

Common Errors in Technical Writing

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English

Articles

- “The”, “a” and “an”.
- Usually, there should be an article before any noun, unless it’s a plural form, or you are not referring to a specific object:
 - Refer to the figure...
 - There is a dip in the curve...
 - The curves in Fig. 1 indicate ...
 - We ignore the A and B in ... (notice we omit “the” before B)

Spaces

- There should ALWAYS be a space after EVERY punctuation:
 - “Different from previous work, we present an alternative framework, which was never attempted before. The differences include: 1) XXX; 2) XXX.”
- There MUST be a space between every two consecutive words:
 - “Fig. 1” is two words (with space)
 - “Question 1” or “Review 1” is two words (with space)
 - Q1 or R1 is actually one word (w/o space)
 - Question answering (QA). (“(QA)” is a word, too!!)
 - “...without much **losses.This** has convinced us...” (wrong!)

Subtle Differences between Similar Words

- Effect vs. influence (we almost never use influence in Engineering disciplines; it is used in arts & social sciences)
- Affect vs. effect
- Accuracy vs. performance (latter usually means speed/memory footprint)
- Matching vs. alignment
- Incorrect vs. wrong (latter is seldom used)
- Similar to vs. similar with
- Same as vs. same with (latter seldom used)
- Former vs. previous (“former” is paired with “latter” , always)

Number of XXX

- Chinese-like usage: “Word number”, “Class number”.
- Instead, should be: “Number of words”, “Number of classes”.

et al.

- “et al.”: Indicating “and others” in citations.
- If you cite one author in body text, it should be “AuthorOne”. Two authors: “AuthorOne and AuthorTwo”. Three or more authors: “AuthorOne et al.” (although, for three authors, I understand “AuthorOne, AuthorTwo, and AuthorThree” is OK).
- “et al.” stands for “et alia”. It does NOT have a period after “et” and DOES have one after “al”.

First Person, Passive Voice

- Please **write in first person** and **avoid the passive voice**. Academic writing does not have to be stilted and boring.
- Chicago Manual of Style: “When you need the first person, use it. It's not immodest to use it; it's superstitious not to.”
- Simon Crowley: “Every time you use the passive voice, a kitten is killed by God.”

Hyphenation

- “*We built a **high-performance** implementation.*”
- “high-performance” is hyphenated because “high” modifies “performance” not “implementation”. It's not a “high implementation”. Here, “high-performance” is an adjective.
- But: “*Our implementation has high performance.*” Here, “performance” is a noun. No hyphen.
- Similarly: “throughput-oriented workloads” or “GPU-based implementation”.

Citations as words

- van Leunen: “Brackets are not words. A bracketed number is just a pointer, not a word. Never, ever, use a bracketed number as if it were the name of an author or a work.” (p. 20).
- So instead of
“A similar strategy is **described in [15].**”),
use instead
“A similar strategy is discussed by AuthorOne et al. [15]”.

Latin and Italics

- “et al.” is *not* italicized or underlined (Chicago Manual of Style 7.56: “Commonly used Latin words and abbreviations should not be italicized. *ibid*, *et al.*, *ca.*, *passim*.” [and later, 6.44: “Note that ‘e.g.’ and ‘i.e.’ are not italicized.”]).
- The difference between *i.e.* and *e.g.*, which contrary to popular belief aren't synonymous: “*id est*” means “that is” and “*exempli gratia*” means “for example”.

And ...

- “And we have discovered that ...”
- “And Figure 5 shows the results...”
- Do NOT use “and”, “also”, “yet”, etc., in the beginning of a sentence. This is NOT formal!

Like vs. such as

- “Other authors like XXX, YYY and ZZZ ...”
- “... existing methods like XXX and YYY ...”
- Always avoid the use of “like”
- Instead, use “such as”

Firstly, ... Secondly, ...

- Instead of saying “Firstly, ... Secondly...”
- Say “First, Second,”

Use of quotes “ ”

- In LaTeX, it's two back ticks (`) and two apostrophes (”), **NOT “ and ”!**
- End quote should be **after** full stop:
- As Forest Gump famously said, “life is like a box of chocolate.”
- Jane yelled at me, “Shut up!”

XXXs'

- “..., by computing **the words'** distribution”
- Grammatically correct but very rare these days.
- Instead: “by computing the word distribution”

- “Figure 2 demonstrates **our models'** advantage over others...”
- Instead: “Figure 2 demonstrates the advantage of our models over others...”

Structure

Preamble

1. Approach

1.1 Preliminaries

You NEVER put section 1.1 immediately after the heading of section 1. Instead use a preamble:

1. Approach

In this section, we first present some preliminary mathematic notations, and then ...

1.1 Preliminaries

... ..

Related Work

- Related work should come after the evaluation section, that is, after you have presented your own ideas.
- You do not have to dominate the readers mind with OTHER people's work before the exposure to your own work.
- Refer to “How to write a good research paper” by Simon Payton Jones.

Conclusion

- Conclusion section is required unless in very short paper (2 pages).
- Conclusion is not a restatement of the abstract, or all the contributions you made in this paper
- But rather, it should be the lessons you learned or conclusions you draw from this exercise/project, and what is left to be done.

LaTeX & Tools

Inter-word Space

- “TeX assumes a period ends a sentence unless it follows an uppercase letter.” (Lamport p. 14)
- So, put a `_` (where `_` means “space”) in a sentence like `Smith et al.\ say that`
- If an uppercase letter ends a sentence, do a `\@` before the period: In the class, I gave Bob a `C\@`.

Citing with LaTeX

- When writing citations in LaTeX, do them in this form:
`text text text~\cite{Foo:2000:BAR}`
- The ~ means non-breaking space (which is what you want -- you don't want a linebreak between the text and the citation).
- Also, do
`\cite{AuthorOne:2000:ABC,AuthorTwo:2002:DEF}`
- instead of
`\cite{AuthorOne:2000:ABC}\cite{AuthorTwo:2002:DEF}`
- Simplify the bib. The bib entry should just contain the authors, title, venue (in abbr.) and year: Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers), → ACL

Graphs and Figures

- Always use vector graphs (eps, pdf)
 - These graphs/figures will be very sharp even after magnified 10x
- Don't use bitmap images (jpg, png)
- Learn to use GNUPlot to plot your figures and then export to eps or pdf. It is very powerful!

The END