October 31, 2011

Synopsis: Reviewing papers

1. Basics
2. What the paper is about
   a. What is the problem, and the context of the problem?
3. Is the paper publishable, assuming it does what is claimed?
   a. Is the topic significant?
   b. Is this the right forum for the paper/result?
4. Is the methodology appropriate?
   a. Is the way they solved the problem clear?
   b. Is the method a right one?
   c. Is the solution correct?
5. Is the analysis and/or discussion of the results commensurate with the results?
6. Does the conclusion, or some other part of the paper, suggest appropriate future work and/or identify open problems?
7. Overall, how good is the paper?
   a. What are the categories?
      i. Major results; very significant (fewer than 1% of papers)
      ii. Solid contribution (fewer than 10% of papers)
      iii. Minor, useful contribution (between 10% and 30% of papers)
      iv. Elegant, technically correct, useless contribution
      v. Inelegant, technically correct, useless contribution
      vi. Wrong, misleading results
      vii. Incomprehensible; you cannot understand it and so cannot evaluate it, technically or otherwise
   b. What are the standards against which to judge it?
      i. Selective conferences, journals
      ii. Non-selective conferences, journals
      iii. *Don't judge a venue by the percent of submissions accepted* because the best venues have far fewer bad papers submitted than others
8. Writing your comments
   a. Separate your comments into "major" and "minor"
      i. Major comments affect the acceptability of the paper; for example, omitting steps in a proof that are critical to the proof, or not describing an experimental procedure thoroughly, or organizing the paper in a way that makes it very hard to understand
      ii. Minor comments affect its readability or the reader's comprehension; for example, grammar errors, typographical errors, wording errors
   b. Keep it impersonal; do *not*, under *any* circumstances, disparage the authors as people
   c. Be constructive
      i. Suggest ways to improve the paper
      ii. If something is wrong, explain why
      iii. If the author overlooked a body of literature or key papers, say what they are and provide a cite or two if at all possible
      iv. If you see ways to improve the paper, say so
   d. The depth of your review should be commensurate with the depth of the paper
      i. Jajodia's Rule: never spend longer reviewing a paper than the authors spent writing it
9. General rules
   a. Provide sufficient justification for whatever you recommend
   b. If you recommend "revise and resubmit", be prepared to review the next iteration
      i. Check that the author handled your comments appropriately

     ii. Recheck the rest of the paper, because the author may have made changes due to comments from the other referees

10. Other issues

    a. Simultaneous submission: *must* be disclosed

    b. Prior publication: *must* be disclosed

    c. Unrevised retries

    d. Plagiarism: point this out and let the editor handle it

    e. Confidentiality: the paper and the results are confidential until it is published

    f. Timeliness: Do your review promptly, or decline to do it

    g. Qualification: Do not be afraid to reject a reviewing request if it's not in your area of expertise

    h. Conflict of interest: *must* be disclosed to the editor/program committee, and in general you should decline to review the paper unless there are extraordinary circumstances