

SIGMOD ARI Reviewer Guidelines

Background

The SIGMOD Availability and Reproducibility Initiative evaluates the artifacts of accepted SIGMOD papers with the goal of verifying reproducibility and/or making the artifacts available. This is demonstrated via the assignment of ACM Availability and Reproducibility badges in the ACM digital library. There are three badges: (i) Artifacts Available, (ii) Artifacts Evaluated, and (iii) Results Reproduced. More details on the badges: <https://reproducibility.sigmod.org/>

As a Reviewer for the SIGMOD Availability and Reproducibility Initiative (ARI), you may be assigned three types of papers:

- a. A submission that aims to make the artifacts publicly available
 - Eligible for the Artifacts Available and the Artifacts Evaluated badges.
- b. A submission that aims to be evaluated for reproducibility
 - Eligible for the Artifacts Evaluated and the Results Reproduced badges.
- c. A submission that aims both (a) and (b).
 - Eligible for all three badges.

Review Process & Timeline

For every type of submission assigned to you, the first step is to evaluate whether the artifacts are indeed available and usable.

1. You will be assigned 1-3 papers for evaluation. Papers might be of any type (a), (b), (c). The goal is to balance the load by assigning a maximum of 1-2 papers for reproducibility and potentially a few more papers for artifact availability. Judging from historical numbers, we will assign 1 paper for reproducibility and 1 paper for availability. Note that our goal is that each paper has at least two reviewers.
2. **Sanity Check.** In the **first 2 weeks** after the assignment, you will verify that:
 - a. the artifacts are indeed available,
 - b. the artifacts can be compiled, deployed, and have enough documentation, and
 - c. when applicable, that the artifacts are ready for the reproducibility review, and that you can work with the hardware and software requirements.
3. **Contact Chairs If Needed.** For any unforeseen issue or if you feel that you cannot work with the specific assignment, please contact the chairs. Note that authors are expected to help with the setup (SW and HW) if needed.
4. **Work with Authors.** As the goal is to make all artifacts available, reviewers are expected to work with/guide the authors to resolve any ambiguity about the submitted artifacts and to ensure that the artifacts are of high quality.

5. **Reproducibility Evaluation.** For all papers that submit a reproducibility package, you will have a period of **2 months** during which you are expected to reproduce all core results of the paper under evaluation. Budget time to work on the reproducibility early on to catch any surprises and avoid delays. As part of the evaluation, you are expected to propose which badges the paper should be awarded.
 - a. The Artifacts Available badge is awarded if the artifacts are eventually going to be packaged and made publicly available through ACM DL.
 - b. The Artifacts Evaluated badge is awarded if the artifacts are complete, usable, well-documented, and contain scripts that allow running the paper's experiments.
 - c. The Results Reproduced badge is awarded when the core results of the paper are reproduced so that the paper's main thesis is supported.
6. **Reproducibility Report.** Once the reproducibility evaluation is completed, you will produce a short reproducibility report. The goal is that the reviewers will work together with at least one author to produce that report (using the template <https://reproducibility.sigmod.org/documents/report/>). Starting with SIGMOD 2024 paper, the reports are part of the post-conference companion (e.g., <https://dl.acm.org/doi/proceedings/10.1145/3687998>).

Additional Comments

1. Contact the chairs for any issue that seems hard to be resolved.
2. When an issue with the code/scripts appears, immediately contact the authors to help resolve it. The authors' collaboration is both welcome and expected because they know and understand the specifics of their algorithms and code. In most cases, issues have to do with automating a script (e.g., making it path-independent) or dealing with dependencies.
3. The goal is both to go through the process of reproducing the results and to provide enough feedback to the authors so that they can create a shareable instance of their code and experiments.
4. When running experiments, eliminate any interference in your systems, i.e., make sure, unless otherwise stated by the authors, that the machines used are dedicated to the reproducibility experiments.
5. If the results you gathered during the reproducibility process do not support the claims, contact the authors to address this. This may be due to issues that have to do with the set-up of the experiments or the hardware specifications.
6. If a paper cannot be reproduced, contact the chairs.

This is a quick guide. Please read the [main SIGMOD reproducibility webpage](#) for more details and good practices we expect authors to follow.