Guidelines for the report writing in the seminar of big data management

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1. Difference between presentations and reports

First, please note that the goals of presentations and reports in this seminar are different:

§   Presentations: Present to the audiences and let them understand your topic.
§   Reports: Show your own critical thinking and new ideas on this topic based on the papers you read.

Therefore, a presentation is like "*an introduction to one topic*", but a report is like "*a paper review and an opportunity for critical thinking*". In presentations, students are expected to introduce the research problems and challenges, and show intuitive examples and applications. But in reports, students are expected to give novel ideas and to show critical thinking based on the papers students read. So the purposes are different for presentations and reports.

2. Goal of report writing

A general goal of report writing is to show that students have good understanding on one specific topic of big data management and students can produce independently a well-formed and finished written report on it. Therefore, the following questions should be answered in the report.

1. What are the research problems?

2. What are the strengths of the previous paper(s)?

3. What are the main weaknesses of the previous paper(s)?

4. If you were to solve this problem, what would you do?

3. Structures of a report

The main structure of a report includes the following sections.

· Abstract

Use one or two paragraphs to summarize the main contributions of your report. Some example sentences are like: "I read two papers [1,2] on big graph data in this seminar. In this report, I review their main contributions on the problem of big graph processing. "

· Keywords

Give three to five keywords in the report.

· Section 1. Introduction

Give the motivation of the research problem and discuss the main results of previous papers. The length of Introduction is around 1.5 - 2 pages.

At the end of the Introduction, give the organization of the rest of the report. An example is like: "The rest of the report will be divided as follows. In Section 2, I will discuss how big data applies to health by providing explanations. Then, in Section 3, I will give an overview of the potential areas... Finally, I will give a brief conclusion to summarize this report."

- Section 2. Preliminaries

Describe some basic definitions and theorems for readers to understand this report. The length is around 1 - 2 pages.

- Section 3. Main results of previous works

This part can be extended to several sections which depend on the number of papers you read and the contents you want to present. Please add more examples and figures to illustrate the results. Do not directly copy the sentences from previous papers. Rephrase the ideas according to your own understanding.

- Section 4. Strong points of papers

Several strong points or interesting parts of papers should be mentioned and explained in this section. The length is around 0.5 – 1 pages.

Some examples are like "This paper is well-written and in general it gives me a very good impression.", "I am especially curious to understand the setting of their big data experiments.", "The main architecture of big data management system is described very well in this paper.".

- Section 5. Weak points of papers

Several weak points of papers are found and explained in this section. The length is around 0.5 – 1 pages.

Some examples are like " The main weak point I figured out is that there is no enough explanation on..." " The concept is not well defined and it is confused for readers.".

- Section 6. My ideas (or algorithms or experiments)

Give new ideas/algorithms/experiments of the author on the research problem. This part is very important, because it shows the potential of the author to be an independent innovative researcher. This section can be as long as possible.

- Section 7. Conclusion

Summarize the research problem and the main contributions of previous papers. The main weakness of previous works should be also mentioned here. Some future works can be described as well.

Note that:

1. Please add more examples and figures in your report to illustrate the ideas and algorithms. There are at least one example and one figure for each report.
2. Please make a careful proofreading before the submission of your report. Read your report at least three times before the submission.