**How to Write an Abstract**

**Abstract**

It is vital to write a complete but concise description of your work to entice potential readers into obtaining a copy of the full paper. This article describes how to write a good abstract for both conference and journal papers. Writers should follow a checklist consisting of: motivation, problem statement, approach, results, and conclusions. Following this checklist should increase the chance of people taking the time to obtain and read your complete paper.

**Introduction**

Abstracts serve to "sell" your work and get people to take an interest in what you do. In a business context, an "executive summary" (another term for ‘extended abstract’)is often the *only* piece of a report read by the people who matter.

**Checklist: Parts of an Abstract**

Despite the fact that an abstract is quite brief, it must do almost as much work as the multi-page paper that follows it. This means that it should in most cases include the following sections. For an abstract, each section is typically a single sentence; in an extended abstract of course, each section can be one or two paragraphs long. Use the following as a checklist for your next abstract:

* **Motivation:**  
  *Why do we care* about the problem and the results? If the problem isn't obviously "interesting" it might be better to put motivation first; but if your work is progress on a problem that is widely recognized as important, then it is probably better to put the problem statement first to indicate which piece of the larger problem you are breaking off to work on. This section should include the importance of your work, the difficulty of the area, and the impact it might have if successful.
* **Problem statement:**What *problem* are you trying to solve? What is the *scope* of your work (a generalized approach, or for a specific situation)? Be careful not to use too much jargon. In some cases it is appropriate to put the problem statement before the motivation, but usually this only works if most readers already understand why the problem is important.
* **Approach:***How did you go about solving* or making progress on the problem? Did you use simulation, analytic models, prototype construction, or analysis of field data for an actual product? What was the *extent*of your work (did you look at one application program or a hundred programs in twenty different programming languages?) What important *variables* did you control, ignore, or measure?
* **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. Put the result there, in numbers. Avoid vague, hand-waving results such as "very", "small", or "significant." **Conclusions:***What are the implications* of your answer? Is it going to change the world (unlikely), be a significant "win", be a nice hack, or simply serve as a road sign indicating that this path is a waste of time. Are your results *general*, potentially generalizable, or specific to a particular case?

**Other Considerations**

An abstract must be a fully self-contained, capsule description of the paper. It can't assume the reader will look at the whole paper to find an explanation of what is meant by some vague statement. It must make sense all by itself. Some points to consider include:

* Meet the word count limitation. If your abstract runs too long, either it will be rejected or someone will take a chainsaw to it to get it down to size. manner. An abstract word limit of 150 to 200 words is common.
* Any major restrictions or limitations on the results should be stated, if only by using "weasel-words" such as "might", "could", "may", and "seem".
* Think of a half-dozen search phrases and keywords that people looking for your work might use. Be sure that those exact phrases appear in your abstract, so that they will turn up at the top of a search result listing.
* Some publications request "keywords". These have two purposes. They are used to facilitate keyword index searches, which are greatly reduced in importance now that on-line abstract text searching is commonly used. However, they are also used to assign papers to review committees or editors, which can be extremely important to your fate. So make sure that the keywords you pick make assigning your paper to a review category obvious (for example, if there is a list of conference topics, use your chosen topic area as one of the keywords).

**Conclusion**

Writing an efficient abstract is hard work, but will repay you with increased impact on the world by enticing people to read your publications. Make sure that all the components of a good abstract are included in the next one you write.

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