Peer Review

Outline

• What is peer review?
  • Peer review process
  • Purposes of peer review
  • Ethics of peer review
  • What to write in reviews?
  • Aspects for evaluation
  • How to respond to reviews?
    • Prepare a rebuttal

What is Peer Review?

• The process of evaluating research work submitted for publication
• Conducted by peers:
  • People with similar competences as the authors of the work
  • Unlike assignment grading by teachers or thesis evaluation by examiners
  • Functions as a form of self-regulation by qualified members of a profession within the relevant field
• Used to maintain quality standards, improve performance, & provide credibility for published work
• The type of publication may vary:
  • Journal articles
  • Edited books
  • Conference proceeding papers
  • Oral or paper presentation at conferences
• To help the editor decide whether or not the submitted work is worthy of publication in the venue
• To provide constructive feedback to the authors of the submitted work
• To give the reviewer the opportunity to:
  • Service to their research community
  • Give evidence of such service in their CV
• The last of these is the reason why many supervisors encourage their graduate students to do peer reviews

Peer Review Process

• The editor of the publication venue sends the submitted work to 2 or more reviewers for evaluation
• Reviewers produce comments (maybe also include numerical scores) for assessing:
  • The quality & novelty of the submission
  • The appropriateness of the submission for the venue
• These reviews are typically unsigned
• The editor uses the reviews to determine whether or not to accept the work for publication
  • If the decision is acceptance:
    • The authors may be asked to revise the work for final publication
  • If the decision is rejection:
    • The authors may have opportunity to rebut to the reviewers and/or submit a revised version for re-evaluation

Purposes of Peer Review

• To help the editor decide whether or not the submitted work is worthy of publication in the venue
• To provide constructive feedback to the authors of the submitted work
• To give the reviewer the opportunity to:
  • Service to their research community
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Single Blind vs. Double Blind

• Double blind ensures both reviewer & author anonymity
  • Used by most CS conferences
• Single blind offers only reviewer anonymity
  • Used by most CS journals
• Reviewer anonymity is a crucial part of the peer review process
  • Allows reviewers to provide criticism without fear of retribution
  • e.g., senior academics denying tenure and/or publication to junior academics who criticize them
• Author anonymity is also desirable
  • Allows criticism unbiased by the reputation (good or bad) of the authors

Thursday, February 14, 2019
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ETHICS OF PEER REVIEW

- There are ethics every reviewers should follow:
  - Protect confidentiality
  - Avoid conflict of interest
  - Be serious & be professional
- Adherence to these ethics rules can make the whole reviewing process more complicated & sometimes less efficient
  - But convenience, efficiency, & expediency are not good reasons to contravene ethics
- It is important to do the right thing

PROTECT CONFIDENTIALITY

- Reviewer has the responsibility to protect the confidentiality of the ideas represented in the submitted work
  - The work is unpublished and considered as new or proprietary by the authors
- All submitted files should be confidential until the work is published
  - Do not show the paper to anyone else
  - Unless you asked them to help with the review
- They need to be aware of the policy
  - Do not use ideas to develop new ones
- After the review process, destroy all related material:
  - Papers, supporting videos, …
  - Any implementations you wrote for evaluating the ideas

AVOID CONFLICT OF INTEREST

- Avoid any conflict of interest, even the perceived conflict of interest
  - If you are not sure, disclose the information and ask the editor to decide
- You must excuse yourself from all review/discussion of a given paper if:
  - You were the PhD advisor or PhD advisee of an author
  - You work at the same institution as any of the authors
  - You have been directly involved in the work and will be receiving credit in some way
  - You have collaborated with one of the authors in the past X years
  - X differs for different venues
  - If you don't feel that you can make an unbiased determination for any reason not listed above

BE SERIOUS & BE PROFESSIONAL

- Make efforts to do a good review and read the paper carefully:
  - A superficial review of a paper that the author carefully prepared is not appropriate
  - If you cannot do a decent job, let the editor know ASAP, so that another reviewer can be selected before the review due date
- Balitlling or mocking comments are unnecessary
  - The most valuable comments in a review are those that help the authors understand the shortcomings of their work and how they might improve it
  - If you intensely dislike a paper, giving it a low score is sufficient
  - Do not favor a paper because it cited your work & do not reject a paper because it reduces your chance to publish your own work

WHAT TO WRITE IN REVIEWS?

SUMMARY FOR EDITOR:
- A briefly summary on the contributions of the submitted work
- A concise assessment of the originality & worthiness of the work
- Along with reasons for this opinion
- To aid the editor in making their decision
- Numerical scores on different aspects

COMMENTS TO AUTHORS:
- Clear, constructive, detailed comments, & revision suggestions
  - To aid the authors in producing the best possible version of the work
- General overall suggestions followed by a list of specific comments
  - This latter should specify the part to which the comments apply
  - Page 7, Section 3, Paragraph 5, line 9

ASPECTS FOR EVALUATION

- Significance:
  - Is the research problem important?
- Novelty:
  - Are the problems/approaches novel?
- Soundness:
  - Is the paper technically sound?
  - Are claims supported by theoretical analysis or experimental results?
- Clarity:
  - Is the paper well-organized & clearly written?
- Relevance:
  - Is this work relevant to the venue?
- Overall recommendation:
  - Accept, neutral, or reject?
- Confidence:
  - How familiar the reviewer is with the research area?
HOW TO RESPOND TO REVIEWS?

* Read reviews in a calm & supportive environment
* If you received negative reviews, after the initial reading, put them aside for a day to give your emotions time to settle
  * Venues vary in how much time you have for either preparing a rebuttal or submitting a revised version
* When you come back to them, decide in consultation with your co-authors:
  * What comments are sensible & constructive
  * What you are going to do about them
  * Whatever the decision, try to be as calm as possible

PREPARE A REBUTTAL

* Acknowledge the efforts from reviewers
* Highlight the positive comments given by different reviewers
* Agree to valid concerns raised by the reviewers
* Offer detailed plans to address them

"We thank reviewers for their constructive comments…. It is great to see the conclusions that our approach offers new technical insights (R2), interesting and novel idea (R2, R3), and new design (R1)…. We agree with the concerns that the key ideas are not well explained (R3). However, we believe these concerns can be addressed through this rebuttal and a minor revision…."

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