

COMP08009 RESEARCH METHODS IN COMPUTING & IT

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HOW TO WRITE AN ABSTRACT!

WHY WRITING IS IMPORTANT

Francis Bacon once said, “reading maketh a full man; conference a ready man; but writing an exact man”

To communicate your work well

What is an Abstract

- An abstract is a very concise statement of the major elements of your research project. It states the purpose, methods, and findings of your research project.
- An abstract is a condensed version of a full scientific paper.

Parts of an Abstract

- **Motivation:**

Why do we care about the problem and the results?

- **Problem statement:**

*What *problem* are you trying to solve?*

- **Approach:**

How did you go about solving or making progress on the problem?

- **Results:**

What's the answer? Specifically, most good computer architecture papers conclude that something is so many percent faster, cheaper, smaller, or otherwise better than something else.

- **Conclusions:**

What are the implications of your answer?

Four C's of Abstract Writing

- **Complete**

it covers the major parts of the project/case.

- **Concise**

it contains no excess wordiness or unnecessary information.

- **Clear**

it is readable, well organized, and not too jargon-laden.

- **Cohesive**

it flows smoothly between the parts.

Abstract/Lit Review Submission

Check Yourself did you :

- ▶ Follow the instructions!!!!
- ▶ Include headings *exactly as stated* in the instructions/template?
- ▶ Use short, clear sentences; one idea per sentence?
- ▶ Limit your abstract to the word count/character count requirement?
- ▶ Edit, edit, edit
- ▶ Check grammar, syntax and punctuation.

Class Exercise?

Read the paper provided!

Write the Abstract!

QUOTING & CITING

QUOTING & CITING

- A reference is given by the authors' names and the date enclosed in parentheses unless the authors' names are part of the sentence (Harvard Referencing)

- **Example of quoting:**

The following is an extract from (Wolper 1996a): *“Consider, for instance, the issue of compositionality in proof systems for concurrency. I am not going to argue that compositionality is undesirable, but that achieving it without algorithmic support (in a broad sense) is easy and mostly useless”*.

- **Example of citing:**

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.

MORE EXAMPLES

Examples.....:

- 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.

FACT OR OPINION....

- 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.
(See over)

EVIDENCE AND SUPPORT

- Support could be provided by some statistical evidence or by 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 stating 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.

EVIDENCE AND SUPPORT

- 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 be referenced.**
- 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.

AMBIGUOUS ARGUMENT

- Example taken from a student's text:

Therefore, once the system is enhanced with a common domain specific knowledge base, it could be seen as an intelligent entity. A brilliant example is the Cyc knowledge base.

- The phrase 'brilliant example' is ambiguous!

EVIDENCE, ARGUMENT AND COUNTERARGUMENT

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)

EVIDENCE, ARGUMENT AND COUNTERARGUMENT

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'

THE LITERATURE REVIEW

- **Q & A.....**

QUESTIONS ?