Algorithm to review scientific papers

Adrian-Ioan Tuns

Departament of computer science
Faculty of Mathematics and Informatics
West University of Timișoara
Teacher: Adrian Craciun
Email: tunsadrian99@gmail.com

1. Read abstract, introduction and conclusion(around 10 minutes)

2. If the paper is in the scope(of journal, of call of papers etc.):

   - then "the paper is in the scope", go to 3)
   - else describe the topic of the paper including justification for "not in the scope", *STOP*

3. Read superficially the paper(around 15 minutes) and write a summary which includes problem and solution(results) of the paper, in your own words(around 5 minutes)

4. If the presentation of the paper seems clear enough for making a fair evaluation:

   - then go to 5
   - else reject, "presentation is to poor to..."(justify), *STOP*

5. If the main results seem important:

   - then "the main results(which) seem (very, fairly, quite etc.) important", go to 6)
   - else reject, "results are not important(enough)" *STOP*

6. If the results seem non-trivial:

   - then "the main results(which) are non-trivial(in what way), go to 7)
   - else reject, "results are trivial(how)", *STOP

7. If the results seem original:

- then report, go to 8)
- else reject, "results are known(show how -from literature-), *STOP*

8. If there are sufficiently many details for an exact check of correctness:

   - then report, go to 9)
   - else "the paper contains too few details(what is missing?) for an exact check of correctness", *STOP*

   If by intuitive reasons the paper or results seem correct:

   - then report, go to 11)
   - else "results(which) seem incorrect(why)" *STOP*

9. Read the paper in detail(around 2-5 hours)

10. If the paper is technically correct and the author seems to master the field

    - then report "the author masters the field; I have checked(all, most, some -which-) details(in detail, spot checked etc.)", make a list of minor problems, go to 11)
    - else reject, "the paper contains possible severe errors(which)" *STOP*

11. If the presentation, style and format are of high standard:

    - then report "the presentation is (good,standard,excellent), go to 12)
    - else suggest improvements, signal errors, go to 12)

12. Make a list of suggestions for improving the paper + Decision