Lecture 9
Citations and Quotations

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Citations

Citations and References

Academic writing makes ample use of citations and references.
Citing properly is necessary to avoid accusations of **plagiarism**.

Some terminology:

- A **citation** is a mention that you make in your text of a source typically listed in your reference list at the end of your paper or thesis.
- A **reference** is a bibliographic item that appears in the reference list.

Until a few decades ago, authors often used **footnotes** instead of a reference list.
Such footnotes survive on slides.

Citation Styles

Consider the following paper:

> Martina Seidl, "Never Trust Your Solver: Certification for SAT and QBF," *CICM 2023*, pp. 16–33, Springer, 2023.

Different citation styles can be used:

- a **bracketed number** such as *[36]*;
- a **bracketed alphanumeric identifier** such as *[Sei23]*;
- an **author–year combination** such as *Seidl (2023)* or *(Seidl 2023)*.

Parenthetic vs. Nonparenthetic Citations

A citation such as *[36]*, *[Sei23]*, or *(Seidl 2023)* is **parenthetic**. Never write

In [36], an overview of the state of the art is given.
In (Seidl 2023), an overview of the state of the art is given.

Instead, write any of the following:

Seidl [36] gives an overview of the state of the art.
Seidl [Sei23] gives an overview of the state of the art.
Seidl (2023) gives an overview of the state of the art.
Seidl gives an overview of the state of the art [36].
Seidl gives an overview of the state of the art [Sei23].
An overview of the state of the art is given elsewhere [36].
An overview of the state of the art is given elsewhere [Sei23].

In your literature review or related work section, get into the habit of naming authors. This will also help if they are among your reviewers.

Placement of Citations

Put your citations neatly **inside the phrases** they relate to. Compare:

> *Our leading design principle has been to focus on a* graceful *extension of resolution, [2] following Stroustrup's zero-overhead principle: "What you don't use, you don't pay for." [25]*

> *Our leading design principle has been to focus on a* graceful *extension of resolution [2], following Stroustrup's zero-overhead principle: "What you don't use, you don't pay for" [25].*

Also **mind the gap** between the citation and the text that precedes it.
Compare *resolution[2]* and *resolution [2]*.

Overciting

Young academics often overcite. Not every sentence needs a citation. Also, if you cite Seidl once, you do **not need to cite** her **repeatedly** in the same passage—you can usually rely on the reader's intelligence and goodwill.

You do not need to cite the **fundamental concepts** of computer science or provide sources for common knowledge. You can write about Turing machines without citing the paper that introduces them.[1] In case of doubt, ask your instructor or supervisor.

[1] Alan M. Turing, "On Computable Numbers, with an Application to the Entscheidungsproblem," *Proceedings of the London Mathematical Society* s2-42(1), pp. 230–265, 1937.

Underciting

You should of course also not undercite. That is worse than overciting.
You cannot state that

> *Haskell increases the productivity of its users.*

without a **citation** or some **other evidence** to support this bold claim.

Nor is it enough to write

> *According to David Sabel, Haskell increases the productivity of its users.*

Such a statement is difficult to verify, and is original context cannot be looked up.

Precise Citations

With the bracketed citation style, you can refer to a specific **chapter**, **section**, **subsection**, **page**, **page range**, **figure**, **table**, **theorem**, or similar in a cited work within the brackets—e.g.:

> *In both cases, only superpolynomial separations were known [45, Section 5].*
> *In both cases, only superpolynomial separations were known [45, pp. 425–467].*

With the author–year format, this information must be integrated into the sentence—e.g.:

> *In both cases, only superpolynomial separations were known. They were discovered by Urquhart (1995), pages 425–467.*

Such precise citations are useful when citing a **book** or some other lengthy document.

Clustering Brackets

When multiple bracketed references coincide, **combine them with commas**.
Compare:

> *We know some lower bounds on the size of monotone circuits [23] [9] [12].*
> *We know some lower bounds on the size of monotone circuits [9,12,23].*

As an additional refinement, put *[36]*-style citations in ascending order.

What should you do when one of the references has a page annotation?
If technically possible, combine the references using semicolons (;)—e.g.:

> *We know some lower bounds on the size of monotone circuits [9, p. 142; 12; 23].*

Naming Authors

If you need to refer to works written by **one or two authors** in running text, their family names can be given—e.g., *Bachmair and Ganzinger*.

If there are **three authors or more**, you can refer to them using the first author's family name followed by *et al.* (usually unitalicized)—e.g., *Guttmann et al.* In the reference list, you should list all the authors.

It is easy to misspell authors' names. *Guttmann* can become *Guttman* with nobody noticing—except for the actual readers, or Guttmann herself. Copy-pasting is usually the best option.

Naming Authors

An author's name can stand for the **author** or the **cited work**—e.g.:

> *Urquhart (1995) uses the notation* [n] *to denote the set* $\{1, \ldots, n\}$.
> *In Urquhart (1995), the notation* [n] *denotes the set* $\{1, \ldots, n\}$.

With multiple authors, this means both the singular and the plural are possible:

> *Aho and Ullman [1] describe the algorithm.*
> *Aho and Ullman [1] describes the algorithm.*

There is generally no need to write

> *Aho and Ullman's textbook [1] describes the algorithm.*
> Foundations of Computer Science *[1] describes the algorithm.*

Nothing to See

You rarely need to tell the reader to **see** a reference. Compare:

See Seidl [36] for an overview of the state of the art.
Seidl (see [36]) provides an overview of the state of the art.
Seidl (cf. [36]) provides an overview of the state of the art.

Seidl [36] provides an overview of the state of the art.

Cf. is particularly wrong above, since it means "compare with," not "see."

Titles in Text

In general, **avoid writing titles** in the text. Readers who need the title can look it up in the reference list. But occasionally, titles do appear in the text—e.g.:

> *In Chapter 26 of the* Handbook of Satisfiability, *Barrett et al. [3] describe the extension of CDCL with theory solvers.*

Use headline-style capitalization. In addition, use italics for "large works" and quotation marks for "small works."

If you need to refer to the *Handbook of Satisfiability* multiple times, you can **shorten** its title to *Handbook* from the second time—e.g.:

> *We borrow these notations from the* Handbook *chapter.*

Initial Articles

Is it *Knuth's* The Art of Computer Programming or *Knuth's* Art of Computer Programming?

Both are correct. But sometimes you must **peel off the article**—e.g., *Knuth's monumental* Art of Computer Programming.

If *the* is not part of the title, it should be lowercase and not italicized—e.g., *Chapter 26 from the* Handbook of Satisfiability.

Personal Communications

Sometimes you need to refer to a conversation or email that has **not been published**. It is usually enough to mention your conversation partner and the date with the remark *personal communication*—e.g.:

> *In a personal communication on January 6, 2011, Rafal Kolanski quipped that "there's no learning curve—it's a series of cliffs."*

Alternatively, create a reference. For example, in the text you could write

> *As a user remarked [26], "there's no learning curve—it's a series of cliffs."*

and in the reference list, you would have

> *[26] Rafal Kolanski. Personal communication. January 6, 2011.*

Do not mention conversations with your supervisors.

Choosing among Multiple Sources

Which source should you cite if several sources are available for a particular fact?

Prefer sources that are regarded as **more reliable**.
Possible sources in roughly decreasing order of perceived reliability:

1. book;
2. journal article;
3. conference paper;
4. PhD thesis;
5. workshop paper;
6. technical report;
7. website or other electronic media;
8. personal communication.

But sometimes there are **more details** in a technical report or PhD thesis,
and you might want to cite it instead of a journal article or conference paper.

Indirect Citation

You might learn about the existence of a source A indirectly through another source B. Ideally, you should try to **get your hands** on A and cite it without mentioning B. If you cannot find A, you must acknowledge that your citation of A comes from B. This is inelegant but necessary.

For example, suppose that you looked up the skip list data structure on Wikipedia and found a citation to a 1990 article by William Pugh. Before you can cite this article, you must verify that it really exists and contains what you expect. Fortunately, the original is easy to find, so you can cite it directly.

Self-citation

Self-citations are acceptable, but do not **overcite yourself**. And avoid **self-praise**.

Self-citations should be clearly **identified** as such. Compare:

> *It has been argued [18] that Haskell increases the productivity of its users.*
> *I argued elsewhere [18] that Haskell increases the productivity of its users.*

This also applies if you have **coauthors**—e.g.:

> *Together with colleagues, I developed a tool for visualizing database transactions [12].*
>
> *The research Banerjee and I have done on grammar transformations [3] forms the basis of the current work.*

Calling Yourself

Embrace the **first-person pronouns** *I* and *we*.
You can refer to yourself as *I* if you are a single author and use *we* otherwise.
This is clearer than using the passive.

There is hardly ever a need to write *the author* or *the authors*.
Occasionally, you might need to **refer to individual authors**—e.g., *the first author*.
You can also refer to individual authors by family names or initials—e.g.:

> *The first author was funded by the German Research Foundation.*
> *Acheampong was funded by the German Research Foundation.*
> *N.A. was funded by the German Research Foundation.*

Reference List

The Reference List

The reference list presents all the sources you **cite throughout your document**, and only those. It is usually put at the end, after your concluding chapter or section.

The references are **ordered** by ascending bracketed number, bracketed alphanumeric identifier, or author–year combination.

The precise reference format is given by a **style**.

Software such as BibTEX can help you manage your reference list.

A Typical Reference for a Book

[75] Ellen Ullman. Life in Code: A Personal History of Technology. *Picador, 2018.*

A Typical Reference for a Book Chapter

[40] Andreas Nonnengart and Christoph Weidenbach. Computing small clause normal forms. In Alan Robinson and Andrei Voronkov (editors), Handbook of Automated Reasoning, *volume 1, pp. 335–367. Elsevier, 2001. URL* `https://doi.org/10.1016/b978-044450813-3/50008-4`.

A Typical Reference for a Conference Paper

[32] Einar Broch Johnsen, Olaf Owe, Joakim Bjørk, and Marcel Kyas. An object-oriented component model for heterogeneous nets. In Frank S. de Boer, Marcello M. Bonsangue, Susanne Graf, and Willem-Paul de Roever (editors), FMCO 2007, *volume 5382 of* LNCS, *pp. 257–279. Springer. 2007. URL* `https://doi.org/10.1007/978-3-540-92188-2_11`.

A Typical Reference for a Journal Article

[45] Sean Ovens. The space complexity of consensus from swap. Journal of the ACM **71***(1), pp. 1:1–1:26, 2024.*
URL `https://doi.org/10.1145/3631390`.

A Typical Reference for a Web Page

[80] Wikipedia. Buchberger's algorithm—Wikipedia, The Free Encyclopedia. URL `https://en.wikipedia.org/wiki/Buchberger's_algorithm`. *Accessed April 5, 2022.*

Cleaning Up the Reference List

Once you have compiled your reference list,
you must clean it up to make it **correct** and **uniform**.

- Do you abbreviate journal names consistently?
- Do you use conference acronyms consistently?
- Do you capitalize and italicize consistently?
- Do you provide editor names, page numbers, and publishers systematically?

Also look out for duplicate entries.

All the information, including author names, should be **as it appears** in the document you are referencing. If you are citing Joe Leslie-Hurd but the document states Joe Hurd as the author, write Joe Hurd.

However, you should **capitalize titles** uniformly—typically, sentence-style capitalization for paper titles, headline-style capitalization for book titles.

Quotations

When to Quote

Quote if:

- The quotation expresses your **meaning better** than you can yourself.
- The quotation is **beautiful** or **witty**.
- The quotation provides **evidence**.
- You expect the quotation to touch a **chord of association** with your readers.

When Not to Quote

Do not quote if:

- The original text brings neither **color** nor **evidence**.
- You want to show that you are **learned**.

Quotations with Citations

The citation accompanying a quotation should appear **outside the quotation**, either before or after. Compare:

As Seidl wrote, "to increase the trust in a solving result, modern solvers are expected to produce certificates [36]."

As Seidl [36] wrote, "to increase the trust in a solving result, modern solvers are expected to produce certificates."

As Seidl wrote [36], "to increase the trust in a solving result, modern solvers are expected to produce certificates."

As Seidl wrote, "to increase the trust in a solving result, modern solvers are expected to produce certificates" [36].

Inlined vs. Displayed Quotations

Short quotations (up to about 40 words) should usually be inlined in your text—e.g.:

> *Was it Knuth who quipped that "premature optimization is the root of all evil"?*

Longer quotations look better displayed, without quotation marks—e.g.:

> *As Seidl [36] points out:*
>
> > *Despite the progress made over the last years, proof checking is still expensive. Examples for open challenges concern the reduction of proof sizes and parallelization of proof checking. Furthermore, for QBFs more emphasis needs to be spent on the certification of true formulas and on finding a unified proof format that is supported by all state-of-the-art QBF solvers in a similar manner as DRAT is supported by state-of-the-art SAT solvers.*

Changes in Quotations

Your quotations should generally be **faithful** to the original.

Exceptionally, you can **correct** or **modify** a quotation or **add information** to it using square brackets ([])—e.g.:

> *"To increase the trust in a solving result, modern [SAT and QBF] solvers are expected to produce certificates" [36].*

You can also **delete words** from the middle of a quotation using ellipsis (. . .) as long as this does not distort the meaning. There is no need to put the ellipsis in square brackets in English—e.g.:

> *"After many years I've finally come to realize that my main strength lies in an ability to delegate work . . . rather than to go it alone" [19].*

Paraphasing and Emphasis

If the quotation needs a lot of modification, you should probably paraphrase instead. But even if you paraphrase, you must **acknowledge your sources** and clearly distinguish what is yours and what is not yours.

You can **point out a mistake** in a quotation using *[sic]*.
However, doing so looks arrogant. Consider paraphrasing instead.

If you emphasize parts of a quotation using **italics**, indicate that the italics are yours. A parenthetical *italics mine* suffices. If the italics are not yours, indicate that as well.

Capitalization of Quotations

Adapt the capitalization of your citations to their **surroundings**.
You can perform this change silently. Compare:

Knuth quipped that "Premature optimization is the root of all evil."
Knuth quipped that "[p]remature optimization is the root of all evil."
Knuth quipped that "premature optimization is the root of all evil."

Quoting Mathematics

If your work is mathematical, it might rely on **existing definitions** and **theorems**.

Quoting is rarely an option. You will have your own notations and your own numbering for the definition, lemma, and theorem environments.

This leaves **paraphrasing**, which is difficult since mathematics are highly formulaic. Make sure to properly acknowledge your sources.

Quoting Non-English Sources

As a courtesy to your readers, provide a **translation** for any non-English quotation. You can still include the original for color.

> *To quote Johann Wolfgang von Goethe: "Mathematicians are like Frenchmen: Whenever you say something to them, they translate it into their own language, and at once it is something entirely different." ("Die Mathematiker sind eine Art Franzosen: Redet man zu ihnen, so übersetzen sie es in ihre Sprache, und dann ist es alsobald ganz etwas anders.")*

Epigraphs

Epigraphs are quotations displayed at the **beginning of documents** or **chapters**, or occasionally at the end.

You sometimes find them in **PhD theses** and **books**.

Epigraphs should have some **connection** to the chapter.
They should stand on their own without requiring any **alterations** or **explanations**.
Epigraphs are exceptional in that they do not need a complete citation.

If you quote a fictional character, make sure to include their name—e.g.:

Have you redrafted the redraft of your draft?
—Sir Humphrey in Yes Minister *(1980)*