Package ‘pacviz’

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Title Pac-Man Visualization Package

Version 1.0.2

Description Provides a broad-view perspective on data via linear mapping of data onto a radial coordinate system. The package contains functions to visualize the residual values of linear regression and Cartesian data in the defined radial scheme. See the ‘pacviz’ documentation page for more information: <https://pacviz.sriley.dev/>.

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Depends R (>= 4.0.0)

Imports circlize, e1071, graphics, plotrix, stats, utils

Suggests knitr, markdown

VignetteBuilder knitr

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NeedsCompilation no

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R topics documented:

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deg2rad  
*Degree angle conversion*

**Description**

Conversion between degrees and radians

**Usage**

```
deg2rad(deg)
```

**Arguments**

- `deg`  
  Angle in degrees

**Value**

Angle in radians

linMap  
*Linear map*

**Description**

A function that will map a range of values to a different set of values.

**Usage**

```
linMap(x, i, f)
```

**Arguments**

- `x`  
  Range of values to be mapped
- `i`  
  Lowest value
- `f`  
  Largest value

**Value**

A set of values spanning from i to f
pac.plot

Pac-Man plotting function

Description

A method of plotting traditional Cartesian data, based on a restricted radial coordinate system, while preserving the information.

Usage

pac.plot(x, y, title, taxis, raxis, color1 = "gold")

Arguments

x, y       Numeric data
title      Figure title
taxis, raxis Vector with the first entry being the axis label and the second entry being units
color1     Color value as string or rgb

Value

Pac-Man SVM

Examples

# Generic Pac-Man plot
data("cars")
pac.plot(cars$dist,cars$speed, 'Example 1', c("Distance", "m"), c("Speed", "m/s"))

pac.resid

Pac-Man Residual Function

Description

A visualization technique in R for regression analysis results, specifically residual values, based on a restricted radial coordinate system. It provides a broad view perspective on the performance of regression models, and supports most model inputs.
Usage

pac.resid(
    x,
    y,
    title,
    taxis,
    model = lm(y ~ x, data = data.frame(x, y)),
    color1 = "gold",
    standardize = FALSE
)

Arguments

x, y Numeric data

Arguments

x, y Numeric data

title Figure title

taxis Vector with the first entry being the axis label and the second entry being units

model An object for which the extraction of model residuals is meaningful.

color1 Color value as string or rgb

standardize Boolean to standardize the residual value

Value

Pac-Man residual plot

Examples

data("cars")
x <- cars$dist
y <- cars$speed
pac.resid(x,y, 'Example 2',
    c("Temperature","degC"),
    color1="lightblue",
    standardize=TRUE)

rad2deg Radian angle conversion

Description

Conversion between radians and degrees

Usage

rad2deg(rad)
**svm.partition**

**Description**
A method of partitioning data between training and testing sets based on the fraction of data used for training.

**Usage**
```r
## S3 method for class 'partition'
svm(x, y, l, train_size = 0.7, rand_state = sample(1:2^15, 1))
```

**Arguments**
- `x`, `y`: Numeric data
- `l`: Numeric labels data
- `train_size`: Fraction of total data that the SVM will train on
- `rand_state`: Value of the random state used to set the seed

**Value**
Two data frames and a list of indices for the training set

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**unit_format**

**Description**
Converts unit inputs into a format that can be displayed. Support is restricted to 'degC', 'degF'.

**Usage**
```r
unit_format(unit)
```

**Arguments**
- `unit`: Unit input
Value

A list of formatted units
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