Package: ggbiplot (via r-universe)

March 14, 2025

Type Package

Title A ggplot2 based biplot

Version 0.55

Date 2011-10-23

Author Vincent Q. Vu <`vqv@stat.cmu.edu`>

Maintainer Vincent Q. Vu <`vqv@stat.cmu.edu`>

Description A ggplot2 based biplot. It provides a drop-in replacement for biplot.princomp(). It implements a biplot and scree plot using ggplot2.

Depends ggplot2, plyr, scales, grid

License GPL-2

URL `http://github.com/vqv/ggbiplot`

Collate 'ggbiplot.r' 'ggscreeplot.r'

Repository https://kubdatalab.r-universe.dev

RemoteUrl https://github.com/vqv/ggbiplot

RemoteRef HEAD

RemoteSha f7ea76da44ee68cc0ab68c35202e1dab06aaa027

Contents

`ggbiplot` *Biplot for Principal Components using ggplot2*

Description

Biplot for Principal Components using ggplot2

Usage

```
ggbiplot(pcobj, choices = 1:2, scale = 1, pc.biplot =
TRUE, obs.scale = 1 - scale, var.scale = scale, groups =
NULL, ellipse = FALSE, ellipse.prob = 0.68, labels =
NULL, labels.size = 3, alpha = 1, var.axes = TRUE, circle
= FALSE, circle.prob = 0.69, varname.size = 3,
varname.adjust = 1.5, varname.abbrev = FALSE, ...)
```

Arguments

`pcobj`	an object returned by prcomp() or princomp()
`choices`	which PCs to plot
`scale`	covariance biplot (scale = 1), form biplot (scale = 0). When scale = 1, the inner product between the variables approximates the covariance and the distance between the points approximates the Mahalanobis distance.
`obs.scale`	scale factor to apply to observations
`var.scale`	scale factor to apply to variables
`pc.biplot`	for compatibility with biplot.princomp()
`groups`	optional factor variable indicating the groups that the observations belong to. If provided the points will be colored according to groups
`ellipse`	draw a normal data ellipse for each group?
`ellipse.prob`	size of the ellipse in Normal probability
`labels`	optional vector of labels for the observations
`labels.size`	size of the text used for the labels
`alpha`	alpha transparency value for the points (0 = TRUEransparent, 1 = opaque)
`circle`	draw a correlation circle? (only applies when prcomp was called with scale = TRUE and when var.scale = 1)
`var.axes`	draw arrows for the variables?
`varname.size`	size of the text for variable names
`varname.adjust`	adjustment factor the placement of the variable names, >= 1 means farther from the arrow
`varname.abbrev`	whether or not to abbreviate the variable names

Value

a ggplot2 plot

Examples

```
data(wine)
wine.pca <- prcomp(wine, scale. = TRUE)
print(ggbiplot(wine.pca, obs.scale = 1, var.scale = 1, groups = wine.class, ellipse = TRUE, circle = TRUE))
```

`ggscreeplot` *Screeplot for Principal Components*

Description

Screeplot for Principal Components

Usage

```
ggscreeplot(pcobj, type = c("pev", "cev"))
```

Arguments

`pcobj`	an object returned by prcomp() or princomp()
`type`	the type of scree plot. 'pev' corresponds proportion of explained variance, i.e. the eigenvalues divided by the trace. 'cev' corresponds to the cumulative proportion of explained variance, i.e. the partial sum of the first k eigenvalues divided by the trace.

Examples

```
data(wine)
wine.pca <- prcomp(wine, scale. = TRUE)
print(ggscreeplot(wine.pca))
```

`wine` *Chemical composition of three cultivars of wine*

Description

Chemical constituents of wines from three different cultivars grown in the same region in Italy. The cultivars, 'barolo', 'barbera', and 'grignolino', are indicated in wine.class.

Usage

```
data(wine)
```

Format

The format is: chr "wine"

Source

http://archive.ics.uci.edu/ml/datasets/Wine

Examples

```
data(wine)
wine.pca <- prcomp(wine, scale. = TRUE)
print(ggscreeplot(wine.pca))
print(ggbiplot(wine.pca, obs.scale = 1, var.scale = 1, groups = wine.class, ellipse = TRUE, circle = TRUE))
```

Index