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iheatmapr: Interactive complex heatmaps in R

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Software

- Review
- Repository
- Archive

Summary

The iheatmapr package is an R package (Team 2000) for creating complex, interactive heatmaps. Heatmaps are commonly used to visualize patterns in high-dimensional data, particularly in genomics research. Adding annotations and summary plots along the rows or columns of a heatmap can enhance a heatmap visualization. Pairing several heatmaps horizontally can enable association of data across multiple assays. Adding interactive features like tooltips and zooming can further enhance these complex heatmaps, enabling information-rich visualizations linking diverse, high-dimensional data sets.

There are great tools in R for creating simple interactive heatmaps (Galili 2016, Cheng and Galili (2016)) or creating static complex heatmaps (Gu, Eils, and Schlesner 2016). However, there are no tools facilitating the creation of complex, interactive heatmaps. The iheatmapr package fills this gap, enabling creation of highly customizable, interactive, complex heatmaps using the plotly library (Sievert et al. 2016). The resulting interactive visualizations can easily be incorporated into reproducible R Markdown reports for sharing with collaborators.

References

Cheng, Joe, and Tal Galili. 2016. *D3heatmap: Interactive Heat Maps Using 'Htmlwidgets' and 'D3.js'*. https://CRAN.R-project.org/package=d3heatmap.

Galili, Tal. 2016. *Heatmaply: Interactive Heat Maps Using 'Plotly'*. https://CRAN.R-project.org/package=heatmaply.

Gu, Zuguang, Roland Eils, and Matthias Schlesner. 2016. "Complex Heatmaps Reveal Patterns and Correlations in Multidimensional Genomic Data." *Bioinformatics* 32 (18). Oxford Univ Press: 2847–9. doi:https://doi.org/10.1093/bioinformatics/btw313.

Sievert, Carson, Chris Parmer, Toby Hocking, Scott Chamberlain, Karthik Ram, Marianne Corvellec, and Pedro Despouy. 2016. *Plotly: Create Interactive Web Graphics via 'Plotly.js'*. https://CRAN.R-project.org/package=plotly.

Team, R Core. 2000. "R Language Definition." *Vienna, Austria: R Foundation for Statistical Computing*.