Writing for the Journal of Data Science (JDS)

Jun Yan

Department of Statistics, University of Connecticut

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Journal of Data Science (JDS) https://jds-online.org

History of JDS

- "Established in 2003, the Journal of Data Science aims to advance and promote data science methods, computing, and applications in all scientific fields where knowledge and insights are to be extracted from data."
- Founding editors: Drs. Min-Te Zhao and Ben-Chang Shia
- Started as a sister journal to *Statistica Sinica* with a focus on applied statistics.
- Sponsorship transfered to School of Statistics, and Center for Applied Statistics, Renmin University of China in 2019.
- Revamped in 2020 from my editorship.

JDS Sections

- Philosophy of data science (with Glen Colopy)
- Statistical data science
- Computing in data science (software; algorithms; performance assessments)
- Data science in action (applications and case studies)
- Data science review
- Education in data science

See more details see JDS website

Shining Features

- Authors keep copyright (CC-BY-4.0 license).
- Free access to readers and no APC to authors, funded by the sponsors.
- Reproducibility: data (if not proprietary) and code check
- Timely topics: special issues
- Fast review

LaTeX Template

- Class and bib-style initially developed by Wenjie Wang and Jun Yan
  - Simple yet powerful
- Maintained at GitHub (https://github.com/vtex-soft/texsupport.ruc-jds)
- For articles with computer code demonstration, use our RMarkdown template through R package *jds.rmd* (https://CRAN.R-project.org/package=jds.rmd).
  - Works for any language supported by *rmarkdown/bookdown* including *Python*.

Preparing a Manuscript

General Expectations at JDS

- Some forms of novelty (could be methods, computing, application, or review/tutorial, etc.)
- Data (if not proprietary) and code with sufficient documentation for reproducibility
- Read the instructions for authors

We are not JASA, AoS, JMLR, or any big names; we are the unique, developing JDS.

From a Project Report to a Paper

A good project report is good starting point

- Review the literature
- Spell out the contributions
- Answer three questions in the introduction
  - Why interesting/important?
  - What's been done?
  - What's new?
- Discuss the novelty in position to the literature
- Streamline the presentation: write in a way that minimize the readers energy expense to understand it (Gopen, 2004)
- Professionalize tables/figures/algorithms

Computing in Data Science

- Software packages (similar to articles in JSS)
- Algorithms
- Visualizations
- Performance assessments
- Computational methodologies

Regardless of the types of the submissions, literature review is necessary.

Sample Articles of Computing in Data Science

- Published articles
- Examples
  - Wang and Yan (2021)
  - Gunther, Fieberg, and Poddig (2023)
  - Bar and Wang (2021)
  - Hintz, Hofert, and Lemieux (2022)

Data Science in Action

- Application oriented: solve a real problem
- Demonstrate convincing interest in the problem
- Don't pretend it to be a method paper
- Tailored novel methods are welcome but not required
- Eye-opening discoveries would be great
- Challenging/corroborating existing findings

Regardless of the domains of the applications, literature review is necessary.

Sample Articles of Data Science in Action

- Published articles
- Examples
  - Redfern (2023)
  - Nguyen, Butler, and Matthews (2022)
  - Lim, et. al (2022)
  - Tont, et. al (2023+)

Top 11 Annoyances to Avoid

- No punctuations for equations.
- Raster graphs: They blur when zoomed in; use vector graphs (e.g., pdf/eps)
- Negative signs not in math mode ($-$ instead of -; double/tripple dashes –/—)
- Forgetting LaTeX symbol table: log is not $\log$; min is not $\min$
- Inconsistency notations: n is not n; MSE is not MSE; θ_{LS} is not θ_{LS}
- Indistinctive between \citet and \citep
- Unordered, redundant keywords
- Nonuse of cross-referencsing.
- Uncleaned Bibtex source
- No line numbers for ease of reviewing
- No supplement for reproducibility checking

See https://statds.github.io/stat-writing/ for more specific tips on styles.

Reviewing a Manuscript

Reviewer's Report

- A template structure
  - Summary about the paper's contributions and overall assessment
  - Major issues, e.g.:
    - Is the literature fully reviewed?
    - Have competing methods been appropriately compared?
    - Is the simulation design missing any important factors or metrics?
    - Are there any major presentational problems?
  - Minor issues (clarifications; presentations; missing references; etc.), often referring to specific locations
- (Optional) A separate confidential communication to the editor.
- Give constructive criticism even if recommending rejection.
- Number your comments.
- Be polite and professional.

Further Resources for Reviewing

- Cambridge's to peer review
- Wiley's guide to reviewing a manusccript
- Elsevier's checklist
- A published example

Reply to Reviews

Structure of a Reply Letter

- Summarize major changes upfront.
- Section by editor, associate editor, and referees
- Point-by-point responses, with comments quoted
- Keep a calm, appreciative, unconfrontational tone

Tips on Preparing a Reply Letter

- Be really responsive: understand the questions and address them one by one instead of something else.
- If there are multiple questions in one comment, address them by paragraphs.
- At the end of each response, summarize what has been done to the manuscript and point out the the locations of the changes.
  - Even for clarification issues, readers may have the same concern.
- If the reviewer pointed out something that you cannot fix, acknowledge the limitation of your work, explain why it is challenging, and discuss in future directions.
- No need to say thank you very much at every response.

Conclusion

Summary

- Shining features of JDS
  - free open-access
  - fast review
  - reproducibility
  - timely special issues
- Become a better author
- Become a better reviewer
- Happy writing!

Further Resources on Academic Writing

- Caplan, Nigel A. 2019. Grammar Choices for Graduate and Professional Writers. University of Michigan Press ELT.
- Gopen, George D. 2004. Expectations: Teaching Writing from the Reader's Perspective. Pearson.
- Gopen, George D, and Judith A Swan. 1990. "The Science of Scientific Writing." American Scientist 78 (6): 550-–58.
- Hairston, Maxine, and Michael L Keene. 2003. Successful Writing. 5th ed. W. W. Norton & Company.
- Lebrun, Jean-Luc, and Justin Lebrun. 2021. Scientific Writing 3.0: A Reader and Writer's Guide. World Scientific.
- Oshima, Alex, and Ann Hogue. 2000. Writing Academic English. Longman.