IEEE Journals and Magazines Reviewer Guidelines

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IEEE

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Preface

Reviewers fulfill a vital role in the publishing process by giving detailed and professional commentary on submitted articles. Thank you for becoming an IEEE reviewer. As a volunteer, IEEE appreciates your time and contributions to the research in your field.

These reviewer guidelines provide insight into the peer review process with an emphasis on information reviewers need to know to conduct and complete their recommendation.

The IEEE Peer Review Process

You are invited to be one of at least two independent, qualified reviewers who will evaluate this article. You have been invited to review this article based on your knowledge and expertise. If you have reviewed other articles for this publication in the past, the timeliness and quality of those reviews may also influence whether you are invited to review again.

The Ethics of Peer Review

IEEE supports the highest standards of intellectual discourse in its publications. All members of the publication process—authors, editors, and reviewers—should be treated with fairness and balance, and adhere to IEEE's ethical principles and requirements. Read on to learn more about areas of potential misconduct.

Author Misconduct

- **Plagiarism**: using someone else's prior ideas, processes, results, or words without explicitly acknowledging the original author and source. (Reviewers are not expected to run the article through any plagiarism checking software; that is the responsibility of the editorial office.)
- **Duplicate publication**: republishing a previously published article without properly crediting the original work. This can include translations.
- **Parallel submission**: submitting the same article to multiple publications simultaneously.
- **Data fabrication**: inventing data or results.
- **Data falsification**: changing or omitting data or results to achieve a desired outcome.
- **Image manipulation**: excessive or inappropriate adjustment of an image that alters its scientific meaning.
- **Inappropriate authorship**: failing to abide by IEEE's definition of authorship such as omitting valid authors or including those who do not meet the authorship criteria.
- **Citation stacking**: including irrelevant references in order to drive citations.

If you suspect any type of misconduct in the article you're reviewing, contact the editor immediately and provide as much detail as possible about the potential misconduct. The editor will preserve your anonymity while investigating the issue.

Reviewer Misconduct

- **Breach of confidentiality**: the article under review is considered a confidential document and may not be shared with anyone else until it is published and publicly available. As a reviewer, you may not use any non-public information contained in an article to advance your own research or financial interests.
- **Inappropriate communication**: as a reviewer, you are not permitted to contact the article's authors during peer review. All communications between the author and the reviewer must go through the editor via the standard peer review process.
- **Citation coercion**: suggesting irrelevant references or an excessive amount of references is not permitted. If you feel that the authors have omitted important references in the article, you may suggest that they add more references on a particular topic rather than suggesting specific references. Any suggestions to add more references should be accompanied by reasons why those references should be added.
- **Conflict of interest or other bias**: reviewers are expected to decline a review invitation if they have a conflict of interest or other bias. Examples of a conflict of interest include:
    - Being in the same research group or otherwise collaborating closely with an author
    - If any of the authors were your advisors or students
    - Having a personal relationship with an author
    - Being in direct competition with the authors
    - Having financial interests which mean that you may gain or lose money depending on whether the article is accepted

If you have any questions about what constitutes reviewer misconduct, contact your editor for guidance.

Accepting a Review Invitation

Before accepting a review invitation, consider the following points.

- Is this article in your area of expertise? Review the article's title and abstract in the review invitation letter to evaluate whether the topic is a good fit for you.
- Are you able to provide a quality, in-depth review within the requested period of time?

- Do you have a conflict of interest with any of the authors? If you have a conflict of interest, you should decline the invitation. If you're not sure whether your connection with the author qualifies as a conflict of interest, consult with the editor for assistance. Note that most IEEE journals and magazines follow a single-anonymous peer review process, where the identities of the reviewers are not known to the authors, but the reviewers know the identities of the authors.
- Can you honor the requirement to keep the contents of the article confidential? (As per Section 8.2.2 of the IEEE Publication Services and Products Board Operations Manual, IEEE requires that reviewers treat the contents of articles under review as confidential information not to be disclosed to others before publication.)

Evaluating the Article

Reviewing a New Article

As you read the article, consider the strength of its technical **content**.

- Does the article contribute to the existing body of knowledge in the field?
- Does the literature review provide sufficient background and motivation for the work?
- Are the references sufficient and appropriate?

For articles reporting **new results**, review the theoretical/experimental depth, strength of analysis, and quality of supporting data and results.

- Is the study well-designed and well-executed?
- Is there sufficient benchmarking and validation?
- Are the conclusions supported by the data and analysis?
- Is the flow of information logical?
- Is there enough information in the article for the experiments to be reproducible?

If not, comment on what additional or supplementary information is needed. Are there any major technical flaws?

For articles providing **survey, review, or tutorial coverage**, ensure that the following criteria are met.

- Does the presentation style meet the requirements for a survey, review, or tutorial?
- Is there a need for a survey, review, or tutorial on this topic?
- Does the article provide new insights and perspectives?
- Does it have archival value?

Also take note of the article's technical **presentation and organization**. Consider things like the structure of the article, language, writing style, quality of figures and tables, typos, length, and formatting. Is the material presented in a comprehensive and organized manner? Does it comply with the publication's style requirements?

Reviewing a Revised Article

If you're reviewing a revised version of an article you've reviewed before, you should evaluate the updated article, any supplementary information, and the authors' response to reviewers to determine if all your concerns have been addressed and if you are satisfied with the updates. You may also wish to comment on how well the authors addressed the concerns of the other previous reviewers as well, or if you agree or disagree with the feedback from the other reviewers (based on the response to reviewers provided by the authors). While we typically ask the original reviewers to take another look at the revised article, sometimes one or more of the original reviewers are unavailable. If you are reviewing a revised article and did not review the earlier version, we still ask that you evaluate the article as outlined above and decide whether you have new feedback to provide for the authors.

What to Look for by Article Section

The purpose of each section in a typical article is described below to help you pinpoint issues with the article's organization or structure.

Abstract

The abstract should be self-contained, meaning that it can stand alone and does not contain any references, equations, figure or table numbers, or undefined abbreviations. In 250 words or less, the abstract should:

- Outline the research question the authors are trying to address
- State the methodology used in the research
- Briefly summarize the results

The abstract should not include any information absent from the article itself; for this reason, we recommend that you re-read the abstract after you've read the rest of the article to ensure that the abstract is an accurate representation of the article.

Introduction

The purpose of the introduction is to place the research in context and demonstrate its novelty with a review of the existing literature. Check that the literature review is complete and up to date.

Additionally, the introduction should describe the research question that the authors are trying to answer and explain why that question is important to the field. Using your own knowledge of the field, evaluate whether the authors' explanation is valid.

Methodology

The methodology section should be clear and detailed, with enough information to enable another researcher to replicate the work.

In your review, comment on whether the methodology is appropriate for the research question and whether sufficient detail is provided.

Results

Consider whether the data are analyzed, interpreted, and reported appropriately considering the methodology used. Review any figures or tables to confirm that they are clear, understandable, and useful in describing the results.

Discussion

In the discussion section, the authors should answer the research question posed in the introduction and describe how their results are an important contribution to the research field.

Conclusion

The conclusion section highlights potential broader implications of the work and areas that need further study. Although the conclusion looks at the research with a wider lens, it should not introduce new concepts nor inflate the study's findings. All conclusions should be supported by the results reported in the article.

References

The reference section is important because all scientific and technical research builds upon previous work; references help give proper credit and attribution to that preceding body of work. References also support and validate the hypothesis posed in the article. Check that each reference in the article is relevant to the topic and that the most recent relevant works are cited. Indicate in your review if any references are irrelevant or outdated; if the majority of the references are to the authors themselves, mention that in your review as well.

Note that reviewers are not permitted to suggest irrelevant references or an excessive amount of references. If you feel that the authors have omitted important references in the article, you may suggest that they add more references on a particular topic rather than suggesting specific references. Any suggestions to add more references should be accompanied by reasons why those references should be added.

Writing the Review

Your first step after accepting a review invitation is to read all directions and guidelines that you receive from the publication. If you're not very familiar with the publication, you should also read its Aims & Scope statement on the publication's homepage on IEEE *Xplore*® so that you can evaluate whether the article is within the publication's scope. Next, look at the review form provided to you by the editor to understand the kinds of questions you will need to answer in the review.

Structure of the Review

Start your review by briefly summarizing the purpose and results of the article. Next, list your concerns about the article that you would like to see addressed before publication. Most reviewers start with their major concerns, such as a fundamental concern about the analysis or methodology, before moving on to more minor concerns such as an area which would benefit from a rewrite. Conclude your review by summarizing your feedback, including the key strengths and weaknesses of the article and your recommendation regarding whether the article should be accepted for publication.

Note that you are not expected to correct spelling or grammatical errors in the article, although you can list them as areas requiring improvement. If the article is so poorly written that you are unable to evaluate it, notify the editor.

Tips for Writing a Great Review

Your review should have a professional, objective tone and should focus on specific, constructive feedback that the authors can implement to improve their work. Offer details and examples in your feedback to help the author better understand the areas requiring improvement. If you identify errors or weak points in the article, elaborate on your concerns so the authors are able to address them fully. In short, write a helpful and professional review that you would like to receive if you were the author.

Using Artificial Intelligence Tools (e.g., ChatBot, Google Bard, ChatGPT)

Reviewers are **not** permitted to use artificial intelligence (AI) tools to help write reviews of IEEE articles. The contents of the article under review are considered confidential information and may not be submitted to any external programs. Additionally, we expect reviewers to be responsible for the comments that they provide during peer review. You were invited to review because of your personal expertise and insight, which cannot be replicated by an AI tool.

Making a Recommendation

Part of your review includes making a recommendation to the editor regarding whether the article should be accepted for publication. Decision names may vary across IEEE publications but each decision can be categorized into one of the three types: accept, revise or reject.

Accept

Only recommend acceptance if the article is publishable as is. The criteria for an article to be accepted for publication by IEEE include:

1. The article should be original writing that enhances and contributes to the existing body of knowledge in the given subject area. Original review articles and surveys are acceptable, even if new data or concepts are not presented, but there must be a clear advance over existing work.
2. Results reported have not been submitted or published elsewhere (although preprints or expanded versions of prior publications are eligible for publication).
3. Experiments, statistics, and other analyses are performed to a high technical standard and are described in sufficient detail.
4. Conclusions are presented in an appropriate fashion and are supported by the data.
5. The article is written in standard English with correct grammar and spelling.
6. Appropriate references to related prior published works are included.
7. The article is within the publication's scope.

Revise (Major or Minor)

Recommend a revision decision if the article has merit but requires updates before it can be published. A recommendation of Major Revision signals that the article requires a significant amount of work before it can be accepted for publication, while a Minor Revision recommendation indicates that only small changes are required.

If the article receives a revision decision and the author chooses to revise and resubmit, the revised submission will include both the updated article and a "response to reviewers" document that addresses each reviewer's concerns. Where possible, the editor will invite the original reviewers to evaluate the revised submission and advise whether their concerns have been addressed.

Reject

Recommend rejection if you feel that the changes needed are too significant, if additional revision would not improve the manuscript, or if the article was previously reviewed but the authors did not sufficiently address the reviewers' concerns and the article is still not ready for publication.

Keep in mind that, while reviewers provide guidance and a recommendation, editors use their own judgement in conjunction with the reviewers' comments to make the final decision.

What Does IEEE Expect From Reviewers?

Reviewers should**:**

- Be experts of the subject area of the article they agree to review.
- Complete the review within the requested timeframe. (Extensions can be given if needed.)
- Decline the review invitation if they have a conflict of interest with any of the authors.
- Treat the contents of articles under review as confidential information. Reviewers should not make inappropriate use of the special knowledge that the access to the article provides.
- Objectively evaluate and comment upon the unique contributions, technical soundness, and presentation style of the article.
- Practice ethical behavior in line with IEEE policies and guidelines and notify the editor of any concerns regarding suspected author misconduct.

Further Questions

Contact the editor or Editor-in-Chief with any further questions about the IEEE peer review process. You can also consult the IEEE Publication Services and Products Board Operations Manual for more information.