Package 'pacviz'

August 28, 2020

Title Pac-Man Residual Function

Version 1.0.0.0

Description Provides a broad-view perspective on data via linear mapping of data onto a radial coordinate system.

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Depends R (>= 3.3.3)

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

Suggests knitr, rmarkdown

VignetteBuilder knitr

Encoding UTF-8

LazyData true

RoxygenNote 7.1.1

R topics documented:

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

linear map

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

lsvm *Linear SVM with decision hyperplane and support vectors*

Description

Generates a Linear Support Vector Machine and draws the decision hyperplane and support vectors

Usage

```
lsvm(
  x,
  y,
  l,
  title,
  xaxis,
  yaxis,
  train_size = 0.7,
  rand_state = sample(1:2^15, 1)
)
```

Arguments

x, y	Numeric data
l	Numeric labels data
title	Figure title
xaxis,	yaxis Vector with the first entry being the axis label and the second entry being units
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

Linear SVM plot

pac.lsvm *Pac-Man SVM*

Description

A Pac-Man style SVM. (Under Development)

Usage

```
pac.lsvm(
  x,
  y,
  l,
  title,
  taxis,
  train_size = 0.7,
  rand_state = sample(1:2^15, 1)
)
```

Arguments

x, y	Numeric data
l	Numeric labels data
title	Figure title
taxis	Vector with the first entry being the axis label and the second entry being units
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

Pac-Man SVM plot

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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. See the pacviz documentation page for more information: https://pharaohcola13.github.io/pacviz/book/

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
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

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rad2deg *Radian angle conversion*

Description

Conversion between radians and degrees

Usage

```
rad2deg(rad)
```

Arguments

rad	Angle in radians

Value

Angle in degrees

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svm.partition *Machine learning data partition*

Description

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

Usage

```
## 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 indicies for the training set

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unit_format *Unit formatting*

Description

Converts unit inputs into a format that can be displayed

Usage

```
unit_format(unit)
```

Arguments

unit	Unit input

Value

A list of formatted units

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