

How to be a good reviewer?

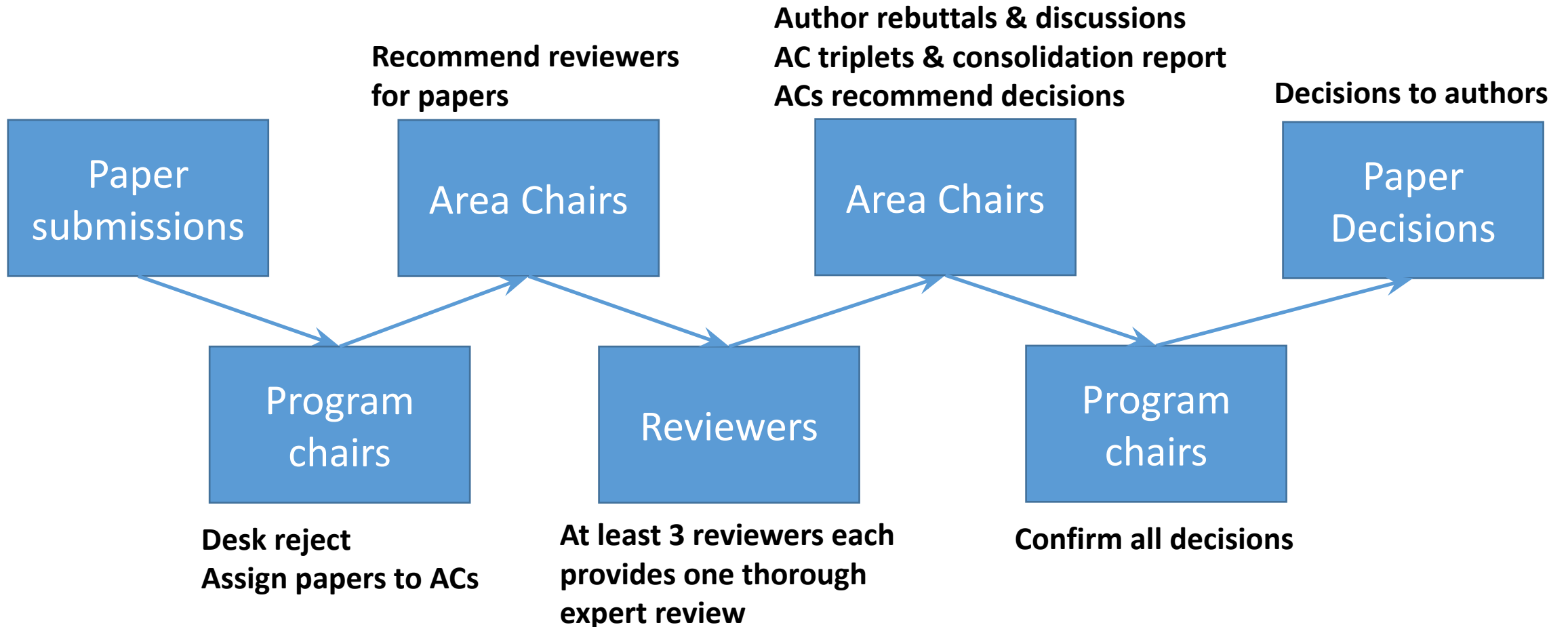
Reviewer Tutorial for CVPR 2022

CVPR 2022 Program Chairs

What you will learn from the tutorial?

- Understand the nature of the review process
- Understand the role of reviewers in the review process
- Understand the expectation to reviewers
- Understand what should be included & avoided when writing reviews
- Understand new policies & guidelines for CVPR 2022 (**important**)

The process of accepting/rejecting a paper



The nature of the review process

- The review process will never be perfect
 - Some authors will inevitably be unhappy about the decisions
- But, we want it to be a fair and transparent process for every paper
 - The authors are explicitly informed on WHY their paper is accepted/rejected
- Authors may appeal only if they identified potential biases in the process
 - But it is not valid for them to simply appeal the specific decision
- We strive for the most informed decision for each paper
 - Best possible decisions given the paper, reviews, rebuttals, and discussions.

The role of reviewers in the process

- Provide an independent, objective, critical, and comprehensive review
 - **Key:** What is the knowledge advancement in the paper?
- Discuss with AC and reviewer buddies to (hopefully) reach consensus
 - Explain clearly the basis of your review and recommendation
 - It is OK if the reviewers disagree with one another even after discussions
 - AC will form recommendations weighing in reviews, rebuttals, and discussions
- Make your final recommendations with solid justifications
 - Read the rebuttal and discussions. Do they change your position? Why?
 - This facilitates the ACs to make final recommendations for the paper

The expectations to reviewers

- Be constructive to the authors
 - It is necessary to be critical, but avoid offending the authors
 - Instead, suggest how they could make the paper better
- Be friendly to your buddy reviewers and ACs
 - People could take diverse views on the same paper
 - Agree to disagree – the discussions do not force consensus
 - Focus the discussions on the technical side and do not take it personally
- Be on time, responsible, and responsive
 - Any delay will impose additional workload to your colleagues

Your ACs are there to help you

- If you need any help in the process, your ACs are there to help you
 - Suspicious ethical/mischief concerns should be raised to ACs and PCs
 - Avoid policing the paper directly on such issues
- ACs know your names!
 - They will recognize and help build your reputation if you do good reviews.
 - They will not have a good impression of you if you submit sloppy or late reviews.
- ACs nominate reviewers for the Outstanding Reviewers Award
 - Outstanding reviewers are more likely to get invited to serve as ACs in the future

What paper should be accepted?

- Any paper that, in accordance with CVPR community standards,
 - presents **sufficient knowledge advancement** that is **well grounded**;
 - is of **sufficient interest** to some **CVPR audiences** who could **benefit** from it
- Note: CVPR is very inclusive
 - Historically rejection solely for out-of-scope is rather rare

What should be included in the review?

- A concise summary of the paper
 - What problem is addressed in the paper?
 - Is it a new problem? If so, why does it matter? If not, why does it still matter?
 - What is the key to the solution? What is the main contribution?
 - Do the experiments sufficiently support the claims?
- A clear statement of strengths and weaknesses
 - What are the key contributions and why do they matter?
 - What aspects of the paper most need improvement?
- A comprehensive check of potential fundamental flaws in the paper
 - Are the assumptions and theories (mathematically) sound?
 - Are the experiments scientifically sound and valid?
 - Is the problem addressed trivial?
 - Did the paper miss important prior work? Has it been done before? If yes, where?

What should be avoided in the review?

- Common mistakes in a sloppy review
 - Arrogance, ignorance, and inaccuracy
 - Be responsible!
 - Pure opinions
 - Be grounded!
 - Novelty fallacy
 - Be knowledge-driven!
 - Blank assertions
 - Be substantial!
 - Policy entrepreneurism
 - Be sensible!
 - Intellectual laziness
 - Be active!

Reviewer Errors

[Developed from from reviewer slides of CVPR 2021]

Arrogance, ignorance, and inaccuracy

- **Arrogance: example error script**
 - Authors: We did A by means of B
 - Reviewer: The only way to do A is through C (i.e., my way or highway)
 - Error: you should know or check
- **Ignorance: example error script**
 - Authors: All A are B
 - Reviewer: I do not think all A are B
 - Error: you should know or check
- **Inaccuracy**
 - Authors: A is a ring, not a field
 - Reviewer: All rings are field
 - Error: They are NOT
- **Safe behavior:**
 - do not provide an opinion on things you do not know about

Pure opinions

- Scripts

- Reviewer: This is not good enough for CVPR 2022
 - Why?
- Reviewer: CNN is not that interesting?
 - Why?
- Reviewer: Adversarial losses guarantees distribution matches
 - No theoretic proof indeed!
- Error: These remarks are pure opinions and not grounded

- **Safe behavior:**

- Check if you grounded your statement with a “because”

Novelty fallacy

- **Scripts**

- Reviewer: This should not be accepted because it is not novel
 - Why? By whom and where has this been published before?
- Reviewer: this should be accepted because it is novel
 - Why? Provide additional justification.
- Error:
 - Many important things are not that novel
 - Small but clever adjustment to SOTA
 - Many novel things are not that important
 - AND most really silly things are novel

- **Safe behavior:**

- Focus on whether or not the paper presented well-grounded knowledge advancement

Blank assertions

- Scripts
 - Reviewer: This has been done before
 - By whom? Where? Why?
 - Reviewer: Intrinsic images are not longer important
 - Really? To whom? Why?
 - Reviewer: Experiments on unpublished datasets are not scientific
 - Really? Why?
 - Reviewer: Authors are ignorant/careless/incompetent...
 - Be humble, nobody is perfect.
 - Reviewer: If the authors were smart enough, they would....
 - Be humble, nobody is perfect.
 - Error:
 - Making ungrounded statements
 - Comment about authors instead of focusing on the paper content
- **Safe behavior:**
 - Provide evidence to support your assertions
 - Confine the discussion on the technical content of the paper, not on the authors

Policy entrepreneurship

- Scripts
 - Reviewer: You must publish your dataset!
 - No such policy!
 - Reviewer: You must beat SOTA!
 - No such policy!
 - Reviewer: You must have a theorem!
 - No such policy!
 - Reviewer: You must beat aRxiv papers!
 - No such policy!
 - Error:
 - You imposed your own policies which are 1) not part of the official review policy and 2) against scientific review principles.
- **Safe behavior:**
 - Make sure you follow common principles in scientific review.
 - Most importantly, focus on whether the paper produced significant knowledge advancement.

Intellectual laziness

- Scripts

- Reviewer: Does not beat SOTA so it must be rejected!
 - Does the paper present sufficient knowledge advancement?
- Reviewer: Beat SOTA so it must be accepted!
 - Does the paper present sufficient knowledge advancement?
- Reviewer: Theorem V looks wrong
 - It is either wrong or correct. You can not be unsure.
- Reviewer: There is this error hence it should be rejected
 - Is the error making the main knowledge advancement invalid?
- Error:
 - Overemphasize certain factors instead of giving a comprehensive assessment

- **Safe behavior:**

- Make sure you follow common principles in scientific review.
- Most importantly, focus on whether the paper produced significant knowledge advancement.

Additional Information

CVPR 2020 Tutorial: How to Write a Good Review

<https://sites.google.com/view/making-reviews-great-again/>

New Policies & Guidelines for CVPR 2022

New Policies / Guidelines

- For CVPR 2022, we have added several policies / guidelines on a trial basis to allow the community to form an opinion for how to handle these points in the future.
- New policies / guidelines:
 - a. Policy for data contributions
 - b. Guidelines for the proper attribution of datasets
 - c. Policy for the use of personal data or involvement of human subjects
 - d. Guidelines for discussion of potential negative societal impact
 - e. Guidelines for discussion of limitations
 - f. Policy for social media ban
- Carefully read the author guidelines and also review the following explanations and example scripts for how to handle policy issues.

Policy: Data Contributions

- **Summary:** Papers that claim data releases as one of their key contributions need to provide a URL for the data by the camera-ready deadline.
- **Motivation:** Minimize occurrence of ‘dataset papers’ that do not actually provide a dataset to the community.
- **Our procedure:**
 - If a paper claims the release of data as one of its key contributions, **check if the authors flagged this in the author submission form (visible in CMT)**.
 - Explicitly comment in the review form if the paper claimed data contribution but did not flag it in the submission form, which alerts the meta-reviewer.

Guideline: Attribution of Data Assets

- **Summary:** Authors are advised that they need to cite data assets used (e.g. datasets or code) much like papers.
- **Motivation:** We want to raise awareness that data assets need to be cited as carefully as papers.
- **Our procedure:**
 - Treat used data assets just like previous work in the form of papers.

Policy: Personal Data / Human Subjects

- **Summary:** If a paper is using personal data or data from human subjects, the authors must have an ethics clearance from an IRB and provide a statement in the paper or supplementary material that the IRB approval has already been obtained. In rare cases the authors' institution may not have an IRB, and the authors must clearly describe that ethical principles have been followed. The submission guidelines explain this requirement.
- **Motivation:** Ethical treatment of personal data or the use of human subjects is clearly important. IEEE mandates IRB approval since 2021.
- **Our procedure:**
 - If a paper uses personal data or human subjects and has IRB approval, nothing to do.
 - If such a paper does NOT have IRB approval, but shows that ethical principles have been followed, this is ok. We do not have an ethics review process (yet).
 - If there is no description of how ethical principles were ensured or GLARING violations of ethics (regardless of whether discussed or not), inform the ACS and the PCs.

Guideline: Discussion of Negative Societal Impact

- **Summary:** Authors are encouraged to include a discussion on potential negative societal impact.
- **Motivation:** The CVPR community has not put as much emphasis on the awareness of possible negative societal impact as other AI communities, but this is an important issue. We aim to raise awareness without introducing a formal policy (yet).
- **Our procedure:**
 - We do not formally require the inclusion of a discussion of possible negative impact.
 - You cannot reject a paper SOLELY for not providing a discussion.
 - Rather weigh the inclusion of a meaningful discussion POSITIVELY.

Guideline: Discussion of Limitations

- **Summary:** Authors are encouraged to explicitly and honestly discuss limitations.
- **Motivation:** Discussing limitations used to be commonplace in our community, but seems to be increasingly lost. We point out the importance of discussing limitations especially to new authors.
- **Our procedure:**
 - We do not formally require the inclusion of an explicit limitations section.
 - Do NOT penalize papers for honestly discussing limitations.
 - Rather weigh the inclusion of an honest discussion POSITIVELY.

Policy: Social Media Ban

- **Summary:** Per motion passed in CVPR2021 PAMI-TC meeting, Authors should NOT use social media to promote their paper submissions to CVPR during the review period.
- **Our implementation:** We define the social media silence period, which starts four weeks before the paper submission deadline, until the final paper decision notifications are sent to authors. For CVPR 2022, it is from 10/19/2021 to 03/02/2022. Any social media promotion of a paper incurred in this period, proactively initiated by the authors, is considered a policy violation.
- **Our procedure:**
 - If reviewers find a paper that is suspicious of violating the policy, please report to corresponding Area Chairs and the Program Chairs. They will further investigate the case.
 - Proceed to continue reviewing the paper, write the review as if there is no violation.
 - Should the Area Chairs and the Program Chairs come to a conclusion that a violation is incurred, the paper would be desk rejected.
 - Please refer to the FAQ in the Reviewer Guidelines and Author Guidelines for policy related to arXiv papers, video links to arXiv papers, and project pages of the arXiv papers.