gghdr: Graphing highest density regions using grammar of graphics

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Package gghdr provides the framework to visualize Highest Density Regions (HDR) with the grammar of graphics as implemented in ggplot2. There are several statistical methods (viz. box plots, summary plots or letter value plots) to summarize a distribution by region of the sample space covering certain probability. The method of summarizing a distribution using highest density regions are useful for plotting multimodal distributions. Highest density regions may include disjoint subsets each covering a local mode. This work extends the functionality of ggplot2 by making a combination of calls to new stat\_\* and geom\_\* functions. The stat\_\* functions are inherited from the R package hdrcde and new geom\_\* functions are created to produce the new plotting symbols. This package enhances users’ ability to customise and combine highest density regions (through box plots, scatterplots and rug plots) with other ggplot2 objects to highlight different features of a distribution.

Other authors of the package are Mitchell O’Hara-Wild, Stephen Pearce, Ryo Nakagawara, Darya Vanichkina, Emi Tanaka and Thomas Fung. Development versions of the package are available in <https://github.com/ropenscilabs/gghdr>.

1.Hyndman, Rob J. 1996. “Computing and Graphing Highest Density Regions.” The American Statistician 50 (2): 120–26.

2.Hyndman RJ (2018). *hdrcde: Highest Density Regions and Conditional Density Estimation*. R package version 3.3, <URL: <http://pkg.robjhyndman.com/hdrcde>>.