Assignment #3: Write a paper review

Due: 05 November

Revise the review of paper from Assignment #3

Review your notes in your notebook

Fill out the review form
   http://insitu.in.fr/People/FoundationsOfResearch

Review questions

Rank the paper:
   [ ] Overall rating (1=poor; 5=excellent)
   [ ] Reviewer expertise (1= no knowledge, 5=expert)

1. Summarize the contribution to the field (1-2 sentences)
2. Provide a detailed review (2-5 paragraphs)
3. Indicate specific suggestions for improvement
Letters of Recommendation

Part I: Write an email request for a letter of recommendation
“Would you be willing to write a positive letter …”
- Who are you?
- How do they know you?
- Why are you qualified?
- What is the letter for?
- When is it due?
- What is the process?

Part II: Write a draft letter for them to edit

Subject: Recommendation for Wendy MACKAY
for a Ph.D. position at the XYZ lab
Dear <Name>:
I met Wendy Mackay …
### Writing rebuttals

Your paper comes back with:
- 3+ anonymous reviews and ratings
- 1 meta-review from a senior researcher

What do you do if you have:
- Great scores, all 4 or above?
  - Write a rebuttal … don’t blow it!
- Mixed scores, at least one 4
  - Write a rebuttal … this is critical!
- Low scores, none over 3
  - Write a rebuttal … paper won’t get in; good exercise

### What constitutes unfair criticism?

- Asking you to cite an unpublished paper
- Saying it is not new, without saying who has done it
- Requiring more work than is normal for a CHI paper
- … Anything else?
- Be really, really careful how you respond, even if it is unfair

### A good strategy for writing rebuttals…

Start by thanking the reviewers
- even if space is tight!

Briefly summarize the positive
- to remind PC members what was good

Focus on the meta-review by the associate chair
- Respond to each point in turn

Use abbreviations:
- AC = Associate Chair
- R2 = Reviewer 2

### Some real AC comments from a PC meeting

If they’d given a good rebuttal, I’d have changed my score, but they didn’t. (Rejected)
If the authors had done X in the rebuttal, I’d have accepted it, but … (Rejected)
I have to kill this paper, just listen to this rebuttal: “Judge us on the paper we wrote, rather than the paper you wish we wrote.” (Rejected)
The authors don’t really address this in their rebuttal, so I vote for a reject… (Rejected)
I liked the way they framed this in the rebuttal … (Accepted)
I think we can trust the authors to make this change in the revised paper and think we should accept the paper. (Accepted)
To their credit, in the rebuttal the authors said … (Accepted)
The authors convincingly addressed this issue, so I recommend 'accept'. (Accepted)
They do agree to address this in the rebuttal, so I recommend 'accept', but, given the tone of the rebuttal, I fully don’t trust the authors to implement the changes so I recommend that this be shepherded. (Shepharded)
What can conference paper authors do?

Papers are reviewed “as is”

You may:
- clarify writing, fix captions, fix typos
- add missing (minor) references
- change minor organization problems
- adjust minor statistical problems

You may not:
- conduct a new study
- add significant new material
- rewrite major portions
- completely rerun your analyses

Technical Writing

History of Scientific Writing

17th century legal system
Defense, prosecution, judge

Scientific review process
Defense: Author makes a claim
Prosecution: Reviewers critique that claim
Judge: Program committee or editor decides

Writing is a process

Start with your work and analyze it:
What is new? Surprising? Why?
This is the basis of your claim

Next explain what you did:
How does it justify your claim?

Now iterate:
(re)write
analyze
## Writing ...

Helps you think:
- discover what is important

Should be rigorous:
- say what you mean: no more, no less

Requires problem solving:
- explore different ways to express an idea

## Writing = problem-solving

Be careful with what you claim:
- Not too strong (avoid absolutes)
- Not too weak (avoid too much qualification)

Justify your claim:
- What support can you provide?
- How does it relate to other research?
- What is the (potential) impact?

## Making claims that justify your work

<table>
<thead>
<tr>
<th>Question</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why is it difficult?</td>
<td>Mathematics</td>
</tr>
<tr>
<td>What was discovered?</td>
<td>Natural Science</td>
</tr>
<tr>
<td>What is new?</td>
<td>Design</td>
</tr>
<tr>
<td>What is the impact?</td>
<td>Business, applications</td>
</tr>
</tbody>
</table>

## Writing = Communicating

If the reader does not understand
the paper will be rejected!

Read what you write:
- Does one idea follow from another?
- Does one section lead to the next?
- Are the phrases clear and concise?
- Is the contribution of the paper clear?
### Writing = Communicating

Good writing is not just good grammar or even good style:

- A well-written paper reflects clear thinking

### Different audiences = Different styles

**Specialists:**
- Require precision, detail, rigor
- Assume fundamentals

**Non-Specialists:**
- Define jargon, provide context
- Refer to details

**Non-researchers:**
- No jargon, provide overview
- Link to real-world

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**Structuring Research Articles and Master’s Internship Reports**

### How to structure research paper?

**NOT:**
- What I did, in chronological order
How to structure research paper?

NOT:
What I did, in chronological order

INSTEAD:
Find a ‘hook’:
What is your claim?
What will attract the reader’s attention?
What will the reader remember?
What is the citable result (one phrase)?

Writing is a highly iterative process

Different writing styles:
- Outline first, fill in the paragraphs
  or
- Work from notes to construct
  or
- Focus on the ‘flow’ of the ideas

Writing is a highly iterative process

Write, edit, read, write, edit, read …

Iterate at each level:
Sections: Coherent structure (mostly standard)
Paragraphs: Coherent arguments
Sentences: Grammar, style
Words: Spelling, word choice

Process suggestions

Write the easiest parts first:
Write a draft before you have results

Copy standard formats from your field
math ≠ engineering ≠ science

Find an excellent, similar paper to use as a guide:
How do they make their arguments?

Careful: do not copy their exact words
but learn from how they structure and express ideas
### Process suggestions

- Keep revising the abstract: beginning, middle, end
- Link your introduction to your conclusion: one unified story: problem → solution
- Ensure that readers understand your contribution: Make a claim and justify it

### A 'standard' paper / research report

<table>
<thead>
<tr>
<th>Title:</th>
<th>Summary of contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract:</td>
<td>Summary of problem &amp; solution</td>
</tr>
<tr>
<td>Intro:</td>
<td>What is the problem?</td>
</tr>
<tr>
<td>Lit review:</td>
<td>What other research is relevant?</td>
</tr>
<tr>
<td>Why is it insufficient?</td>
<td></td>
</tr>
<tr>
<td>Body:</td>
<td>What did you do?</td>
</tr>
<tr>
<td>Results:</td>
<td>What did you discover?</td>
</tr>
<tr>
<td>Conclusion:</td>
<td>Why it is important?</td>
</tr>
</tbody>
</table>

### Skim test: How will others read your paper?

- Read the abstract and check the video: Is it worth continuing?
  - If yes:
    - Read the beginning of the introduction
    - Check the last ‘structure’ paragraph
    - Look at the figures and captions
    - Read the conclusion
    - Check the references
- Would your paper pass?

### Abstract

- Provides a concise summary of paper’ contributions
- it is NOT an introduction!

<table>
<thead>
<tr>
<th>Readers:</th>
</tr>
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<tbody>
<tr>
<td>1st:</td>
</tr>
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<td>2nd:</td>
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<td>3rd:</td>
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<td>4th:</td>
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<table>
<thead>
<tr>
<th>Goal:</th>
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<tbody>
<tr>
<td>Get others to read the paper</td>
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<tr>
<td>Help others cite your paper</td>
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<tr>
<td>Distribute your findings more widely</td>
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</table>
### Abstract

Summarizes the paper:
- Include the problem and solution
- Emphasize the contribution

1st sentence:
- What is the problem?

Next sentences:
- What did you do?: system, algorithm, study
- Key details to explain 1st sentence

Final sentence:
- Main results or claim

### Introduction

Structure:
- General problem area
- Specific problem area addressed by paper

Literature review:
- Who else has this problem?
- Your approach to solving the problem
- But NOT the results!

Optional: Summary of paper structure

### Introduction: Try this

1. Write an introduction
2. Throw away the first paragraph
3. Analyse what is left:
   - What are the topic sentences?
   - Do the sentences follow the topic sentence?
   - Do they constitute a cohesive argument?
4. Rewrite the introduction
   - Think about the flow of the argument
   - Who do you need to convince?

### Introduction: Argumentation strategies

- System XYZ is a great idea, but does not work because …
- Users XYZ need to do ABC but cannot because …
- Algorithm XYZ is not sufficiently fast, robust, accessible …
- Changes in technology (WWW, data, scale) require us to …
### Where should you put the key finding?

- Depends upon the discipline
  - Psychology (CHI) tradition: NEVER in the introduction
  - Engineering (UIST/SIGGRAPH) tradition: Always on the front page

- Why?
  - Science: justify your process before results
  - Engineering: show me what's 'new' first

- BUT – key results are ALWAYS in the abstract

### Literature Review

- Analyze the literature
  - Do NOT make a 'laundry list'!!
- Choose relevant references (to your problem):
  - Address related problems, not this one
  - Tried but failed to solve this problem
- Critique the articles ... but do it carefully
  - Remember: You are critiquing your reviewers!
- Avoid 'straw men' and over generalizations
- Brief description of what they did*

* How will others cite your paper?

### Body of paper

- This is your specialty
- General suggestions:
  - Follow the standard format
  - Do not be creative here!
  - Do not intermix argumentation and technical description:
    - Keep to the point
    - Focus on clarity

### Conclusion: Structure

- First: summarize the paper
  - Match the problem to the solution
  - Concise summary of what you did

- Next: examine the contribution
  - What are the main contributions of the paper?
  - What are the limitations of the work?
  - What are the implications for future research?
Conclusion (from a reader’s perspective)

Reviewers ask:
- Does it match the introduction?
- Does it summarize the paper?
- Are the claims clear and justified?
- What is the future of this research?

Readers ask:
- What are the final results?
- Do I believe the author’s claims?

Rewriting

As you write and revise,
the paper evolves … often dramatically

Sometimes the goal of the paper changes,
or the problem being addressed,
or you discover other contributions
Sometimes it should be two papers

You should be learning as you write,
discovering what you think
If not, something is wrong

Tell a story

A good paper has a rhythm
a beginning, a middle and an end

Lead readers to draw their own conclusions
do not use adjectives to force strong claims
(Not: ‘this is a powerful system’)

"It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material."

Watson and Crick (1953)

End of lecture 4

No homework!