

Keywords

The purpose of a keyword list is to support computer search of documents.

- You need to predict what potential readers of your paper will search for.
- Typically, don't need to repeat words found in the title (they often get picked up automatically).

The Introduction

The first sentence of the paper is crucial

- This is another opportunity to hook the reader... or to lose them
- Definitions are boring

Often, the initial opening sentence you come up with is so generic that it can be dropped from the paper with no loss. If that is true, then do so!!

Try to keep introduction section short

Goals of the introduction:

- Define problem (what is this about?)
- Motivate the problem (why do I care?)
- Outline content of paper (what is plan of attack?)
- Usually summarize results (what is the solution?)

Typically give an outline of the paper at end of introduction, with a sentence for each section.

Reporting Results

In general, you need to provide enough information that the knowledgeable reader could reproduce the work

Enough data need to be provided so the reader can have confidence in the analysis and conclusion

Clearly state assumptions

Clearly state limitations, tell what you **didn't** do as well as what you **did**

- Might be an opportunity for future work

As appropriate, a standard analysis, or use of a standard testbed, is a good idea. That means less uncertainty to the reader, so more confidence in the result.

When possible and appropriate, present in terms of the traditional scientific approach of hypothesis-experiment-conclusion

Displays and Captions

Displays are things like tables, figures, algorithms, etc., that are set apart from the text, and have a caption.

In general, the caption should summarize (briefly) the display.

Captions need to be self contained. Skim readers might well **ONLY** read the displays and their captions, not the paper.

Within the paper text, you need to clearly refer the reader to the display at appropriate times (don't count on them noticing the display on their own).

Citations

Citation here means the place where an item in the reference list is referred to.

Approach 1: Give a number

- Usually [1,2] or cite^{1,2}
- No info to the reader about the reference, but its easy to find in reference list
- Compact (especially the superscript form)
- Often good style to mention the author(s) when using this form, for the most significant references
- The order might be alphabetical (better) or by cite (worse)

Approach 2: Give a tag, usually derived from names and dates

- Such as [Shaf98a] or maybe [CLR90]
- Potentially gives a clue to the reference content, but not much
- Not necessarily easy to find
- Reasonably compact

Citations (cont)

Approach 3: Give information such as name and date

- Such as the book by Shaffer (2001a) or maybe some other good books (Cormen, et al. 1990, Preperata and Shamos 1985)
- This might tell the reader a lot about the reference.
- Takes a lot of space
- Not at all easy to find in reference list, in fact could be ambiguous
- Some references don't have obvious authors, how to construct citation?

Occasionally, the full reference appears in the text, not in a list at the end (so the citation **is** the reference info)

Reference Lists

The reference list says a lot about a paper.

- What is the paper about?
- Is the author adequately familiar with prior work?
- Where can I go for more background, or to learn the field?

There are many variations on reference style

- Its usually specified for you what style to use... so use it!
- When done manually, reference lists are one of the biggest sources of bugs
- **Never** do it manually. **Always** use something like BibTeX or Endnote. If your document processor system doesn't give you equivalent support for formatting reference lists, switch to a real document processing system.
- When using reference software, put as much data into the database as possible, even if not all of it will actually appear in that citation style. You might need it later.

Reference Lists (cont)

A good reference list style will

- Give the reader enough information about the reference to recover it
- Give the reader enough information to easily recover it/understand what it is
- Not take up more space than necessary

Examples of Reference List Styles

J.M.A. Begole, C.A. Struble, C.A. Shaffer, and R.L. Smith, "System Resource Sharing for Synchronous Collaboration," *IEEE Transactions on Networking* 9, 6(Dec 2001) 833-843.

Names: Typically initials, sometimes last name first, sometimes last name last, sometimes mixed.

Journal title might contain abbreviations

Issue number might or might not be given, volume number is **always** given

The year might be in the cite identifier (if there is one), after the author, or near the end of the reference

I believe in giving the reader more information, over saving space in the reference list (if you need more space, drop some of the less important citations)

Examples of Reference List Styles (cont)

Some information commonly given is a holdover from olden times, and is now useless for real people. Prime example: City of publication for books.

Of course, you often have no choice in style to use