

Introduction to Research
in Computer Science:
Writing for **Rejection**

“It might seem unnecessary to insist that in order to say something well you must have something to say, but it’s no joke.” (Paul R. Halmos)

Professor Cristian S. Calude
Room 303.575, ext 85751
cristian@cs.auckland.ac.nz

If you are like me, a simple mortal, neither a genius nor an idiot, you will have to put some effort into making your paper suitable for rejection. These notes will help you achieve this goal, but no guarantee is offered. These notes represent a compilation of

- Oded Goldreich. How NOT to write a paper,
<http://www.wisdom.weizmann.ac.il/~oded/PS/re-writing.ps>
- Mary-Claire van Leunen and Richard Lipton. How to have your abstract rejected,
<http://www.acm.org/sigplan/conferences/author-info/vanLeunenLipton.html>

They have been strongly influenced by

- Steven Krantz. *A Primer of Mathematical Writing*, AMS, Providence, 1997.
- Paul R. Halmos. How to write mathematics,
<http://inca.math.indiana.edu/iuj/Authors/halmos.php>
- Nicholas J. Higham. *Handbook of Writing*, SIAM, 1998.
- Papers rejected over the years...

Submit late

This is the basic rule in having your paper rejected.

Don't even start writing it until the deadline for submission is long past.

Politely but firmly, keep the programme committee informed of your progress:

- “Seems to be a little hole in the proof somewhere.”
- “Almost ready.”
- “It's a-comin'.”
- “Any minute now.”
- “Got it now, but be aware that some proofs need a bit of revision.”

Everyone on the committee is sure to remember your name when your paper finally arrives and will treat it accordingly.

Submit incorrectly

The device of sending papers to the local arrangements chairman is overused. Try something fresher:

- Send your paper to last year's program chairman.
- Send it to the school that turned down the chairman for tenure.
- Send it to someone whose name sounds a little like the chairman's name.

Exceed the length requirements

Most extended abstracts should be eight to twelve pages long, or between 1,500 and 3,500 words; typical papers should be less than twenty pages long, that is no more than 5,000 words.

Your aim, then, should be for at least 10,000 words for an extended abstract or 20,000 words or more for a full paper.

There are several interesting variations on this ploy.

- Submit a seventy-page paper with instructions to the program committee to read the first twelve pages. Be sure page 12 ends mid-section, mid-paragraph, mid-sentence.
- Submit a twelve-page abstract with thirty pages of appendices. Be sure there is no way anyone can understand the body of the abstract without reading all of the appendices.
- Submit an eight-page abstract of 25,000 words. You may need special typographic equipment for this one, but don't worry; it exists. With a Microsoft special composer, six-point type, no margins, and no displays, you can write 25,000 words on the head of a pin. *There's plenty of room at the bottom*, said Feynman: <http://www.zyvex.com/nanotech/feynman.html>.
- Caution: You might think that the opposite strategy would work equally well — submitting a too short paper. Not so! Look at it from the program committee's point of view. They must read a hundred or more papers or extended abstracts in the midst of their other duties. Plain brevity might look good to them.

Meaningless introduction

Every paper needs an introduction, and, in fact, the introduction is the most important part of your paper. Reason: few if any of your readers will ever read beyond it. Hence, a possible strategy is to write a meaningless introduction. Here is an example:

Massively parallel computers (MPCs), characterized by their scalable architectures, are a viable platform on which to solve the so-called grand-challenge problems. These distributed-memory systems are expandable and can achieve a proportional performance increase without changing the basic architecture. In order to take full advantage of scalable hardware, the application software must also be scalable to exploit the increased computing capacity.

A possible variation is rather than telling the reader what the paper is about, you begin by explaining how important and interesting your field of study is. For example, you may want to point out that the subject of the paper “is a major focus of computer scientists and software engineers and has many potential applications”.

An even better approach is to use vacuity. Here is an example:

We worked in computer science. We proved some theorems. We proved some big theorems and some little theorems. Some proofs were big, some were small. We tried to match up the proofs with the theorems, but, as it is widely recognized, we couldn't always do it. Then we were sleepy and went to bed. Good night.

This is a good example but definitely not a perfect one. Only by constant, careful revision can you insure the rejection of your paper. You are encouraged to do it.

Give no motivation

Present your results in a vacuum. Strip your ideas of any hint they might offer as to their origin, motivation, direction or relevance. Say nothing about practical applications unless you are submitting to a theory conference, in which case you should be sure to call them “pragmatics”.

Give no background

Even the novice will know enough to leave off all acknowledgements and references.

But the master will go further. She will give the appearance of citation without any substance. She will enclose a reference list on which every item is submitted, in preparation, or a private communication. She will call obscure results by pet names she or her friend have invented.

Finally, always describe as “well known” results published only in Old Greek — preferably false ones.

Talmudism

Explore all the subtleties and refinements of your ideas when you *first* introduce them. Discuss all possible criticisms, answers to these criticisms, and so on before the reader had any chance to get a clear picture of the basic ideas. Discuss solutions before introducing the problems.

Prove trivial and almost trivial results in exhaustive detail, breaking your proofs into as many lemmas as you can and disrupting the line of reasoning with notes, remarks, asides, acknowledgments. On the other hand, assert difficult proofs. Assert them badly, with a sneer, if you can manage it. The judicious typographical error in the statement of your theorem adds a note of drollery to this device.

Never under any circumstances provide a cogent verbal sketch of a proof that stresses its provocative turns while leaving the obvious unstated. Never. This is particularly important for an extended abstract. You may be utterly surprised to see your extended abstract accepted even if you have faithfully followed all other rules!

Watch your language

It should be pompous, impersonal, drab, and bleary. Work really hard at your grammar. There is no excuse for agreement between subject and predicate in any sentence of more than ten words.

Injecting foreign words as frequently as possible always pays off; longer statements will serve you even better. The more exotic is the language, the better.

Indefinite referents combined with false parallels will leave the unwary program committee member clutching her head and wheeling about the room in confusion. Any temptation she had to accept your paper will disappear instantly.

You have to work hard on this issue, using dictionaries, thesauruses and many valuable sources. Here is a short list of questions to make you aware of the difficulty of the task:

1. What is the wrong plural of modulus: moduli or moduluses?
2. Which of parameterize or parametrize is wrong?
3. What is the meaning of 'mutadis mutandis'?
4. When should we use 'special' and when 'especial'?
5. What are the differences between mind-bending, mind-blowing and mind-boggling?

1. Moduluses.
2. The *Concise Oxford Dictionary* gives only parametrize, but the *Oxford English Dictionary* lists both as correct.
3. With necessary chances (*Chambers Dictionary*)
4. *Special* is always used in preference to *especial* when the sense is one of being out of ordinary . . . Where an idea of pre-eminence or individuality is involved, either *especial* and *special* may be used (*Collins English Dictionary*)
5. Mind-bending means “at the limits of understanding or credibility”, mind-blowing means “of or causing a psychic state similar to that produced by a psychedelic drug or mentally or emotionally exhilarating/ overwhelming”, mind-boggling means “causing great surprise or wonder”.

Be idiosyncratic

Use as many terms, phrases and notation which have only a personal appeal. Avoid by all means anything which can appeal to the intuition or the associations of the reader.

I cannot emphasize more the use of your own utterly idiosyncratic notation. Here the sky is the limit. As a warming up approximation one can consider the following example: instead of $1+1 = 2$ you write:

$$\begin{array}{l} b \\ b| < \\ 1 \ 2 \ 1\&. \\ z| > \hat{} \end{array}$$

Really Bad Acronyms, or FBAs, used by FNPLs (Nerdy Project Leaders) when naming new systems are also helpful. Names like FTMPS and NUMAchine should be replaced with more charming monikers such as Infectoid or Puggsley or Vomitsauce: Everyone on the programme committee will remember them.

Imitate

“The smallest of the URF (URFA6L), a 207-nucleotide (nt) reading frame overlapping out of phase the NH₂-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene has been identified as the animal equivalent of the recently discovered yeast H⁺-ATPase subunit 8 gene. The functional significance of the other URF has been, on the contrary, elusive. Recently, however, immunoprecipitation experiments with antibodies to purified, rotenone-sensitive NADH-ubiquinone oxido-reductase [hereafter referred to as respiratory chain NADH dehydrogenase or complex I] from bovine heart, as well as enzyme fractionation studies, have indicated that six human URF (that is, URF1, URF2, URF3, URF4, URF4L, and URF5, hereafter referred to as ND1, ND2, ND3, ND4, ND4L, and ND5) encode subunits of complex I. This is a large complex that also contains many subunits synthesized in the cytoplasm.”

Imitate: continued

“The move from a structuralist account in which capital is understood to structure social relationships in relatively homologous ways to a view of hegemony in which power relations are subject to repetition, convergence, and rearticulation brought the question of temporality into the thinking of structure, and marked a shift from a form of Althusserian theory that takes structural totalities as theoretical objects to one in which the insights into the contingent possibility of structure inaugurate a renewed conception of hegemony as bound up with the contingent sites and strategies of the rearticulation of power.” [Judith Butler, *Diacritics*]

Final tips

- Avoid by all costs any hierarchy or structure of your paper.
- Be original even in the way you present your paper, e.g. why not submit a handwritten manuscript—written in pencil?
- Present your ideas in the most general form instead of the most natural, understandable form.
- Hide any fundamental difficulty by using an appropriate definition which ignores it without discussing the issue at all. Try to maximize the number of new concepts and definitions.
- Make the reading a really painful experience by a labyrinth of implicit pointers, a really complex, illogical structure of sentences, an original way to mix symbols and text. Excel in irritating your reader.

Persevere

If after adopting all these strategies and developing several of your own you have a paper accepted anyway, *do not despair*. Do not take it personally. There is always hope!

The program committee has certain *quotas* it must fill. *A certain number of papers must be and will be accepted regardless of merit.*

Your friends and colleagues will understand, and no one will hold it against you. *Just don't let it happen too often!*

Finally, drop me a word when you find a new strategy for rejection. We starve for improvement.