

Evaluating a research paper

A workshop I recently attended led me to consider the question of "What is a good quality paper?" Here is my attempt at creating a checklist to judge paper quality. In creating this list, I would like to acknowledge feedback from the participants of the Dagstuhl workshop on "Publication Culture of Computing Research", from the [ISS4E research group](#), and from Timothy Roscoe's excellent paper on "[Writing reviews for systems conferences](#)."

Attributes of a good paper

Clarity

- Is grammatically correct
- Has good mathematical notation
- Easy to understand
 - Good flow
 - Well-chosen examples
 - Clear figures with descriptive captions

Context

- Provides adequate context
- Cites relevant prior work
- Makes reasonable and explicitly stated assumptions

Contributions

- Makes a novel contribution over prior work
- Makes a non-trivial contribution
 - Focus is not too narrow
- Does not overstate contributions
- If this is an implementation paper, the work is implementable
- Explicitly identifies limitations

Sound methodology

- Sufficiently evaluates contributions
- Uses an appropriate data set
- Uses appropriate statistical techniques in reporting results

- Has justifiable and well-chosen metrics to evaluate performance
- Compares results with that from prior work
- Is mathematically correct
- Has sufficient detail to allow the work to be reproduced, at least in principle
- Is reasonably complete: does not have major unaddressed issues or gaps