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Weave.jl: Scientific Reports Using Julia

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Software

- Review
- Repository
- Archive

Summary

Weave is a tool for writing scientific reports using Julia (Bezanson et al. 2017). It allows writing of text, mathematics and code in a single document which can be run capturing results into a rich report. Output can include text using several markup languages, plots generated using one of the several Julia plotting libraries and other objects displayed using Julia's multimedia output. The workflow is very similar to using Knitr (Xie 2015) R-package.

Weave supports noweb, markdown, script syntax for delimiting code from text in the source document and several output formats including Markdown and Latex. The output from code can be controlled using chunk options making it possible e.g. to hide code and only show output when needed as well as set a figure caption and figure size. The library also has methods for converting documents from all input formats to Jupyter notebooks and vice versa.

The package aims to support writing scientific papers and enable easy sharing of analysis in order to promote reproducible research. It also aims to enable simple writing of educational material, tutorials and blog posts.

References

Bezanson, Jeff, Alan Edelman, Stefan Karpinski, and Viral B. Shah. 2017. "Julia: A Fresh Approach to Numerical Computing." *SIAM Review* 59 (1): 65–98. doi:10.1137/141000671.

Xie, Yihui. 2015. *Dynamic Documents with R and Knitr*. 2nd ed. Boca Raton, Florida: Chapman; Hall/CRC. http://yihui.name/knitr/.