

Avoiding Common Errors in Writing (V1.3)

Yoonsuck Choe
Department of Computer Science and Engineering
Texas A&M University

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Here are some common mistakes that I encounter when proofreading theses and dissertations. Make sure you checked for these errors thoroughly before you hand me your draft. First, read the left column and see if you can find the error. Next, see the right column for the correction.

1 Articles

When describing something in general, use “a”. For something specific, use “the”.

- That is a park. (That is one such thing we call a “park”.)
- That is the park. (That is a specific park, the one I was talking about earlier.)

Read it and see how it sounds.

×	This is book.	○	This is a book. (Without “a”, it sounds like a first grader.)
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When referring for the second time, use **the**: you know what it is already and you are referring to that specific one.

×	Here is a book. I read a book.	○	Here is a book. I read the book.
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If something is already well-known, use **the**, for example, the Knife Edge Scanning Microscope (KESM).

×	The figure shows KESM.	○	The figure shows the KESM.
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×	Using KESM, we imaged ...	○	Using the KESM, we imaged ...
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“A” and “an” follow the pronunciation, not the spelling, of the following word.

×	This is an usual configuration.	○	This is a usual configuration. (Sounds yoozual .)
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Articles are generally attached to stuff, but not to methods.

×	Knife-Edge Scanning Microscope is one such instrument.	○	The Knife-Edge Scanning Microscope is one such instrument.
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×	The Knife-Edge Scanning Microscopy is one such technique.	○	Knife-Edge Scanning Microscopy is one such technique. (Here, “Knife-Edge Scanning” already provides info of what kind of “Microscopy” it is.)
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2 Number agreement

Singular noun with singular verb, plural noun with plural verb.

×	The data represents XXXX.	○	The data represent XXXX. (Data is plural.)
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×	The comparison between X and Y are done using Z.	○	The comparison between X and Y is done using Z. (The comparison [singular] is done, not X and Y.)
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3 Anaphora

Make sure it is clear what “this”, “it”, etc. mean in your text.

×	We did some experiments and the results were good. Later we found some issues. This can lead to some interesting conclusions.	○	We did some experiments and the results were good. Later we found some issues. Analyzing these issues can lead to some interesting conclusions.
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4 Parallel construction

Sentences should have phrases that are consistent when there is a parallel construction.

×	In experiment 1 we did X, while Y was done in experiment 2.	○	In experiment 1 we did X , while in experiment 2 we did Y .
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5 Parentheses

Parenthesized text is just that—parenthesized. They should be able to be removed without affecting the sentence.

×	(Figure 1) shows the main concepts.	○	Figure 1 shows the main concepts.
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×	In this paper, we review XYZ (XYZ basically means ABC.)	○	In this paper, we review XYZ (XYZ basically means ABC). (In the example to the left, “.” will be removed when the parenthesized text is removed.)
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Whole sentences can be parenthesized, and in that case, punctuation should be **inside**. Again, note that the entire text between the parenthesis should be able to be removed. Carefully note the punctuation.

×	A modifies B. (It is possible that the process is indirect).	○	A modifies B. (It is possible that the process is indirect.)
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Use of parentheses when citing papers also follows the same rule.

×	(Choe et al. 2006) showed that ...	○	Choe et al. (2006) showed that ...
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×	Their main conclusion was X Choe et al. (2006).	○	Their main conclusion was X (Choe et al. 2006).
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6 LaTeX-specific

LaTeX interprets “.” as a marker for the end of a sentence. Thus, LaTeX adds additional space after it. To prevent this from happening, use “. \ ”. For example, “In Fig. \ 5”. Note: This is a subtle difference.

×	In Fig. 5, we can see some good stuff.	○	In Fig. 5, we can see some good stuff.
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×	Choe et al. showed that ...	○	Choe et al. showed that ...
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7 Abbreviations and acronyms

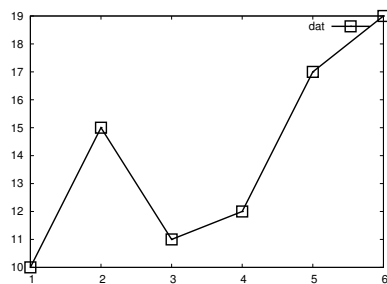
- The abbreviation “e.g.” means “for example”, and “i.e.” means “that is”. You may or may not put “,” after these abbreviations. Just make sure the usage is consistent over the entire document.
- The abbreviation “etc.” applies to numerous things or objects, while “et al.” applies to numerous people.
- The above abbreviations always appear in lower case. Also, don’t forget the slash at the end to reduce space: “e.g. \ A and B”.
- Define all acronyms on first use, e.g. Knife-Edge Scanning Microscope (KESM).

8 Plots

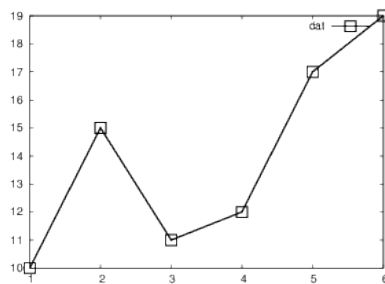
In all plots, follow the guidelines below.

- Clearly indicate what the x and the y axes mean.
- Make the text legible – often they are too small.
- Save the data points in a plain ASCII file (column by column, where the first column is the x index) so that the plots can be generated in a different style at a later time.

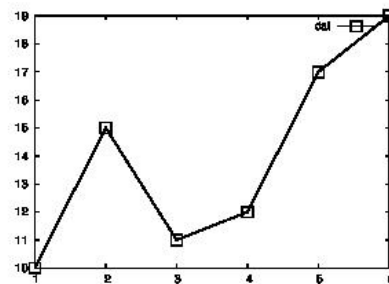
- Use vector graphics (EPS, PDF) where available. See figure below. Zoom in to see the difference.
- Use high quality compression (for JPG, PNG), etc.
- Name the plot with the experiment ID so that the plots are trackable to the original experiment and thus can be reproducible.



PDF/EPS (vector)
Clean and legible



PNG (bitmap)
Pixelized and hard to read text



JPG (lossy bitmap)
Lots of ugly gray noise

9 Ambiguity due to separation

When the noun and verb are separated far apart, it can become ambiguous or hard to parse.

×	The effect of normalized integration of the third order polynomial was measured.	○	We measured the effect of normalized integration of the third order polynomial.
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10 Who did what?

You should make clear who did what.

×	Experiments were conducted to test XYZ.	○	We conducted experiments to test XYZ.
×	Experiments were conducted to test XYZ.	○	Darwin conducted experiments to test XYZ.

11 Tense

- All experiments you did in the past should be in past tense. “To test our hypothesis, we **conducted** three experiments.”
- All experiments someone else did in the past and reported in the literature should be in past tense. “Choe et al. **conducted** experiments to verify someone’s claim.”
- When you refer to information shown in a figure or table, use present tense. “The figure **shows** our main results.”

12 Equations

Equations are proper parts of the sentence. Punctuate them properly.

×	It is known that $y = f(x)$ This is because y is a function of x .	○	It is known that $y = f(x),$ since y is a function of x . (This is one sentence, while the example to the left is two sentences [also, the punctuation is missing].)
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Explain all terms in the equation.

×	It is known that $y = f(x_i).$	○	It is known that $y = f(x_i),$ where x_i is the i -th element of an input x , y is blah, and f is a function of some sort.
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Use roman for function names, not italic. Otherwise, the letters can be confused with indices or variables. Use built-in commands `\sin`, `\exp`, etc., or `\rm func-name`.

×	$y = \sin(x)$	○	$y = \sin(x)$ (The letters s , i , and n could be thought of as separate variables.)
×	$y = \exp(x)$	○	$y = \exp(x)$

Same for labels. They should be in roman.

×	$y = \exp(x_{\text{precision}})$	○	$y = \exp(x_{\text{precision}})$
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13 Oxford comma

When enumerating stuff, put “,” after the last item before “and”.

×	I love my parents, Lady Gaga and Humpty Dumpty.	○	I love my parents, Lady Gaga, and Humpty Dumpty. (Your parents are not “Lady Gaga and Humpty Dumpty”.)
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14 References and citations

- Use American Psychological Association (APA) style references and citations if possible.
- Use provided commands such as `\emcite{ ... }` for “Author (Year)”, etc.
- The command may vary depending on the bib style file (`*.bst`) you use.
- For all papers, provide page numbers.
- For all journals, provide volume numbers.
- Do not use Wikipedia or other unauthoritative sources on the internet. Peer-reviewed online sources (scholarly encyclopedia, etc.) are okay.
- Cite references when making broad claims that you cannot support yourself.

×	There are many algorithms for X.	○	There are many algorithms for X (see e.g. the review by Choe et al. [2012]).
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- Avoid using references such as “[12]” as a noun.

×	[12] proposed an efficient algorithm for X.	○	Choe and Choi proposed an efficient algorithm for X [12].
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15 Long sentences

Break down long sentences into smaller ones.

×	In this experiment we will do X and Y, and use method Z to analyze the resulting data.	○	In this experiment we will do X and Y. Using method Z, we will analyze the resulting data.
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16 Misused words and phrases

×	In another word, ...	○	In other words, ...
×	Researches have shown that ...	○	Studies have shown that ...

17 General

- Run a spelling checker.
- Keep things consistent (e.g. “I” vs. “We”).
- Please keep in mind all of the above as you write. After you’re done with your first draft, proofread with the above in mind. It helps to check one item at a time, e.g. check all equations, then check all plots, etc.
- Some of these things need to be checked simultaneously as you go along, e.g. articles, number agreement, anaphora, etc.

18 Other resources

James A. Bednar's writing tips: <http://homepages.inf.ed.ac.uk/jbednar/writingtips.html>.

Acknowledgments

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