Package 'ggmice'

October 13, 2022

Title Visualizations for 'mice' with 'ggplot2'

Version 0.0.1

Description Enhance a 'mice' imputation workflow with visualizations for incomplete and/or imputed data. The plotting functions produce 'ggplot' objects which may be easily manipulated or extended. Use 'ggmice' to inspect missing data, develop imputation models, evaluate algorithmic convergence, or compare observed versus imputed data.

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URL https://github.com/amices/ggmice, https://amices.org/, https://amices.org/ggmice/

BugReports https://github.com/amices/ggmice

Imports dplyr, ggplot2, magrittr, mice, purrr, rlang, stats, stringr, tidyr, utils

Suggests covr, knitr, plotly, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

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Encoding UTF-8

RoxygenNote 7.1.2

NeedsCompilation no

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Repository CRAN

Date/Publication 2022-03-17 08:50:05 UTC

R topics documented:

`bwplot` *Box-and-whisker plot of observed and imputed data*

Description

Box-and-whisker plot of observed and imputed data

Usage

```
bwplot(...)
```

Arguments

`...`	Any arguments passed to the function.

Value

The output of `mice::bwplot(...)` and a message about the `ggmice` equivalent.

Examples

```
imp <- mice::mice(mice::nhanes, maxit = 1, printFlag = FALSE)
bwplot(imp)
```

densityplot *Densityplot of observed and imputed data*

Description

Densityplot of observed and imputed data

Usage

```
densityplot(...)
```

Arguments

`...`	Any arguments passed to the function.

Value

The output of `mice::densityplot(...)` and a message about the `ggmice` equivalent.

Examples

```
imp <- mice::mice(mice::nhanes, maxit = 1, printFlag = FALSE)
densityplot(imp)
```

ggmice *Plot incomplete or imputed data*

Description

Plot incomplete or imputed data

Usage

```
ggmice(data = NULL, mapping = ggplot2::aes())
```

Arguments

`data`	An incomplete dataset (of class `data.frame` or `matrix`), or an object of class `mice::mids`.
`mapping`	A list of aesthetic mappings created with `ggplot2::aes()`.

Value

An object of class `ggplot2::ggplot`.

See Also

See the ggmice vignette to use the ggmice() function on incomplete data or imputed data.

Examples

```
dat <- mice::nhanes
ggmice(dat, ggplot2::aes(x = age, y = bmi)) + ggplot2::geom_point()
```

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pat_to_chr *Utils function to process missing data pattern*

Description

Utils function to process missing data pattern

Usage

```
pat_to_chr(pat, ord = NULL)
```

Arguments

pat	Numeric matrix with a missing data pattern.
ord	Vector with variable names.

---

plot_corr *Plot correlations between (incomplete) variables*

Description

Plot correlations between (incomplete) variables

Usage

```
plot_corr(
  data,
  vrb = "all",
  label = FALSE,
  square = TRUE,
  diagonal = FALSE,
  rotate = FALSE
)
```

Arguments

data	A dataset of class data.frame, tibble, or matrix.
vrb	String or vector with variable name(s), default is "all".
label	Logical indicating whether correlation values should be displayed.
square	Logical indicating whether the plot tiles should be squares.
diagonal	Logical indicating whether the correlation of each variable with itself should be displayed.
rotate	Logical indicating whether the variable name labels should be rotated 90 degrees.

Value

An object of class ggplot.

Examples

```
plot_corr(mice::nhanes, label = TRUE)
```

---

plot_flux *Plot the influx and outflux of a multivariate missing data pattern*

Description

Plot the influx and outflux of a multivariate missing data pattern

Usage

```
plot_flux(data, vrb = "all", label = TRUE, caption = TRUE)
```

Arguments

data	An incomplete dataset of class data.frame or matrix.
vrb	String or vector with variable name(s), default is "all".
label	Logical indicating whether variable names should be displayed within the plot (the default) or with colors in the legend.
caption	Logical indicating whether the figure caption should be displayed.

Value

An object of class ggplot2::ggplot.

Examples

```
plot_flux(mice::nhanes)
```

plot_pattern *Plot the missing data pattern of an incomplete dataset*

Description

Plot the missing data pattern of an incomplete dataset

Usage

```
plot_pattern(data, vrb = "all", square = FALSE, rotate = FALSE, cluster = NULL)
```

Arguments

data	An incomplete dataset of class data.frame or matrix.
vrb	String or vector with variable name(s), default is "all".
square	Logical indicating whether the plot tiles should be squares.
rotate	Logical indicating whether the variable name labels should be rotated 90 degrees.
cluster	Optional character string specifying which variable should be used for clustering (e.g., for multilevel data).

Value

An object of class ggplot2::ggplot.

Examples

```
plot_pattern(mice::nhanes)
```

plot_pred *Plot the predictor matrix of an imputation model*

Description

Plot the predictor matrix of an imputation model

Usage

```
plot_pred(data, label = FALSE, square = TRUE, rotate = FALSE)
```

Arguments

data	A predictor matrix for mice, typically generated with mice::make.predictorMatrix() or mice::quickpred(). #TODO link!
label	Logical indicating whether predictor matrix values should be displayed.
square	Logical indicating whether the plot tiles should be squares.
rotate	Logical indicating whether the variable name labels should be rotated 90 degrees.

Value

An object of class ggplot2::ggplot.

Examples

```
pred <- mice::make.predictorMatrix(mice::nhanes)
plot_pred(pred, label = TRUE)
```

---

plot_trace *Plot the trace lines of the imputation algorithm*

Description

Plot the trace lines of the imputation algorithm

Usage

```
plot_trace(data, vrb = "all")
```

Arguments

data	An object of class mice::mids.
vrb	String or vector with variable name(s), default is "all".

Value

An object of class ggplot2::ggplot.

Examples

```
imp <- mice::mice(mice::nhanes, print = FALSE)
plot_trace(imp)
```

stripplot *Stripplot of observed and imputed data*

Description

Stripplot of observed and imputed data

Usage

```
stripplot(...)
```

Arguments

...	Any arguments passed to the function.

Value

The output of `mice::stripplot(...)` and a message about the `ggmice` equivalent.

Examples

```
imp <- mice::mice(mice::nhanes, maxit = 1, printFlag = FALSE)
stripplot(imp)
```

theme_mice *Theme for 'mice' style 'ggplot2' objects*

Description

Theme for 'mice' style 'ggplot2' objects

Usage

```
theme_mice()
```

Value

A ggplot2 theme.

theme_minimice *Minimal theme for mice*

Description

Minimal theme for mice

Usage

```
theme_minimice()
```

Value

A ggplot2 theme.

xyplot *Scatterplot of observed and imputed data*

Description

Scatterplot of observed and imputed data

Usage

```
xyplot(...)
```

Arguments

...	Any arguments passed to the function.

Value

The output of `mice::xyplot(...)` and a message about the ggmice equivalent.

Examples

```
imp <- mice::mice(mice::nhanes, maxit = 1, printFlag = FALSE)
xyplot(imp, bmi ~ age)
```

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