COMP 516
Research Methods in Computer Science

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Lecture 8: Acknowledging Your Sources

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Citing: Rules of Thumb (Zobel 2004)

- If you discuss a paper in detail or note some particular contribution it makes, it must be cited
- Claims, statements of fact, discussions of previous work should be supported by references, if not supported by your current work
  But: Do not cite to support common knowledge; do not end every sentence with a reference
- References to your own previous work is allowed if it is relevant to your current work
  But: Gratuitous self-reference is counterproductive
- Attribute work correctly, in particular, when relying on secondary sources
  Bad: According to Dawson (1981), stable graphs have been shown to be closed
  Good: According to Kelly (1959; as quoted by Dawson, 1981), stable graphs are closed

Citing (1)

Original text [19]:	Student's text:
KNOWITALL is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.	An example of the described system is KNOWITALL [19]. It is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL [19] is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.

References are not meant to indicate copying! This is wrong!

Citing (1)

Original text [19]:	Improved text:
KNOWITALL is an autonomous system that extracts facts, concepts, and relationships from the web. KNOWITALL is seeded with an extensible ontology and a small number of generic rule templates from which it creates text extraction rules for each class and relation in its ontology. The system relies on a domain- and language-independent architecture to populate the ontology with specific facts and relations.	An example of the described system is KNOWITALL [19]. Given an initial ontology and a small number of rule templates which do not depend on the class and relationships in the ontology, KNOWITALL generates text extraction rules for each each class and relationship in the ontology. These text extraction rules are then applied to texts found on the web. Rule applications populate the ontology with instances of the concepts and relationships in the ontology.

Citing (2)

- A reference in ordinal-number style never starts a sentence
  - Wrong: [9] Disaster rescue is a serious social issue.
  - Correct: Disaster rescue is a serious social issue [9].
- In ordinal-number style a list of references is a comma-separated list of numbers enclosed in one pair of square brackets
  - Wrong: The humanoid soccer robots are fully autonomous [5][9].
  - Correct: The humanoid soccer robots are fully autonomous [5,9].
- A reference never occurs in a section heading
  - Wrong: Section 5. The History of RoboCup [9]
  - Wrong: Section 5. The History of RoboCup (Henry 2006)

Citing (2)

- A reference never comes after a full stop
  - Wrong: 2-on-2 teams of autonomous mobile robots play games in a rectangular field color-coded in shades of grey. [9]
  - Correct: 2-on-2 teams of autonomous mobile robots play games in a rectangular field colour-coded in shades of gray [9].
- Beware of the differences between ordinal-number style and author-date style
  - Wrong: [11,12] stresses the importance of algorithmic support for formal methods.
  - Correct: Wolper [11,12] stresses the importance of algorithmic support for formal methods.
  - Correct: Wolper (1996a, 1996b) stresses the importance of algorithmic support for formal methods.

Citing (3)

Examples of correct use of author-date style:

While Wolper (1996a) does not argue that compositionality in proof systems for concurrency is undesirable, he claims that achieving it without algorithmic support is mostly useless.

Recent work (Wolper 1996a, 1996b) stresses the importance of algorithmic support for formal methods.

Wolper (1996a, 1996b) stresses the importance of algorithmic support for formal methods.

The completion procedure may fail in general, but has been extended to a refutationally complete theorem prover (cf. Lankford 1975, Hsiang and Rusinowitch 1987).

Completion procedures for conditional equations have been described by Kounalis and Rusinowitch (1988), and by Ganzinger (1987a, 1987b).

Quoting

Example taken from a student's text:

> *Such dangers are catered for by ensuring the closure of the function set. Koza [1992] states that:*
>
> > *The closure property requires that each of the functions in the function set be able to accept, as its arguments, any value and data type that may possibly be assumed by any terminal set. That is, each function in the function set should be well defined and closed for any combination of arguments that it may encounter.*
>
> *Without closure, many individuals could have their fitness drastically lowered as a result of minor syntactic errors.*

Direct quotation from Koza [1992]; clearly indicated as such; restricted to (less than) one paragraph; source stated.

Quoting

Examples taken from a student's text:

> *Bickle [1996] states that "[t]he superior method to obtain compact and accurate solutions is the method of adaptive parsimony pressure [. . .]".*

Quotation clearly indicated by quotation marks; alterations indicated in square brackets; source stated.

> *Day [2005] reports that "GP shows great promise in creating robust classifiers for [Automatic Speaker Verification] purposes" where programs attempt to recognise the voice of a known individual.*

Quotation clearly indicated by quotation marks; alterations indicated in square brackets; source stated.

Quoting

Examples taken from a student's text:

> *More recently, in 1999, Tim Berners-Lee [3], father of the World Wide Web (WWW) speaking of the WWW stated that he saw it as*
>
> > *"an information space through which people can communicate; but communicate in a special way: communicate by sharing their knowledge in a pool. The idea was not that it should be a big browsing medium. The idea was that everybody would be putting their ideas in as well as taking them out."*
>
> *A Wiki is in Ward Cunningham's [43] original description:*
>
> > *"The simplest online database that could possibly work."*

Direct quotation indicated by quotation marks and indentation; source stated.

Quoting

- Avoid excessive quotation.
- Quotation is only appropriate
  - where you want to comment on the statements made by someone else
  - where the quote is of some historical significance
- In all other cases, use your own words

Evidence and Support

Example taken from a student's text:

> *Intelligent agents, autonomous or semi-autonomous systems that take decisions and perform tasks in complex, dynamically changing environments, revolutionized the field of AI.*

- This is stating an opinion not a generally known and accepted fact
- As such it needs support which it currently lacks
- Support could be provided by statistical evidence or a reference
- (Made-up) example of statistical evidence:

  > *The concept of intelligent agents was first introduced in 1983. By 2003, more than half of all papers published in the main forums of AI, referred to the concept or made use of intelligent agents, and it has spawned a world wide industry worth 5 billion US$ [2].*

  where [2] is a reference to the source of these statistics.

Evidence and Support

Example taken from a student's text:

> *To deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

- Again, this is an opinion not a generally known and accepted fact.
- Support could be provided by an argument or by a reference.
- A reference could point to a scientific paper where this opinion is stated and argued for.
- An argument could be an example illustrating the advantage of approximate over exact reasoning.
- If that example is taken from a source, then again that source needs to referenced.

Evidence and Support

Example taken from a student's text:

> *To deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

Better formulation:

> *It has been argued by Oberschlau [1] that to deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

or

> *According to Oberschlau [1], to deal with information in the web environment what is needed is a logic that supports modes of reasoning which are approximate rather than exact.*

Evidence and Support

Example taken from a student's text:

> *Therefore, once our system is enhanced with our common knowledge about things we know, [it] could be seen as an intelligent entity. A brilliant example is the Cyc knowledge base.*

- The phrase 'brilliant example' is ambiguous:
  'Cyc a system incorporating common knowledge and it is a good example of such a system' versus
  'Cyc is a brilliant system incorporating common knowledge'
- Both readings require support, in particular, the second version

Evidence and Support

- As Lenat (1995) has noted in an earlier paper, Cyc is a brilliant system.
- Lenat (1995) demonstrates that Cyc is a brilliant system.
- Cyc is a brilliant system (Lenat 1995).

In the sentences above, the author agrees with Lenat (1995)

- Lenat (1995) alleges that Cyc is a brilliant system.
- Lenat (1995) claims that Cyc is a brilliant system.

In the sentences above, the author disagrees with Lenat (1995)

- Lenat (1995) states that Cyc is a brilliant system.

In the sentence above, the author is neutral with regard to the truth of the statement 'Cyc is a brilliant system'

Evidence and Support

Example taken from a student's text:

> *The most popular ways to compress data are the Huffman coding and Shannon-Fano coding.*

- It's unclear on what basis the methods are judged to be 'popular'
  - number of compressed files
  - number of users of compression software
  - number of developers of compression software
- In each case, statistical evidence seems to be required, e.g.

> *In 2004, 60% of all compressed files were compressed using the Huffman coding or Shannon-Fano coding [3].*

where [3] is reference to the source of these statistics.

Conclusions

- how to reference properly using different citation styles
- how to clearly indicate quotation
- how to avoid making unsupported claims and what evidance should always be provided
- Departamental Research Seminar today at 4pm in ALT

> Prof Joel Ouaknine (University of Oxford)
> A Survey of Classical and Real-Time Verification