

Report 2: Assessment of Current Knowledge

Due dates:

Proposal Beginning of week 3

Report Middle of week 4

Purpose: To connect your research to the existing body knowledge and continue the necessary *writing* component of scientific endeavors.

Overview

Many hypotheses about a given algorithm or system can be evaluated based on the published research of other investigators. This literature forms a foundation that should inform your own research plans and investigations. It can provide useful findings, suggest interesting research questions or methods, and eliminate or modify your potential avenues of inquiry.

Examine papers and other published work that are relevant to your algorithm or system. Focus on those papers that provide insight into potential research questions that may emerge from your subsequent behavior exploration. You should strive for recent papers, preferably those I have not reviewed myself.

Summarize and synthesize the relevant findings of *at least* four papers (more if you are quick to understand them). Explain their findings and briefly describe the relevance of those findings to your own investigations. To the extent possible, identify gaps, oversights, or errors in the published literature. Be sure to provide some overall organization that helps to synthesize, classify, describe, or structure the papers, rather than only providing a recounting of their findings.

The length of this report should be at *least* two to three pages of single-spaced text with additional space for diagrams and citations. Diagrams and tables should be used if needed to convey the results of others or the overall organization of the literature. Complete bibliographic citations are expected.

Proposal

Send me the bibliographic information for your four (or more) proposed papers to review via email. I will approve your slate or provide feedback for modifying your proposal. Keep in mind Keshav's first two passes on each paper may take you some time [1], so you will want to make your revisions as quickly as possible.

Details

You should produce single, collaboratively-generated report for each team. Parts of this report will be used in future writings. In addition, you should find that thinking critically about established knowledge *now* will be extraordinarily helpful to your productivity and future work.

L^AT_EX has a very convenient bibliography management system called *BibT_EX*. This is a simple flat file containing bibliographical information on any papers, articles, thesis, technical reports, etc. You can see an example of my growing *BibT_EX* file on the MathLAN at `~weinman/papers/papers.bib`.

It is straightforward to link a *BibT_EX* file to a *L^AX* document so that your references and citations are easy to process. Select `Insert ▷ List / TOC ▷ BibTEX Bibliography` to include a `bib` file. Click on the resulting “BibT_EX Generated References” button, and you will get a BibT_EX dialog. After you’ve done this, you can use citations from any bibliographies you’re including with `Insert ▷ Citation`. The box in the Citation dialog will show a list of all the references in your `bib` file.

Electronic copies of many of the papers I have reviewed previously may be found on the MathLAN at `~weinman/papers`. These are (very) roughly organized topically and are indexed with filenames of the form `authorXXtitle.zzz` where `author` is the last name of the first author of the paper, `XX` is the two digit publication year, and `title` is the first word of the paper title (excepting articles and prepositions). You may need to use `find` to determine whether something is present. Also, the filename of any paper I have entered in my *BibT_EX* file should be the key.

If you have found a reference to a paper you would like to read but cannot access a copy of it, you should request one via the science librarian or InterLibrary Loan (ILL).

References

- [1] S. Keshav. How to read a paper. *SIGCOMM Computer Communication Review*, 37(3):83–84, 2007.