Package ‘classifierplots’

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Title Generates a Visualization of Classifier Performance as a Grid of Diagnostic Plots

Version 1.3.3

Description Generates a visualization of binary classifier performance as a grid of diagnostic plots with just one function call. Includes ROC curves, prediction density, accuracy, precision, recall and calibration plots, all using ggplot2 for easy modification.

Debug your binary classifiers faster and easier!

Depends R (>= 3.1), ggplot2 (>= 2.2), data.table (>= 1.10),
Imports Rcpp (>= 0.12), grid, ROCR, caret, gridExtra (>= 2.2), stats, utils, png,
Suggests testthat,
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Encoding UTF-8

BugReports https://github.com/ambiata/classifierplots/issues
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R topics documented:

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**calculate_auc**

**Description**

Compute auc from predictions and truth

**Usage**

```r
calculate_auc(test.y, pred.prob)
```

---

**accuracy_plot**

**Description**

Returns a ggplot2 plot object containing an accuracy @ percentile plot

**Usage**

```r
accuracy_plot(test.y, pred.prob, granularity = 0.02, show_numbers = T)
```

**Arguments**

- `test.y` List of know labels on the test set
- `pred.prob` List of probability predictions on the test set
- `granularity` Default 0.02, probability step between points in plot.
- `show_numbers` Show values as numbers above the plot line
**calibration_plot**

**Arguments**
- `test.y` List of known labels on the test set
- `pred.prob` List of probability predictions on the test set

**Value**
- `auc`

---

**classifierplots**

*The main functions you want are classifierplots or classifierplots_folder.*

**Description**

The main functions you want are `classifierplots` or `classifierplots_folder`. Produce a suite of classifier diagnostic plots

**Usage**

`classifierplots(test.y, pred.prob)`

**Arguments**
- `test.y` List of known labels on the test set
- `pred.prob` List of probability predictions on the test set
### classifierplots_folder

#### Details

![Classifier Diagnostic Plots Example](image)

#### Examples

```r
## Not run:
classifierplots(example_predictions$testNyL, example_predictions$predNprob)
## End(Not run)
```

---

#### Description

Produce a suit of classifier diagnostic plots, saving to disk.

#### Usage

```r
classifierplots_folder(test.y, pred.prob, folder, height = 5, width = 5)
```

#### Arguments

- `test.y`: List of know labels on the test set
- `pred.prob`: List of probability predictions on the test set
- `folder`: Directory to save plots into
- `height`: height of separately saved plots
- `width`: width of separately saved plots
**density_plot**

Description

Returns a ggplot2 plot object containing a score density plot.

Usage

density_plot(test.y, pred.prob)

Arguments

test.y List of known labels on the test set
pred.prob List of probability predictions on the test set

**Example_predictions**

Generated using the gen_example included in the github source

**lift_plot**

Description

Returns a ggplot2 plot object containing a precision @ percentile plot.

Usage

lift_plot(test.y, pred.prob, granularity = 0.02, show_numbers = T)

Arguments

test.y List of known labels on the test set
pred.prob List of probability predictions on the test set
granularity Default 0.02, probability step between points in plot.
show_numbers Show numbers at deciles T/F default T.
**notation_key_plot**

**Description**

Produces some definitions as a grid.

**Usage**

```r
notation_key_plot()
```

---

**positives_plot**

**Description**

Returns a ggplot2 plot object containing a positives-per-decile plot.

**Usage**

```r
positives_plot(test.y, pred.prob)
```

**Arguments**

- `test.y`: List of know labels on the test set
- `pred.prob`: List of probability predictions on the test set

---

**precision_plot**

**Description**

Returns a ggplot2 plot object containing a precision @ percentile plot

**Usage**

```r
precision_plot(test.y, pred.prob, granularity = 0.02, show_numbers = T)
```

**Arguments**

- `test.y`: List of know labels on the test set
- `pred.prob`: List of probability predictions on the test set
- `granularity`: Default 0.02, probability step between points in plot.
- `show_numbers`: Show numbers at deciles T/F default T.
**propensity_plot**

__Description__

Returns a ggplot2 plot object containing a propensity @ percentile plot

__Usage__

```r
propensity_plot(test.y, pred.prob, granularity = 0.02)
```

__Arguments__

- `test.y`: List of know labels on the test set
- `pred.prob`: List of probability predictions on the test set
- `granularity`: Default 0.02, probability step between points in plot.

---

**recall_plot**

__Description__

Returns a ggplot2 plot object containing a sensitivity @ percentile plot

__Usage__

```r
recall_plot(test.y, pred.prob, granularity = 0.02, show_numbers = T)
```

__Arguments__

- `test.y`: List of know labels on the test set
- `pred.prob`: List of probability predictions on the test set
- `granularity`: Default 0.02, probability step between points in plot.
- `show_numbers`: Show numbers at deciles T/F default T.
Description

Produces a smoothed ROC curve as a ggplot2 plot object. A confidence interval is produced using bootstrapping, although it is turned off by default if you have a large dataset.

Usage

roc_plot(test.y, pred.prob, resamps = 2000, force_bootstrap = NULL)

Arguments

test.y List of know labels on the test set
pred.prob List of probability predictions on the test set
resamps How many bootstrap samples to use
force_bootstrap True/False to force or force off bootstrapping.

Description

Logistic sigmoid function, that maps any real number to the \([0,1]\) interval. Supports vectors of numeric.

Usage

sigmoid(x)

Arguments

x data
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