1 Announcements

Assignment 1

Assignment 1 has been posted\(^1\) and is due by Monday, September 29.

Research paper

The research paper will constitute a part of the final grade. You can write it like a conference paper. However, if you don’t have a research topic, you can consider other types, such as a survey paper. The page limit is 10, which should not be exceeded unless Tom permits. Each student should submit a draft version of the paper that will be graded. This requirement is to ensure that students take the draft seriously. Though the paper need not be written exclusively for this course, it must be new writing. The main aim is to ensure that students are able to put into practice what they learn in this course. Use \LaTeX{} to write the paper. Figures must be computer generated and incorporated into the text using \LaTeX{} commands. Limit the reuse of text from any previous paper to at most 20\% and annotate it. Submit a link to the electronic read-access copy of your \LaTeX{} source to Tom.

Grading of the paper will depend on organization, style and usage, formatting, and overall impression. Each area will be letter graded. Grading will be done for the draft as well as the final version. Along with the final version, submit a discussion (either a PDF or hardcopy) addressing the comments given by Tom on the draft version. Tom has noticed that despite of him spending substantial amount of time in reviewing the drafts, many of the comments made by him are never addressed. He expects students to address all the issues pointed by him. A good way to do this, that Tom follows himself, is to check off each comment after addressing it, or to write a text underneath the comment, in a different color. You can then go back to ensure that no comment is missed. If you choose to ignore any comment, provide a reason for doing so in your discussion.

2 Paper organization (Continued)

In the last lecture, we discussed writing the date, abstract, and introduction. We also critiqued the abstract of a paper co-authored by Tom [1]. In this lecture, we will analyze the introduction to Tom’s paper and discuss the organization of some other parts of the paper.

\(^1\)http://www.cs.dartmouth.edu/cs191/Assignments
Critical analysis of the introduction

Tom mentioned a couple of points to keep in mind while critiquing: (a) be respectful in critiquing others work and (b) objectively point out shortcomings, errors, or limitations, if any.

There was some criticism about the short introduction to Tom’s paper. Tom clarified that much of the explanation was done through figures later in the paper, and thus only vital points were included the introduction. Tom agreed to the suggestion about opening the paper with the work done. Get to the thesis as early as possible in the paper, perhaps in the title itself. A previewing paragraph must be present to give an overall view of different sections of the paper. A story with embedded section numbers is recommended.

Be clear about whom “we” refers to. “We” generally refers to the reader and writer, together. One suggestion was to state the results alongside the restrictions.

Assignment (not to be graded): Rewrite the last paragraph of introduction in Tom’s paper.

Interior sections

Technical papers do not have a particular structure, and so no specific instructions can be given. It is often a good idea to start with a high-level overview, followed by a mid-level outlook, and finally the in-depth details. Tom suggested to have a topic paragraph in each section, stating the purpose of the section. Also, there must be a topic sentence in each paragraph. Some paragraphs, instead, have a pseudo-topic sentence. The point is to have a topic sentence in each paragraph, whether at the beginning or at the end. Every section, subsection, or subsubsection must have a topic paragraph or at least a topic sentence. Subheadings can be used to break up the page visually. Tom has a macro, subheading, which is just subsubsection*. Tom advised to avoid numbered subsections. He prefers using a flatter structure than a tree-like structure for the paper.

Conclusions

Zobel [2] suggests to use “Conclusions” instead of “Conclusion.” If you don’t have a conclusion to draw, call it “Summary.” This is an appropriate place to state (or restate)

1. limitations,
2. future work,
3. open problems, and
4. practical or theoretical implications.

Acknowledgments

The preferred spelling is “Acknowledgments,” though “Acknowledgements” is accepted as well. In this section, thank people who provided reviews or made any sort of contribution to your paper. Funding support can also be acknowledged with \thanks at the beginning. Tom prefers doing this as a subheading within the section for conclusions.
Appendices

Page limits often restrict writers from giving much detail. Appendices hold material that could otherwise not be included in the paper. Some conferences allow use of appendices, while some don’t. The content of the appendix is usually not counted toward the page limit. Do not give any important detail in the appendices, because reviewers don’t always read them. Rather, include all the important details in the body itself.

Bibliography

Correctly cite the papers that made contribution to your work. Tom frequently notices errors in bibliography. Though students often check their BibTeX source, this does not always ensure correctness. There is no excuse for any error in bibliography. RTFB: Read The Bibliography!!! It is rude to cite someone’s work incorrectly. The reader can find relevant work only through an accurate bibliography. Tom emphasizes not to copy bibliography entries. You should have, or at least have seen and written down carefully, every work that you cite. Tom has seen authors cite even their own work incorrectly.

Results

Zobel [2] suggests on stating results straight at the beginning. Readers don’t want to wait till the end to discover the results. Unless you are solving an open question, like Sir Andrew John Wiles did by proving Fermat’s Last Theorem, do not keep the results for the end.

3 Style of writing

The manner of expression is the writing style. It is about how well we communicate to the readers. Consider the following sentence:

An experimental analysis of the rate-limiting components of the system could yield a significant increase in throughput.

The rate-limiting components of the system can be replaced by bottlenecks, and the verb analyze can be used instead of the noun analysis. A better way of writing the above sentence is

We could speed up the system if we found its bottlenecks.

Short sentences are appropriate as they are direct and provide better flow. Additionally, people tend to understand better if a simple structure is used to write the text. Tom suggested to read Williams [3] for more details on style.

References

