Package ‘classifierplots’

October 14, 2020

**Title**  Generates a Visualization of Classifier Performance as a Grid of Diagnostics Plots

**Version**  1.4.0

**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,

**License**  BSD 3-clause License + file LICENSE

**Encoding**  UTF-8

**BugReports**  https://github.com/adefazio/classifierplots/issues

**URL**  https://github.com/adefazio/classifierplots

**LazyData**  true

**RoxygenNote**  5.0.1

**NeedsCompilation**  no

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**Repository**  CRAN

**Date/Publication**  2020-10-13 23:40:06 UTC

**R topics documented:**

- `accuracy_plot` ................................................. 2
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calculate_auc

Description

Compute auc from predictions and truth

Usage

calculate_auc(test.y, pred.prob)
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

Description

Returns a ggplot2 plot object containing a smoothed propensity @ prediction level plot

Usage

calibration_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

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
Details

```r
## Not run:
classifierplots(example_predictions$test.y, example_predictions$pred.prob)
## End(Not run)
```

Examples

```r
classifierplots_folder
classifierplots_folder
classifierplots_folder
classifierplots_folder
classifierplots_folder
```

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 known 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 an 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

notation_key_plot()

positives_plot

Description

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

Usage

positives_plot(test.y, pred.prob)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>test.y</td>
<td>List of know labels on the test set</td>
</tr>
<tr>
<td>pred.prob</td>
<td>List of probability predictions on the test set</td>
</tr>
</tbody>
</table>

precision_plot

Description

Returns a ggplot2 plot object containing an precision @ percentile plot

Usage

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

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>test.y</td>
<td>List of know labels on the test set</td>
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<tr>
<td>pred.prob</td>
<td>List of probability predictions on the test set</td>
</tr>
<tr>
<td>granularity</td>
<td>Default 0.02, probability step between points in plot.</td>
</tr>
<tr>
<td>show_numbers</td>
<td>Show numbers at deciles T/F default T.</td>
</tr>
</tbody>
</table>
**propensity_plot**

Description

Returns a ggplot2 plot object containing an 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 an 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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