

Guidelines for Writing a Good Technical Report or Paper

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1. The most important parts of a report are the abstract, introduction and conclusion. They give the reader the first impression of your report/paper.
2. A report or paper should tell us the following:
 - (a) What is the domain of interest?
 - (b) What is the importance and significance of the work?
 - (c) Who are the major players in this area and what are they attempting to address?
 - (d) How much has been done so far?
 - (e) What are the outstanding issues and which aspects can be improved on?
 - (f) What approach are you using to tackle these issues or improvements?
 - (g) How significant is the contribution of your work?
 - (h) What results are produced and how do they compare against or measure up with the work of others in this area?
3. How to write an abstract?
 - a. Start off by explaining all the points given in (2) and linking them together without worrying about the length.
 - b. Next, retain the important highlighted points and trim off the rest. Chain the points together and reduce the length by half.
 - c. Further refinements are needed to reduce it to 1 page (for technical reports) or around 150 words (for papers).
 - d. Make sure all versions are retained for your own reference.
4. The introduction provides the background including the problem area, techniques/algorithm/architecture, approach to handling the problem, taxonomy of approaches and their effectiveness and impact. Extensive references to other relevant works must be made.
5. All figures, tables and graphs must be referenced explicitly in the text. All axes, dimensions, columns, rows and scale must be explained clearly. They must all be directly relevant in helping you to make a specific point. For tables and graphs, all important points for interpretation must be provided. As a rule of thumb, each table/graph requires half to one page of careful analysis. Ask yourself:
 - a. What do you wish to say?
 - b. How does the result tally with the hypothesis?Take time to explain. This is the opportunity to demonstrate your analytical ability. Be careful and meticulous.

6. The analysis should compare your work with established/published work. This is important. You have to be careful of the yardstick you wish to use for comparisons, making sure that they are acceptable and reasonable. No claim can be made unless it is backed up by empirical or analytical (theoretical) results.
7. The conclusion should outline the findings of your work. Do they compare well with established work? Do they address the issues raised in the introduction and abstract? What are the contributions? What is their significance? What is the future work?
8. Always acknowledge work used in the report/paper. If you are expressing an opinion rather than a fact, you should use phrases such as “*The author believes that ...*”. Never deliberately cover up nor doctor the results so that they fall into your scheme of things. Be upright. Do not repeat passages in other’s work. Do not copy. All illustrations should be original. Acknowledge the source if it is derived from other’s work.
9. Refer back to all the previous points again and again as you draft your report. Conscientiously follow the guideline.
10. Reference style:

AuthorA, AuthorB and AuthorC, “*Title of paper,*” IEEE Transactions of ABC, Vol. 3, no. 1, January 2002, pp.11-22.

Or

AuthorA and AuthorB, “*Title of paper,*” IEEE Transactions of ABC, 3(1), 11-22, Jan. 2002.

If there are more than 3 authors:

AuthorA, et al. (notice where the fullstop is!)

AuthorA should be surname first, followed by initials, e.g. Lai, E. M-K.

AuthorB and AuthorC should be initials first, followed by surname, e.g. Y. Liu.