Elements of a Good Paper

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Why me ?

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Elements of a good paper

Contents

Writing a good paper

The problem:

- Multi-objective

please the referees, the readers and yourself

- Multi-modal

How many good papers can you cite?

- Can be defined by rules

do good things

don't do horrors

- Can be learned

otherwise who would be here ?

Learning to write Papers

Learning by doing

- The usual way
- Little time available

Learning from examples

- Positive examples: Literature is made of good papers
- Negative examples: Many - Referees can tell

Recommendation for future: review papers

To-day Topic

Elements for a Good Paper $\rightarrow$ Toward an Accepted Paper

with a bit of luck

Writing a paper

WHOM FOR ?

Your first readers: the referees

- Try to impersonate the referees

Portrait of a referee ... nothing personal - worst case

- has 12 papers to be reviewed for yesterday
- has little time to check

The general case Summer Schools excepted of course

everybody has more and more papers to review; and less and less time to do so

Writing for referees

First referee: knowledgeable, but not an expert

- Must know from the very beginning where you go and why for (otherwise becomes nasty).

- Will be *very* grateful if s/he learns something about the state of the art in your paper, such as:
  A (brief) history of the domain
  A (short) picture of the trendy techniques
  A detailed account of some recent heuristics

Writing for the knowledgeable referee, 2

- Can always pinpoint you on experimental validation

  Recommended: No bluff on this (recent).

- Will appreciate any real-world application

- Beware: for application-oriented papers

  all referees are expert

Writing for the referees, 2

Second referee: the expert

- Must be convinced that you're aware of the state of art (otherwise becomes nasty).

- Will be *very* grateful if you contribute to the state of the art, by:
  Discussing the limitations of previous approaches
  Carefully motivating yours
  Especially by real-world applications

Writing for the expert referee, 2

- Wants some novelty in the techniques

  Unless the application is really something

  But in this case it is likely to be confidential

- Wants a serious discussion about the choice of the benchmark problems

  Recommended: No bluff on this (recent).

Writing and Satisfying Readers

- Can be postponed
- If you satisfy the referees
- The reviews will help you
- If you submit enough papers

Satisfying YOU

Anything can be said — but not in any way

- Can fancy any heuristics — but must be compared to state of art
- Bibliography can be done earlier... — You'll save time
- or later... — Not knowing that something is impossible can help ...in rare occasions...
- But must be done. — Science - a cumulative process

WHAT FOR, 1

How should the paper be perceived ?

KEYWORDS help

- Theoretical Paper
- Application Paper
- What is the main contribution ?
  - Evolution scheme — self-adaption, distribution-based,...
  - New operators — multi-parents, invariance,
  - Adequate representation — invariance,...
  - Fitness-related issues — cost, noise,...
  - Comparisons, Extended validation

Writing a Theoretical Paper

Real-world

- Good presentation is optional
- Must only be sound
- AND cite the bibliography

Suggestions

- Introduce the notations
- Put the technical proofs in appendix
- Explain the beauty

Writing an Application Paper

- Give two descriptions of the application

  One for dummies

  One for experts

- Don't hide the failures !

  Present the alternative representations/schemes you tried

- Say something about the expert's reaction, interactions,...

Writing a Paper

- Exercises
  Write an extended abstract
  Write the slides

- Group the slides into sections

- Make links among sections
  Give breakpoints

- Give EXAMPLES !
  Visualize whenever possible

Find a TITLE

Writing a First Paper

- Not ALL your ideas in ONE paper !

  One or two is enough

- VALIDATE

  Reporting and Explaining Failures IS WORTH

Technicalities

- Meeting the deadline
- Linguistic issues
- What is not acceptable

Meeting the deadline

Exploration

- Depth-first

  might get you stuck in the introduction

- Breadth-first

  provides more homogeneous results

- Credit allocation: favor introduction/conclusion

- Last: the abstract

Linguistic Issues

If you despise English

the same to you double...

Basics

- Short sentences — read aloud if at all possible
- Ask for help ! — Find some kind natives around
- Ask the Web — Google as desambiguisator
- Read, etc.

What is not acceptable

Basic horrors

- Not reproducible experiments
- No significance, runtime,...
- No spell checker
- Incomplete references
- Allow to
- Unreadable figures
- No legend
- Cut and Paste
- Too many footnotes
- Immodesty

... should this be mentioned here...

- Send a mail if the paper will be ready after the official deadline
- Send a printable file
- Follow the submission guidelines

Conclusion

Summarize

- Generalities...
  1. Introduction
  2. Motivations / State of the art
  3. The AUTHORS CONTRIBUTION
  4. Experiments (reproducibility, significance, discussion)
  5. Conclusion / Perspectives
- Remind your two readers
  - The expert
  - The knowledgeable

Conclusion, 2

What has been omitted

- Discussion
- Take questions ?