The Task of the Referee

Peer Review

COMP 594 Fall 2014
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Refereeing

- Analysis and criticism of research work done by scientists in the same field
- Purpose:
  - Maintain good research standards
  - Determine if a paper should be accepted for publication
  - Share expertise between researchers

Importance

- Ethical responsibility
- Get introduced to interesting research
- Fresh perspective on your work
- Get familiar with research errors
What are some thoughts?

- Intimidating
- Lack experience (beginners)
- Unfamiliar topic
- Extra work

Responsibilities of Referee

- Fair and objective
  - Don't be affected by good writing, lots of formulas, prestige
- Maintain confidentiality
- Avoid conflict of interest
- Investigate unethical behavior
- Complete in reasonable time

Evaluating a Research Paper

- What is the purpose of the paper?
  - What is the problem?
  - Is it clearly stated?
  - Does the author make the important issues clear?
  - Does the author tell you what has been accomplished?
- Is the paper appropriate?
  - Does it have anything to do with computer science?
  - Is the research appropriate for the given forum?
## Judging Criteria

- Contribution
- Quality
- Relevance to the publication
- Clarity
- Contents vs length

## Contribution

- Originality
  - Degree to which the ideas are new, significant, and interesting
  - Sometimes new ideas are hard to accept and hard to judge
  - Are obvious ideas original?
- Validity
  - How sound is the work? (need critical analysis)
  - Claims are not enough

## Quality

- How many references are cited?
  - Few references → bad scholarship
- How many are recent?
  - Not recent → not familiar with work on subject
- How many are by the same author(s)?
- How many are relevant?
- How many are from major conferences or journals?
**Clarity**
- Errors in bibliography or citation
- Concepts or terms are undefined
- Mistakes in formulas
- Problems with tables and figures
- Formatting mistakes
- Grammatical and spelling errors

**Review Decision**
- Accept (rare to accept with no changes)
- Minor revision
- Major revision (but good)
  - Too long
  - Needs more data/experiments
- Reject

**Evaluating the Goal**
- Is the goal significant?
  - Is the problem real?
  - Assuming correct results, is there a reason to care about the paper?
  - Is the problem obsolete or new?
  - Is the solution new?
  - Is the research a trivial variation on previous results?
  - Is the author aware of related and previous work?
  - If the paper describes an implementation, are there any new ideas?
Evaluating Approach & Execution

- Is the method of approach valid?
  - Can you tell what method was used?
  - What are the assumptions? Are they realistic?
  - Are the results sensitive to the assumptions?
- Is the actual execution correct?
  - Are all mathematics correct?
  - Are the proofs convincing?
  - Have boundary conditions been tested?
  - Are the results plausible?
  - Did the author accomplish what was claimed?

Evaluating What you Learned

- Are the correct conclusions drawn from the results?
  - What are the implications of the results?
  - Does the author adequately discuss why these results were obtained?
- Is the presentation satisfactory?
  - Is the paper written well enough for you to evaluate the technical content?
  - Does the abstract effectively describe the paper?
  - Are the sections in logical order?
  - Are grammar and syntax correct?
  - Are tables and figures meaningful and well labeled?
- What did you learn from the paper?

Other Issues

- Simultaneous submission, prior publication, unrevised retries
- Acknowledgments and plagiarism
- Timely response returning a paper
- Author’s reputation
- Confidentiality
- Conflicts of interest
**Recommendations**

- Major results, very significant (< 1%)
- Good, solid, interesting work – a definite contribution (< 10%)
- Minor, but positive contribution (10-30%)
- Elegant and technically correct, but useless
- Neither elegant nor useful, but not wrong
- Wrong and misleading
- So badly written that technical evaluation is impossible

**Form For Referees**

- By Ian Parberry  

**Frustrations of Authors**

- http://www.devpsy.org/humor/manuscript_cover_letter.html
- https://www.youtube.com/watch?v=wLIA_Tw4OZWQ
- https://www.youtube.com/watch?v=fclUhHWsqlE&feature=youtu.be
To Become a Referee

- Write a paper and submit it!
- Join IEEE and/or become active IEEE Technical Committees
- Join ACM and/or become active in ACM Special Interest groups – there are 34 SIGs, including:

References

- From a paper by Alan J. Smith, 1990
  [http://cs.hbg.psu.edu/comp594/smith-advice.pdf](http://cs.hbg.psu.edu/comp594/smith-advice.pdf)