Package 'FreqProf'

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Title Frequency Profiles Computing and Plotting

Description Tools for generating an informative type of line graph, the frequency profile, which allows single behaviors, multiple behaviors, or the specific behavioral patterns of individual subjects to be graphed from occurrence/nonoccurrence behavioral data.

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Depends R (>= 3.2.2)

Imports reshape2, ggplot2, shiny

LazyData true

URL <https://github.com/AIBRT/FreqProf>

BugReports <https://github.com/AIBRT/FreqProf/issues>

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NeedsCompilation no

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approxm   *Interpolate multiple columns of a data.frame*

Description

Interpolate multiple columns of a data.frame

Usage

```
approxm(data1, n, method = "linear")
```

Arguments

data1	a data.frame with columns for interpolation
n	the number of points to interpolate
method	the method to interpolate by, "linear" or "spline"

Value

Returns a data.frame of all data1 variables interpolated to n rows.

See Also

[approx](#) is the underlying function and has more options

| cor.testm | *Correlation test for multiple variables - of the same name - in separate data.frames* |

Description

Correlation test for multiple variables - of the same name - in separate data.frames

Usage

```
cor.testm(data1, data2, method)
```

Arguments

data1	a data.frame with N variables
data2	a data.frame with the same N variables as data1
method	a correlation method, either method = "pearson" or "spearman"

Value

Returns a data.frame of correlation test data for N variables

See Also

[cor.test](#) is the underlying function and has more options

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| freqprof | *Convert data to moving sum/prop.* |

Description

Convert data to moving sum/prop.

Usage

```
freqprof(data.behavior, window = round(0.25 * nrow(data.behavior)),
  step = 1, resolution = 1, which = c("sum", "proportion"))
```

Arguments

data.behavior	a data.frame containing occurrence/nonoccurrence data in binary (0/1) format
window	the window length to use in computing a moving sum or proportion
step	the number of bins of which the data will be translated.
resolution	the number of points contained in a bin
which	giving the moving function to apply: sum or proportion

Value

The data in a `freqprof` object.

Examples

```
data(s58)
freqprof(s58)
```

---

ggplot_fp	*Internal ggplot Wrapper to Graph Frequency Profiles*

Description

Internal ggplot Wrapper to Graph Frequency Profiles

Usage

```
ggplot_fp(data1, resolution = resolution, step = step, yAxis = yAxis,
  xAxisUnits = xAxisUnits, xmin = xmin, xmax = xmax,
  tick.every = tick.every, label.every = label.every)
```

Arguments

`data1`	data formated into `freqprof` class.
`resolution`	resolution of `freqprof` data
`step`	step size of `freqprof` data
`yAxis`	a string providing a label for the y-axis.
`xAxisUnits`	a string indicating which unit has been used. By default, "sec".
`xmin`	x-axis minimum value
`xmax`	x-axis maximum value
`tick.every`	the spacing between each tick. By default, N/30 where N is the number of time units.
`label.every`	label every X ticks, where X = label.every. By default, label.every = 3.

Value

A ggplot of the frequency profile data in `data1`

---

import_data *Import Data Pop Up*

Description

This function reads a file, whose extension is either csv, bin or fpw, and imports it as a data.frame.

Usage

```
import_data(filename = file.choose())
```

Arguments

filename   a string indicating the path of the file containing the data. By default, will open a pop-up so that the user can choose a file with the GUI.

Value

A data.frame ready to be converted into freqprof class (see function `freqprof`).

Examples

```
# Select a file
import_data(filename = system.file("extdata", "S58-1-1.bin",
                                    package = "FreqProf"))
```

---

ks.testm *Kolmogorov-Smirnov test for multiple variables - of the same name - in separate data.frames*

Description

Kolmogorov-Smirnov test for multiple variables - of the same name - in separate data.frames

Usage

```
ks.testm(data1, data2, vars)
```

Arguments

data1   a data.frame with N variables

data2   a data.frame with the same N variables as data1

vars   a vector of the N variable names

Value

Returns a `data.frame` with Kolmogorov-Smivnov test data for N variables

See Also

`ks.test` is the underlying function and has more options.

---

movfun *Internal function for Generating Moving Sum or Proportion*

Description

Internal function in `freqprof` that is used to generate moving sum or proportion data.

Usage

```
movfun(x, n, s, r, fun)
```

Arguments

x	data passed from `freqprof`
n	window length passed from `freqprof`
s	step size passed from `freqprof`
r	resolution passed from `freqprof`
fun	"sum" or "proportion" passed from `freqprof`

Value

Returns a list containing the processed data into $movfun, and the associated panels into $panels.
Passes list to `freqprof`.

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plot_freqprof *Plot Frequency Profiles.*

Description

Use `plot_freqprof` to plot frequency profile data generated from `freqprof`.

Usage

```
plot_freqprof(data.freqprof, yAxis = NULL, xAxisUnits = "sec",
  panel.in = TRUE, panel.out = TRUE, gg = FALSE, multiPlot = FALSE,
  tick.every = round(length(data.freqprof$data$time)/31), label.every = 3)
```

Arguments

`data.freqprof`	data formated into class freqprof.
`yAxis`	a string labelling the y-axis, defaults to `data.freqprof$type`.
`xAxisUnits`	a string indicating x-axis units, defaults to "sec".
`panel.in`	if `FALSE` the first panel of the frequency profile, the window moving in, is not plotted.
`panel.out`	if `FALSE` the third panel of the frequency profile, the window moving out, is not plotted.
`gg`	if `TRUE`, will use `ggplot2` to plot frequency profiles.
`multiPlot`	if `TRUE`, will plot each behavior in its own panel.
`tick.every`	the spacing between each plot tick mark. By default, N/30 where N is the number of time units.
`label.every`	label every X ticks, where X = label.every. By default, label.every = 3.

Value

Returns a frequency profiles plot.

Examples

```
data(s58)
plot_freqprof(freqprof(s58))
```

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radj	*Internal function for Resolution Adjustment*

Description

Internal function in [freqprof](#) that is used to modify data resolution.

Usage

```
radj(x, r)
```

Arguments

x	data data passed from [freqprof](#)
r	resolution passed from [freqprof](#)

Value

Resolution adjustment.

---

read.bin   *Reads the data in the file "filename", which is supposed to be a .bin file*

Description

Reads the data in the file "filename", which is supposed to be a .bin file

Usage

```
read.bin(filename)
```

Arguments

filename   a string indicating the path of the file.

Value

A data.frame giving the raw data.

Examples

```
read.bin(filename = system.file("extdata", "S58-1-1.bin",
                                package = "FreqProf"))
```

---

read.fpw   *Reads the data in the file "filename", which is supposed to be a .fpw file*

Description

Reads the data in the file "filename", which is supposed to be a .fpw file

Usage

```
read.fpw(filename)
```

Arguments

filename   a string indicating the path of the file.

Value

A data.frame of the .fpw data.

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runEx	*Run interactive FreqProf example (Shiny App)*

Description

Run interactive FreqProf example (Shiny App)

Usage

```
runEx()
```

Examples

```
runEx()
```

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s58	*Occurrence/nonoccurrence data for four behaviors from a single subject*

Description

A dataset containing the occurrence/nonoccurence data for four behaviors of a single subject over 3092 observations. Each behavior corresponds to touches on areas of a touchpad.

Usage

```
s58
```

Format

A data.frame with 3092 rows and 4 variables

V1 Behavior 1

V2 Behavior 2

V3 Behavior 3

V4 Behavior 4

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