Description

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Short description

The bagplot function plots the (approximation of) spherical bagplot for the given data points. The function has multiple optional arguments that help the users customize the plot; for more, see . In addition to the bagplot function, we also provide a function that counts the number of the data points that will be flagged as outliers (see outlierscount.py), this function takes the same arguments as the bagplot function (up to argument *res*, the rest of the arguments are only relevant to displaying the bagplot).

Arguments of the bagplot function

Compulsory arguments:

- *data*: a multidimensinal array of the data points for which the bagplot is to be plotted. Each row should represent an observation.

Optional arguments:

- *weights*: an array of data weights. If not provided, it is assumed that all the data have the same weights.

- *dist*: string, the distance to be used for the calculations. Should be one of arc, cos or chord. The default is arc.

- *a*: float, a value between zero and one. It represents the percentage of the probability mass that should lie inside the fence under the von Mises-Fisher distribution (for more, see Section **??**). The default is 0.99.

- *borderdist*: a string. Indicates whether the maximum or average distance from the center to the border should be used in the calculation for the estimates of κ and the multiplying factor. Two options, max or mean. The default is mean.

- *res*: an integer, which controls the size of the grid used to approximate the unit sphere. The number of grid points is equal to the square of *res*. The default value is 500.

- *savefig*: boolean value. If *savefig* is set to True, the plot is saved in a file named *figname*. The default is False.

- *figname*: string. Name of the resulting file when *savefig* is set to True. The default is bagplot.pdf.

- *interactive*: boolean value. If *interactive* is set to true, an interactive plot will be created. If set to False, six plots of a sphere from different angles will be created. For *savefig* set to True, only the option with six plots is possible. The default is False.

- *bagcol*: string, the color of the bag. It should be one of the named colors in Python or a HEX code of a color. The defualt is #3c7cdd.

- *loopcol*: string, the color of the loop. It should be one of the named colors in Python or a HEX code of a color. The default is #a8c5f0.

- *font*: string, a font family used for titles in the plot. The desired font family should be installed on the machine the code is running on. The default is Latin Modern Roman.

- *geo*: boolean value. If true outlines of countries are plotted in black, and the six plots are centered on the six inhabited continents. The default is False.