments, comparing your solution to other schemes. The metrics of interest are highly dependent on the topic of research, but should optimally cover all interesting aspects of your scheme. Informative graphs or tables are the key to a good result section.

Furthermore, you need to discuss your results. You should give explanations of distinctive points and outliers in your results. It is also necessary to state *why* your scheme is better/worse compared to the other schemes. Thus, this section consists of two parts: the results of your experiments, as well as an explanation as to why the results are as they are.

VI. Discussion

This section might elaborate on alternative approaches that you have tried, but were not successful. It discusses weaknesses of your scheme and highlights the strong and weak points of your experimental setup.

VII. Related Work

The related work section puts your paper into a research context. It mentions other research with similar goals or schemes and compares them to your work, highlighting the commonalities and differences. It also shows whether you have an overview of the research area.

VIII. Conclusion

This section concludes your work by briefly repeating the goal of your work and stating the main results. It can also include planned future work.