

KI 2026: Doctoral Consortium

On writing research papers

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1. Part

Meta

2. Part

Paper

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2. Part

Paper

publish or perish

So... publish everything and everywhere?

- Please not.
Publications can be harmful!
- Rule(s) of thumb:
 - ▶ You know the
organizers/editors/PC members
 - ▶ It is listed on dblp/its ranked

Some publishing reasons:

- Communicate your results
- Teach
- Create attention
- Show expertise in an area
- To support an event!
- The conference location is nice... (aka. networking)

There is not 'the academic paper' type.

Publishing forms/occasions

- Journal
- Conference
- Workshop
- Abstracts
- Post-proceedings
- Special Issues
- Festschrift/Gedenkschrift
- Books/book chapters
- Technical reports

Paper types

- Technical contributions
- Demo papers/system descriptions
- Position papers
- Overview articles
- Editorials
- (Laudation)

Of course, you can mix..

Comparison: Main Publication Platforms

Journals

- Space...
- Reviewing is rigorously
- Reviewing is multi-shot
- Reputation: high
- Takes time

Conferences

- Fast feedback
- Formal publication
- Reputation: high to mid
- Meet people
- Limited space
- One-shot

Workshops

- Fast feedback
- Very open
- Like conferences
- Meet people
- Reputation: limited
- Limited space
- One-shot
- Often no formal proceedings

Having problems: the best status for an academic

Getting ideas

- Open problems
 - ▶ there is a reason for that
- Train yourself techniques
- Read... a lot
- Reaching a scientific goal
- Combing approaches/areas

Maintain ideas

- Discuss them (trustful peers)
- Store them

Research is about progress... but..

New ideas produce resistance! (Hamming, 1995)

Establishing a new way of approaching/thinking/problem:

- Expect conservatism
- Requires a lot of justification
- Dignity in presentation
- Not done in one paper

Typical publishing approach:

- Write two conference papers
- (potentially a workshop paper)
- Cumulate in a journal article

Variety of topics:

- Stay in one domain
 - ▶ More citing of own papers (H-index)
- Show broadness
 - ▶ Consumes resources

Pro/Con:

- Higher research output
- Less cognitive load
- More social/coordination load
- Takes more time
- Can lead to nothing

Order of authors

- Less formal in CS
- Start: alphabetical
- Discuss again before submitting
- Sort by contribution

My advice: collaborate a lot

You need a central person who guides...

Problems:

- People are busy
- Loosing focus
- Have no vision/think local
- One has to create a complete picture
- Conflicting goals

How to?

- Give options with defaults
- Do not force
(sometimes: slightly push)
- Always assume the best
- A question can be a reminder
- Finish tasks: produces control

Use writing to cultivate your own style

Style is about:

- how you approach things
- how you present things

Advantages:

- Makes writing easier
- Become recognizable and reliable

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"Waterfall"-Model

- Fix content and idea from the start
- Requires a lot of experience

Continuous-Vision-Driven

- Gaps in the theory
- "Wouldn't it be nice if...?"
- You need an attack
- High failure rate
- "Event-Mode" when deadlines arrives
 - ▶ Select results
 - ▶ Build a story for the target audience
 - ▶ You write for the reviewers

Accept it...

- Fluctuation in the pace
- Continue to work
- Sometimes continuing is more important than content

Advice

- A deadline can help
- Should not be the standard..
- Have always a small task available

Tales from (thesis) guidelines: they apply here too!

General structure:

- Abstract
- Introduction
- Background
- Main body
- Conclusion/Discussion/Summary

Language, Grammar, Style:

- Do it in the right way...
- correct in details

Reminders:

- Explain instead of describing
- No rhetorical questions
- "Strictly saying, references are not part of the text"

Abstract:

- They are not introductions
- USP: unique selling point
- Good for search engines

Introduction:

- Explain importance
- Position in the field
- Small state-of-the-art
(Conference/workshop:
can substitute related work section)
- What has done in the paper
- Include a list of main contributions

- Draft 5-20 versions
- To short, to long?
 - ▶ Shorter: more important
- Do not oversell
- Keywords
- Think long-term
- can you google it?
- Matches the content?
- Attracts the right audience?

Examples (for the same research):

- A General Katsuno-Mendelzon-Style Characterization of AGM Belief Base Revision for Arbitrary Monotonic Logics (workshop)
- Semantic Characterizations of AGM Revision for Tarskian Logics (conference)
- Semantic Representation for Revision of Bases in General Logics
- AGM Belief Revision, Semantically (journal)

Of course:

- Beginning or end
- No plagiarism
- Cite also ideas/problems
- Correct citation style

Literature work is political!

- Certain degree of choice
- Advice: be honest!
- Depends on review process
 - ▶ Expected reviewers
 - ▶ Do not oversell yourself
- Include citations in the final version

Technical conference/workshop papers:

- Do not spend much time
- Add some future work ideas

Journal articles/position paper:

- Discuss related work
- Add natural future work ideas

Paper containing experiments:

- Discuss intensively
- Summarize to key insights

Definitions/Theorems

- “Do not intermingle the meta-language with the language of formulas.”
- Declare the stage
- Motto: readable without surrounding
- Should not be too complex
- Do not reinvent the wheel

Proofs

Include them?

- Depends on the audience
- Are there of interest?

Level of detail:

- Social construct!
- Sketches
- Ideas
- Fully

- Connect the motivation with the contributions and structure
- There is often more than one story
- Research process might not be the best story
- Prepared in the introduction (and by the title)
- Coherent
- Story arc: no surprises (it's not a novel)
- Sometimes, more important than content

My way: stay flexible until the end
(find your own way!)

- Guide the reader
- Use Lists, Enumerations, \emph, ...
- Avoid a mess
 - ▶ Limited amount of paragraphs
 - ▶ Split into logical units
- Avoid widows and orphans

The GenAI-Question

Cons (the... "OK Boomer"-list):

- Writing is superficial/bad quality
- Generates false content
- Requires extra checks

Ethics:

- Be honest about usage
- AI declaration
- Read submission guidelines (early)

Pro (super for...):

- Rapid prototyping
- Grammar/Spell check
- Counter example generation
- Check for inspiration/summarizing

Generative AI will change the game...

- Research will change, undoubtedly
- Publishing will change, undoubtedly

Recommendation: Use GenAI without dumbing yourself

The reviewers are the gatekeepers

KISS (***k**ee**p** **i**t **s**imple [and] **s**tupid*)

- Simple sentences
- Self-explanatory notation
- People do not read a paper at once
 - ▶ Create entry-points
- Clearly separate:
 - ▶ prior work
 - ▶ your contribution
- Clearly mark your contributions
- Make implications explicit

"and somehow reading through it makes me angry ... although I don't know exactly why"
[personal communication]

Getting/Incorporate reviews:

- Accept the emotions
- Read them constructively (mindset)

Writing a rebuttal:

- See them as instrument (mindset)
- Be polite/Thank the reviewers
- Only promise realistic edits
- Rule of thumb: do not discuss
 - ▶ stay professional

Mindset:

- The talk is not the paper
- Do not put everything in your talk
- Ad for the paper
- Audience is diverse
- Focus on highlights
- Story may be different
- No new content

Design advices:

- That slides can be too full is a myth
 - ▶ But...
you have to guide the reader!
- Do not expect attention
- End on a summary slide

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End

Meta

- Publish or perish
- Academic paper types
- Publishing Strategies
- Co-Authoring

Concrete papers

- Getting the Paper done
- Thesis guidelines
- Title, abstract, introduction, ...
- Storytelling and structure
- Reviewers and reviews
- Presentations