# Package 'AutoPlots'

June 5, 2023

| Title AutoPlots  |
|--|
| Version 1.0.0  |
| <b>Date</b> 2023-03-15   |
| Maintainer Adrian Antico <adrianantico@gmail.com></adrianantico@gmail.com> |
| <b>Description</b> R package for generating plots in a simple way          |
| <pre>URL https://github.com/AdrianAntico/AutoPlots</pre>                   |
| BugReports https://github.com/AdrianAntico/AutoPlots/issues                |
| <b>Depends</b> R (>= $4.0.0$ )   |
| Imports bit64, data.table, echarts4r, dplyr                                |
| Suggests knitr, rmarkdown  |
| VignetteBuilder knitr  |
| Contact Adrian Antico  |
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| RoxygenNote 7.2.1  |
| Author Adrian Antico [aut, cre]  |
| R topics documented:   |
| BuildBinary  |
| FakeDataGenerator  |
| Install  |
| Plot.Area  |
| Plot.BarPlot3D   |
| Plot.BinaryMetrics   |
| Plot.Box   |
| Plot Calibration Box   |

Plot.Calibration.Line15Plot.ConfusionMatrix17Plot.Copula20

2 BuildBinary

| BuildBinary BuildBinary |                                |    |  |  |
|-------------------------|--------------------------------|----|--|--|
| Index                   |                                | 7  |  |  |
|                         | UpdateDocs                     | 70 |  |  |
|                         | StockData                      |    |  |  |
|                         | Plots.ModelEvaluation          |    |  |  |
|                         | Plots Words Evaluation         |    |  |  |
|                         |                                | 64 |  |  |
|                         | 1                              |    |  |  |
|                         |                                | -  |  |  |
|                         |                                | 60 |  |  |
|                         | Plot.ShapImportance            | 58 |  |  |
|                         | Plot.Scatter3D                 |    |  |  |
|                         | Plot.Scatter                   |    |  |  |
|                         | Plot.ROC                       |    |  |  |
|                         | Plot.River                     |    |  |  |
|                         |                                | 4  |  |  |
|                         |                                | 4: |  |  |
|                         |                                |    |  |  |
|                         | Plot.PartialDependence.Line    |    |  |  |
|                         | Plot.PartialDependence.HeatMap |    |  |  |
|                         | Plot.PartialDependence.Box     |    |  |  |
|                         | Plot.Line                      |    |  |  |
|                         | Plot.Lift                      |    |  |  |
|                         | Plot.Histogram                 |    |  |  |
|                         | Plot.HeatMap                   |    |  |  |
|                         | Plot.Gains                     |    |  |  |
|                         | Plot.Density                   |    |  |  |
|                         | Plot.CorrMatrix                | 24 |  |  |
|                         | Plot.Copula3D                  | 22 |  |  |

# Description

Build package binary

# Usage

BuildBinary(Root = NULL)

# Arguments

Root NULL will setwd to project root as defined in function

# Author(s)

Adrian Antico

# See Also

Other Utilities: Install(), UpdateDocs()

FakeDataGenerator 3

FakeDataGenerator FakeDataGenerator

## **Description**

Create fake data for examples

#### Usage

```
FakeDataGenerator(
   Correlation = 0.7,
   N = 1000L,
   ID = 5L,
   FactorCount = 2L,
   AddDate = TRUE,
   AddComment = FALSE,
   AddWeightsColumn = FALSE,
   ZIP = 5L,
   TimeSeries = FALSE,
   TimeSeriesTimeAgg = "day",
   ChainLadderData = FALSE,
   Classification = FALSE,
   MultiClass = FALSE
)
```

## **Arguments**

Correlation Set the correlation value for simulated data

N Number of records

ID Number of IDcols to include

FactorCount Number of factor type columns to create

AddDate Set to TRUE to include a date column

AddComment Set to TRUE to add a comment column

ZIP Zero Inflation Model target variable creation. Select from 0 to 5 to create that

number of distinctly distributed data, stratifed from small to large

TimeSeries For testing AutoBanditSarima

TimeSeriesTimeAgg

Choose from "1min", "5min", "10min", "15min", "30min", "hour", "day", "week", "month", "quarter", "year",

ChainLadderData

Set to TRUE to return Chain Ladder Data for using AutoMLChainLadderTrainer

Classification Set to TRUE to build classification data
MultiClass Set to TRUE to build MultiClass data

## Author(s)

Adrian Antico

4 Plot.Area

Install

Install

## **Description**

To install the package

## Usage

```
Install(Root = NULL)
```

## **Arguments**

Root

NULL will setwd to project root as defined in function

## Author(s)

Adrian Antico

#### See Also

Other Utilities: BuildBinary(), UpdateDocs()

Plot.Area

Plot.Area

# Description

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

```
Plot.Area(
  dt = NULL,
  AggMethod = "mean",
  PreAgg = TRUE,
  XVar = NULL,
  YVar = NULL,
  DualYVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  DualYVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
 Width = NULL,
  Title = "Line Plot",
```

Plot.Area 5

```
ShowLabels = FALSE,
Title.YAxis = NULL,
Title.XAxis = NULL,
EchartsTheme = "macarons",
X_Scroll = FALSE,
Y_Scroll = FALSE,
TimeLine = TRUE,
Alpha = 0.5,
Smooth = TRUE,
ShowSymbol = FALSE,
TextColor = "white",
title.fontSize = 22,
title.fontWeight = "bold",
title.textShadowColor = "#63aeff",
title.textShadowBlur = 3,
title.textShadowOffsetY = 1,
title.textShadowOffsetX = -1,
xaxis.fontSize = 14,
yaxis.fontSize = 14,
xaxis.rotate = 0,
yaxis.rotate = 0,
ContainLabel = TRUE,
Debug = FALSE
```

#### **Arguments**

dt source data.table

AggMethod character logical PreAgg

XVar X-Axis variable name

**YVar** Y-Axis variable name. You can supply multiple YVars

Secondary Y-Axis variables. Leave NULL for no secondary axis. Only one DualYVar

variable is allowed and when this is set only one YVar is allowed. An error will

be thrown if those conditions are not met

GroupVar One Grouping Variable

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" YVarTrans

DualYVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**XVarTrans** 

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

Faceting rows x columns is the max number of levels allowed in a grid. If your FacetLevels

GroupVar has more you can supply the levels to display.

Height = NULL, 6 Plot.Bar

Width = NULL,
Title "Title"
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme Provide an "Echarts" theme

X\_Scroll logical
Y\_Scroll logical
TimeLine Logical

Alpha 0 to 1 for setting transparency

 $\begin{array}{ll} {\sf Smooth} & = {\sf TRUE} \\ {\sf ShowSymbol} & = {\sf FALSE} \\ \end{array}$ 

TextColor "Not Implemented"

Debug Debugging purposes

Area logical

## Author(s)

Adrian Antico

#### See Also

```
Other Standard Plots: Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.Bar

Plot.Bar

## **Description**

Build a bar plot by simply passing arguments to a single function

```
Plot.Bar(
dt = NULL,
PreAgg = FALSE,
XVar = NULL,
YVar = NULL,
GroupVar = NULL,
LabelValues = NULL,
YVarTrans = "Identity",
XVarTrans = "Identity",
FacetRows = 1,
FacetCols = 1,
FacetLevels = NULL,
```

Plot.Bar 7

```
AggMethod = "mean",
 Height = NULL,
 Width = NULL,
 Title = "Bar Plot",
  ShowLabels = FALSE,
 Title.YAxis = NULL,
 Title.XAxis = NULL,
 EchartsTheme = "macarons",
 TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
 yaxis.fontSize = 14,
  xaxis.rotate = 0,
 yaxis.rotate = 0,
 ContainLabel = TRUE,
 Debug = FALSE
)
```

#### **Arguments**

dt source data.table

PreAgg logical

XVar X-Axis variable name
YVar Y-Axis variable name

GroupVar Column name of Group Variable for distinct colored histograms by group levels

LabelValues A vector of values. Requires PreAgg to be set to TRUE and you'll need to

ensure LabelValues are ordered the same as dt. If NULL and ShowLabels is

TRUE, then bar values will be displayed

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

AggMethod Choose from 'mean', 'sum', 'sd', and 'median'

 $\label{eq:height} \begin{array}{ll} \mbox{Height} & = \mbox{NULL}, \\ \mbox{Width} & = \mbox{NULL}, \end{array}$ 

8 Plot.BarPlot3D

```
Title title

ShowLabels logical

Title.YAxis NULL. If NULL, YVar name will be used

Title.XAxis NULL. If NULL, XVar name will be used

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-
```

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine logical

X\_Scroll logical

Y\_Scroll logical

TextColor 'darkblue'

Debugging purposes

## Author(s)

Adrian Antico

## See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.BarPlot3D

Plot.BarPlot3D

## **Description**

Build a 3D Bar Plot

```
Plot.BarPlot3D(
  dt,
  PreAgg = FALSE,
  AggMethod = "mean",
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  NumLevels_Y = 33,
  NumLevels_X = 33,
```

Plot.BarPlot3D

```
Height = NULL,
Width = NULL,
Title = "3D Bar Plot",
ShowLabels = FALSE,
Title.YAxis = NULL,
Title.XAxis = NULL,
EchartsTheme = "dark",
X_Scroll = TRUE,
Y_Scroll = TRUE,
TextColor = "white",
title.fontSize = 22,
title.fontWeight = "bold",
title.textShadowColor = "#63aeff",
title.textShadowBlur = 3,
title.textShadowOffsetY = 1,
title.textShadowOffsetX = -1,
yaxis.fontSize = 14,
xaxis.fontSize = 14,
zaxis.fontSize = 14,
xaxis.rotate = 0,
yaxis.rotate = 0,
ContainLabel = TRUE,
Debug = FALSE
```

## Arguments

Height

= NULL,

| dt          | source data.table  |
|-------------|--|
| AggMethod   | 'mean', 'median', 'sum', 'sd', 'coeffvar', 'count'   |
| XVar        | X-Axis variable name   |
| YVar        | Y-Axis variable name   |
| ZVar        | Z-Axis variable name   |
| YVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| XVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| ZVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| FacetRows   | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows       |
| FacetCols   | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display. |
| NumberBins  | = 21   |
| NumLevels_Y | = 20   |
| NumLevels_X | = 20   |

10 Plot.BinaryMetrics

```
Width = NULL,

Title "Heatmap"

ShowLabels character

Title.YAxis character

Title.XAxis character

EchartsTheme "dark-blue"

Debug Debugging purposes
```

#### Author(s)

Adrian Antico

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.BinaryMetrics Plot.BinaryMetrics

## Description

Line plot of evaluation metrics across thresholds

```
Plot.BinaryMetrics(
  dt = NULL,
  PreAgg = FALSE,
  AggMethod = "mean",
  SampleSize = 100000L,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
 Metrics = c("Utility", "MCC", "Accuracy", "F1_Score", "F2_Score", "F0.5_Score",
    "ThreatScore", "TPR", "TNR", "FNR", "FPR", "FDR", "FOR"),
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  CostMatrixWeights = c(0, 1, 1, 0),
  NumberBins = 20,
  Height = NULL,
  Width = NULL,
  Title = "Binary Metrics",
```

Plot.BinaryMetrics 11

```
ShowLabels = FALSE,
Title.YAxis = NULL,
Title.XAxis = NULL,
EchartsTheme = "macarons",
EchartsLabels = FALSE,
TimeLine = TRUE,
X_Scroll = TRUE,
Y_Scroll = FALSE,
TextColor = "white",
Debug = FALSE
```

## **Arguments**

dt source data.table

PreAgg logical
AggMethod character
SampleSize numeric

XVar X-Axis variable name
YVar Y-Axis variable name

ZVar character

Metrics Multiple selection "Utility", "MCC", "Accuracy", "F1\_Score", "F2\_Score", "F0.5\_Score", "ThreatScore"

GroupVar Character variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins numeric
Title character
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

EchartsLabels character
TimeLine logical

12 Plot.Box

```
X_Scroll logicalY_Scroll logicalTextColor hex characterDebugDebugging purposes
```

#### Author(s)

Adrian Antico

#### See Also

```
Other Model Evaluation: Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap(), Plot.PartialDependence.Line(), Plot.Roc(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.Box

Plot.Box

## **Description**

Build a box plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

```
Plot.Box(
  dt = NULL,
  SampleSize = 100000L,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Box Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = TimeLine,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
```

Plot.Box 13

```
title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
 yaxis.fontSize = 14,
  xaxis.rotate = 0,
 yaxis.rotate = 0,
 ContainLabel = TRUE,
 Debug = FALSE
)
```

#### **Arguments**

dt source data.table

SampleSize numeric

XVar X-Axis variable name Y-Axis variable name YVar Character variable GroupVar

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**YVarTrans** 

ize", "BoxCox", "YeoJohnson"

"Asinh", "Log<br/>", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" XVarTrans

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height = NULL,= NULL, Width Title character ShowLabels character Title.YAxis character Title.XAxis character

**EchartsTheme** "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine Logical X\_Scroll logical logical Y\_Scroll TextColor character hex

Debug Debugging purposes

## Author(s)

Adrian Antico

14 Plot.Calibration.Box

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

```
Plot.Calibration.Box Plot.Calibration.Box
```

# Description

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

## Usage

```
Plot.Calibration.Box(
  dt = NULL,
  SampleSize = 100000L,
  AggMethod = "mean",
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  Height = NULL,
  Width = NULL,
  Title = "Calibration Box",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

#### **Arguments**

dt source data.table
SampleSize numeric
AggMethod character
XVar X-Axis variable name
YVar Y-Axis variable name

Plot.Calibration.Line

| GroupVar     | Character variable   |
|--------------|--|
| YVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"   |
| XVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"   |
| FacetRows    | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows   |
| FacetCols    | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels  | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display.   |
| NumberBins   | numeric  |
| Title        | character  |
| ShowLabels   | character  |
| Title.YAxis  | character  |
| Title.XAxis  | character  |
| EchartsTheme | "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo' #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspired #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "wef |
| TimeLine     | logical  |
| X_Scroll     | logical  |
| Y_Scroll     | logical  |
| TextColor    | "Not Implemented"  |
| Debug        | Debugging purposes   |
|              |  |

## Author(s)

Adrian Antico

## See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap(), Plot.PartialDependence.Line(), Plot.Roc(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.Calibration.Line Plot.Calibration.Line

## **Description**

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

Plot.Calibration.Line

## Usage

```
Plot.Calibration.Line(
  dt = NULL,
  AggMethod = "mean",
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  Height = NULL,
  Width = NULL,
  Title = "Calibration Line",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
```

# Arguments

ShowLabels

Title.YAxis

character

character

| dt          | source data.table  |
|-------------|--|
| AggMethod   | character  |
| XVar        | X-Axis variable name   |
| YVar        | Y-Axis variable name   |
| GroupVar    | Character variable   |
| YVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| XVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| FacetRows   | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows       |
| FacetCols   | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display. |
| NumberBins  | numeric  |
| Title       | character  |
|             |  |

Plot.ConfusionMatrix 17

```
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspired #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "ImeLine logical

X_Scroll logical

Y_Scroll logical

TextColor "Not Implemented"
```

Debug Debugging purposes

SampleSize numeric

#### Author(s)

Adrian Antico

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap(), Plot.PartialDependence.Line(), Plot.ROC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.ConfusionMatrix Plot.ConfusionMatrix

#### **Description**

Generate variable importance plots

```
Plot.ConfusionMatrix(
  dt = NULL,
  PreAgg = FALSE,
  XVar = NULL,
  YVar = NULL,
  ZVar = "N",
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  NumLevels_X = 50,
  NumLevels_Y = 50,
  Height = NULL,
  Width = NULL,
```

18 Plot.ConfusionMatrix

```
Title = "Confusion Matrix",
ShowLabels = FALSE,
Title.YAxis = NULL,
Title.XAxis = NULL,
EchartsTheme = "macarons",
TimeLine = TRUE,
X_Scroll = TRUE,
Y_Scroll = TRUE,
TextColor = "white",
AggMethod = "count",
GroupVar = NULL,
xaxis.rotate = 0,
yaxis.rotate = 0,
ContainLabel = TRUE,
Debug = FALSE
)
```

## **Arguments**

dt source data.table

PreAgg FALSE

XVar Column name of X-Axis variable. If NULL then ignored YVar Column name of Y-Axis variable. If NULL then ignored

ZVar = "N"

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins = 21,

 $NumLevels_X$  =  $NumLevels_Y$ ,  $NumLevels_Y$  =  $NumLevels_X$ ,

Title title
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet","red","roma","royal", #' "sakura","shine","tech-blue","vintage","walden","wef","weforum","

Plot.ConfusionMatrix 19

```
TimeLine logical

TextColor 'darkblue'

AggMethod Choose from 'mean', 'sum', 'sd', and 'median'

GroupVar = NULL

Debug Debugging purposes
```

## Author(s)

Adrian Antico

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap(), Plot.PartialDependence.Line(), Plot.Roc(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

## **Examples**

```
## Not run:
# Debugging
dt <- data.table::fread(file.choose())</pre>
XVar <- c("Brand", "Category")</pre>
YVar <- "ClassTarget"
ZVar <- "p1"
YVarTrans <- "Identity"
XVarTrans <- "Identity"
ZVarTrans <- "Identity"</pre>
FacetRows <- 1
FacetCols <- 1
FacetLevels <- NULL
Height <- NULL
Width <- NULL
Title <- NULL
ShowLabels <- FALSE
Title.YAxis <- NULL
Title.XAxis <- NULL
EchartsTheme <- "macarons"</pre>
TimeLine <- FALSE
TextColor <- "white"</pre>
AggMethod <- "mean"
Debug <- FALSE
## End(Not run)
```

20 Plot.Copula

Plot.Copula

Plot.Copula

## **Description**

Build a copula plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

# Usage

```
Plot.Copula(
  dt = NULL,
  SampleSize = 30000L,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Copula Plot",
  ShowLabels = FALSE,
  AddGLM = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "dark-blue",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.rotate = 0,
  yaxis.rotate = 0,
  ContainLabel = TRUE,
  Debug = FALSE
)
```

## **Arguments**

dt

source data.table

Plot.Copula 21

SampleSize An integer for the number of rows to use. Sampled data is randomized. If NULL

then ignored

X-Axis variable name XVar Y-Axis variable name YVar

Requires an XVar and YVar already be defined GroupVar

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**YVarTrans** 

ize", "BoxCox", "YeoJohnson"

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" **XVarTrans** 

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply FacetCols

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height = NULL, Width = NULL,

'Copula Plot' Title

ShowLabels character Title.YAxis character Title.XAxis character

EchartsTheme = "dark-blue",

TimeLine Logical X\_Scroll logical Y\_Scroll logical TextColor 'darkblue'

Debugging purposes Debug

#### Author(s)

Adrian Antico

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(),
Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(),
Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

22 Plot.Copula3D

Plot.Copula3D

Plot.Copula3D

## Description

Build a 3D-copula plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

## Usage

```
Plot.Copula3D(
  dt = NULL,
  SampleSize = 1e+05,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  GroupVar = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Copula 3D",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "dark-blue",
  TimeLine = FALSE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  zaxis.fontSize = 14,
  xaxis.rotate = 0,
  yaxis.rotate = 0,
  zaxis.rotate = 0,
  ContainLabel = TRUE,
  Debug = FALSE
)
```

## **Arguments**

dt

source data.table

Plot.Copula3D 23

SampleSize An integer for the number of rows to use. Sampled data is randomized. If NULL

then ignored

XVar X-Axis variable name
YVar Y-Axis variable name
ZVar Z-Axis variable name

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

GroupVar Requires an XVar and YVar already be defined

 $\label{eq:height} \begin{array}{ll} \mbox{Height} & = \mbox{NULL}, \\ \mbox{Width} & = \mbox{NULL}, \end{array}$ 

Title 'Copula3D Plot'

ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme = "dark-blue"

TimeLine Logical
TextColor 'darkblue'

Debugging purposes

## Author(s)

Adrian Antico

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

24 Plot.CorrMatrix

Plot.CorrMatrix

Plot.CorrMatrix

#### **Description**

Build a violin plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

## Usage

```
Plot.CorrMatrix(
  dt = NULL,
  CorrVars = NULL,
  CorrVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Method = "spearman",
  PreAgg = FALSE,
  Height = NULL,
  Width = NULL,
  Title = "Correlation Matrix",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  Debug = FALSE
)
```

## **Arguments**

| dt          | source data.table  |
|-------------|--|
| CorrVars    | vector of variable names   |
| FacetRows   | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows       |
| FacetCols   | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display. |

Plot.Density 25

```
Method
                     character
                     logical
PreAgg
                     = NULL,
Height
Width
                     = NULL,
Title
                     character
ShowLabels
                     character
Title.YAxis
                     character
Title.XAxis
                     character
EchartsTheme
                     "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"
                     #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire "bazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-
                     velvet","red","roma","royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "
X_Scroll
                     logical
                     logical
Y_Scroll
TextColor
                     character hex
Debug
                     Debugging purposes
                     "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-
CorrVarsTrans
                     ize", "BoxCox", "YeoJohnson"
```

## Author(s)

Adrian Antico

## See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.Density Plot.Density

#### **Description**

Density plots, by groups, with transparent continuous plots

```
Plot.Density(
  dt = NULL,
  SampleSize = 100000L,
  YVar = NULL,
  XVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
```

26 Plot.Density

```
FacetCols = 1,
 FacetLevels = NULL,
 Height = NULL,
 Width = NULL,
 Title = "Density Plot",
  ShowLabels = FALSE,
 Title.YAxis = NULL,
 Title.XAxis = NULL,
 EchartsTheme = "macarons",
 TimeLine = FALSE,
 X_Scroll = TRUE,
  Y_Scroll = TRUE,
 TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
 yaxis.fontSize = 14,
 xaxis.rotate = 0,
 yaxis.rotate = 0,
 ContainLabel = TRUE,
 Debug = FALSE
)
```

## **Arguments**

dt source data.table SampleSize = 100000L

YVar Y-Axis variable name
XVar X-Axis variable name
GroupVar Character variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

 $\label{eq:height} \begin{array}{ll} \mbox{Height} & = \mbox{NULL}, \\ \mbox{Width} & = \mbox{NULL}, \end{array}$ 

Title = "Density Plot"

ShowLabels character
Title.YAxis character

Plot.Gains 27

```
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "TimeLine logical

X_Scroll logical

Y_Scroll logical

TextColor "white",
```

Debugging purposes

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.Gains

Plot.Gains

#### **Description**

Create a cumulative gains chart

```
Plot.Gains(
  dt = NULL,
  PreAgg = FALSE,
  XVar = NULL,
  YVar = NULL,
  ZVar = "N",
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 20,
  Height = NULL,
  Width = NULL,
  Title = "Gains Plot",
  ShowLabels = FALSE,
  Title.YAxis = "Gain"
  Title.XAxis = "Population",
  EchartsTheme = "macarons",
  TimeLine = TRUE,
  X_Scroll = TRUE,
```

28 Plot.Gains

```
Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

## **Arguments**

dt source data.table

PreAgg logical

XVar X-Axis variable name
YVar Y-Axis variable name

ZVar character

GroupVar Character variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins numeric
Title character
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine logical
X\_Scroll logical
Y\_Scroll logical

TextColor character hex

Debugging purposes

## Author(s)

Adrian Antico

Plot.HeatMap 29

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap() Plot.PartialDependence.Line(), Plot.ROC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.HeatMap

Plot.HeatMap

## **Description**

Create heat maps with numeric or categorical dt

```
Plot.HeatMap(
  dt,
  PreAgg = FALSE,
  AggMethod = "mean",
  XVar = NULL,
  YVar = NULL.
  ZVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity"
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  NumLevels_Y = 33,
  NumLevels_X = 33,
  Height = NULL,
  Width = NULL,
  Title = "Heatmap",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "dark",
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  xaxis.rotate = 0,
```

30 Plot.HeatMap

```
yaxis.rotate = 0,
ContainLabel = TRUE,
Debug = FALSE
)
```

## **Arguments**

dt source data.table

AggMethod 'mean', 'median', 'sum', 'sd', 'coeffvar', 'count'

XVar X-Axis variable name
YVar Y-Axis variable name
ZVar Z-Axis variable name

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins = 21NumLevels\_Y = 20NumLevels\_X = 20Height = NULL, Width = NULL, Title "Heatmap" ShowLabels character Title.YAxis character Title.XAxis character "dark-blue" EchartsTheme

## Author(s)

Adrian Antico

## See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.Histogram 31

Plot.Histogram Plot.Histogram

## **Description**

Build a histogram plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

## Usage

```
Plot.Histogram(
  dt = NULL,
  SampleSize = 30000L,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 30,
  Height = NULL,
  Width = NULL,
  Title = "Histogram",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
  yaxis.fontSize = 14,
  Debug = FALSE
```

## **Arguments**

dt source data.table

SampleSize An integer for the number of rows to use. Sampled data is randomized. If NULL

then ignored

XVar X-Axis variable name

32 Plot.Lift

YVar Y-Axis variable name

GroupVar Column name of Group Variable for distinct colored histograms by group levels

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins = 30

Height = NULL, Width = NULL

EchartsTheme = EchartsTheme,

TimeLine logical
X\_Scroll logical
Y\_Scroll logical

Debugging purposes

BackGroundColor

color outside of plot window. Rcolors and hex outside of plot window. Rcolors

and hex character

## Author(s)

Adrian Antico

## See Also

Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()

Plot.Lift Plot.Lift

## **Description**

Create a cumulative gains chart

Plot.Lift 33

#### Usage

```
Plot.Lift(
  dt = NULL,
  PreAgg = FALSE,
  XVar = NULL,
  YVar = NULL,
  ZVar = "N",
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 20,
  Height = NULL,
  Width = NULL,
  Title = "Confusion Matrix",
  ShowLabels = FALSE,
  Title.YAxis = "Lift",
  Title.XAxis = "Population",
  EchartsTheme = "macarons",
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

# Arguments

| dt          | source data.table   |
|-------------|---|
| PreAgg      | logical   |
| XVar        | X-Axis variable name  |
| YVar        | Y-Axis variable name  |
| ZVar        | character   |
| GroupVar    | Character variable  |
| YVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                |
| XVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                |
| ZVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                |
| FacetRows   | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows      |
| FacetCols   | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns |
| FacetLevels | Faceting rows x columns is the max number of levels allowed in a grid. If your  |

GroupVar has more you can supply the levels to display.

34 Plot.Line

```
ShowLabels character

Title.YAxis character

Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspired #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "timel incomplete the same and the same and
```

TimeLine logical

X\_Scroll logical

Y\_Scroll logical

TextColor character hex

Debugging purposes

numeric

character

#### Author(s)

Adrian Antico

NumberBins

Title

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.PartialDependence.Box(), Plot.PartialDependence.HeatMap(Plot.PartialDependence.Line(), Plot.ROC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.Line

Plot.Line

# Description

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

```
Plot.Line(
  dt = NULL,
  AggMethod = "mean",
  PreAgg = TRUE,
  XVar = NULL,
  YVar = NULL,
  DualYVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  DualYVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
```

Plot.Line 35

```
FacetCols = 1,
 FacetLevels = NULL,
 Height = NULL,
 Width = NULL,
 Title = "Line Plot",
  ShowLabels = FALSE,
 Title.YAxis = NULL,
 Title.XAxis = NULL,
 EchartsTheme = "macarons",
 X_Scroll = FALSE,
  Y_Scroll = FALSE,
 TimeLine = TRUE,
 Area = FALSE,
 Alpha = 0.5,
  Smooth = TRUE,
  ShowSymbol = FALSE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
 yaxis.fontSize = 14,
  xaxis.rotate = 0,
 yaxis.rotate = 0,
 ContainLabel = TRUE,
 DarkMode = FALSE,
 Debug = FALSE
)
```

## **Arguments**

dt source data.table

AggMethod character
PreAgg logical

XVar X-Axis variable name

YVar Y-Axis variable name. You can supply multiple YVars

DualYVar Secondary Y-Axis variables. Leave NULL for no secondary axis. Only one

variable is allowed and when this is set only one YVar is allowed. An error will

be thrown if those conditions are not met

GroupVar One Grouping Variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

36 Plot.Line

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height = NULL,
Width = NULL,
Title "Title"
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme Provide an "Echarts" theme

X\_Scroll logical
Y\_Scroll logical
TimeLine Logical
Area logical

Alpha 0 to 1 for setting transparency

TextColor "Not Implemented"

DarkMode FALSE

Debugging purposes

 ${\tt BackGroundColor}$ 

color outside of plot window. Rcolors and hex

## Author(s)

Adrian Antico

## See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

# **Examples**

```
## Not run:
# Create fake data
data <- AutoPlots::FakeDataGenerator(N = 1000)

# Build Line plot
AutoPlots::Plot.Line(
    dt = data,
    PreAgg = FALSE,
    AggMethod = "mean",
    XVar = "DateTime",
    YVar = "Independent_Variable3",
    YVarTrans = "LogPlus1",</pre>
```

```
DualYVar = "Independent_Variable6",
  DualYVarTrans = "LogPlus1",
  GroupVar = NULL,
  EchartsTheme = "macarons")
# Step through function
dt = data
PreAgg = FALSE
AggMethod = "mean"
XVar = "DateTime"
YVar = "Independent_Variable1"
YVarTrans = "Identity"
DualYVar = "Independent_Variable4"
DualYVarTrans = "Identity"
XVarTrans = "Identity"
GroupVar = "Factor_1"
FacetRows = 1
FacetCols = 1
FacetLevels = NULL
Height = NULL
Width = NULL
Title = 'Line Plot'
ShowLabels = FALSE
Title.YAxis = NULL
Title.XAxis = NULL
EchartsTheme = "macarons"
X_Scroll = FALSE
Y_Scroll = FALSE
TimeLine = TRUE
Area = FALSE
Alpha = 0.50
Smooth = TRUE
ShowSymbol = FALSE
                   "white"
TextColor =
title.fontSize = 22
title.fontWeight = "bold"
title.textShadowColor = '#63aeff'
title.textShadowBlur = 3
title.textShadowOffsetY = 1
title.textShadowOffsetX = -1
xaxis.fontSize = 14
yaxis.fontSize = 14
xaxis.rotate = 0
yaxis.rotate = 0
ContainLabel = TRUE
DarkMode = FALSE
Debug = FALSE
## End(Not run)
```

Plot.PartialDependence.Box

 ${\it Plot. Partial Dependence. Box}$ 

# **Description**

This function automatically builds partial dependence calibration plots

#### Usage

```
Plot.PartialDependence.Box(
  dt = NULL,
  PreAgg = FALSE,
  SampleSize = 100000L,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 20,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "Partial Dependence Box",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  EchartsLabels = FALSE,
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = FALSE,
  TextColor = "white",
  Debug = FALSE
)
```

# **Arguments**

```
source data.table
dt
PreAgg
                  logical
SampleSize
                  numeric
XVar
                  X-Axis variable name
YVar
                  Y-Axis variable name
ZVar
                  character
                  Character variable
GroupVar
YVarTrans
                  "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-
                  ize", "BoxCox", "YeoJohnson"
                  "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-
XVarTrans
```

ize", "BoxCox", "YeoJohnson"

| ZVarTrans     | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"   |
|---------------|--|
| FacetRows     | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows   |
| FacetCols     | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels   | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display.   |
| NumberBins    | numeric  |
| AggMethod     | character  |
| Title         | character  |
| ShowLabels    | character  |
| Title.YAxis   | character  |
| Title.XAxis   | character  |
| EchartsTheme  | "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", " |
| EchartsLabels | character  |
| TimeLine      | logical  |
| X_Scroll      | logical  |
| Y_Scroll      | logical  |
| TextColor     | hex character  |
|               |  |

# Author(s)

Debug

Adrian Antico

# See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.HeatMap(), Plot.PartialDependence.Line(), Plot.RoC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

```
{\tt Plot.PartialDependence.HeatMap}
```

Plot. Partial Dependence. Heat Map

# Description

This function automatically builds partial dependence calibration plots

Debugging purposes

#### **Usage**

```
Plot.PartialDependence.HeatMap(
  dt = NULL,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "Partial Dependence Heatmap",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  EchartsLabels = FALSE,
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

source data.table

# **Arguments** dt

XVar X-Axis variable name **YVar** Y-Axis variable name ZVar character GroupVar Character variable YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**XVarTrans** ize", "BoxCox", "YeoJohnson" **ZVarTrans** "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display.

numeric

= TRUE,

hex character

Debugging purposes

NumberBins

```
AggMethod
                                                                                               character
Title
                                                                                               character
ShowLabels
                                                                                               character
Title.YAxis
                                                                                               character
Title.XAxis
                                                                                               character
EchartsTheme
                                                                                                "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"
                                                                                               #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire "based on the state of 
                                                                                               velvet","red","roma","royal", #' "sakura","shine","tech-blue","vintage","walden","wef","weforum","
EchartsLabels
                                                                                               character
TimeLine
                                                                                               logical
                                                                                               = TRUE,
X_Scroll
```

## Author(s)

Adrian Antico

Y\_Scroll TextColor

Debug

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDepende Plot.ROC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

```
Plot.PartialDependence.Line
```

Plot.PartialDependence.Line

# **Description**

This function automatically builds partial dependence calibration plots

```
Plot.PartialDependence.Line(
  dt = NULL,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
```

```
FacetLevels = NULL,
 GroupVar = NULL,
 NumberBins = 20,
 AggMethod = "mean",
 Height = NULL,
 Width = NULL,
  Title = "Partial Dependence Line",
  ShowLabels = FALSE,
 Title.YAxis = NULL,
 Title.XAxis = NULL,
 EchartsTheme = "macarons",
  EchartsLabels = FALSE,
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
 Debug = FALSE
)
```

## **Arguments**

dt source data.table

XVar X-Axis variable name

YVar Y-Axis variable name

ZVar character

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

GroupVar Character variable

NumberBins numeric
AggMethod character
Title character
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire
#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

Plot.Pie 43

```
EchartsLabels character

TimeLine logical

X_Scroll = TRUE,

Y_Scroll = TRUE,

TextColor hex character

Debug Debugging purposes
```

# Author(s)

Adrian Antico

# See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDepende Plot.ROC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.Pie

Plot.Pie

# Description

Build a pie chart by simply passing arguments to a single function

```
Plot.Pie(
  dt = NULL,
  PreAgg = FALSE,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "Bar Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
```

44 Plot.Pie

```
title.fontSize = 22,
title.fontWeight = "bold",
title.textShadowColor = "#63aeff",
title.textShadowBlur = 3,
title.textShadowOffsetY = 1,
title.textShadowOffsetX = -1,
xaxis.fontSize = 14,
yaxis.fontSize = 14,
Debug = FALSE
)
```

## **Arguments**

dt source data.table

PreAgg logical

XVar X-Axis variable name YVar Y-Axis variable name

GroupVar Column name of Group Variable for distinct colored histograms by group levels

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

AggMethod Choose from 'mean', 'sum', 'sd', and 'median'

Height = NULL,
Width = NULL,
Title title
ShowLabels character
Title.YAxis character

Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspired", "jazz", "london", "dark"

passion", "red-velvet", "red", "roma", "royal", "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "v

TimeLine logical

X\_Scroll logical

Y\_Scroll logical

TextColor 'darkblue'

title.fontSize Defaults to size 22. Numeric. This changes the size of the title.

Debugging purposes

BackGroundColor

color outside of plot window. Rcolors and hex outside of plot window. Rcolors

and hex character

#### Author(s)

Adrian Antico

#### See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.Residuals.Histogram

Plot.Residuals.Histogram

# **Description**

Residuals Plot

```
Plot.Residuals.Histogram(
  dt = NULL,
  AggMethod = "mean",
  SampleSize = 1e+05,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 20,
  Height = NULL,
  Width = NULL,
  Title = "Residuals Histogram",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = "Target - Predicted",
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
  yaxis.fontSize = 14,
```

```
xaxis.rotate = 0,
yaxis.rotate = 0,
ContainLabel = TRUE,
Debug = FALSE
```

## **Arguments**

dt source data.table

AggMethod character SampleSize numeric

X-Axis variable name XVar Y-Axis variable name YVar GroupVar Character variable

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**YVarTrans** 

ize", "BoxCox", "YeoJohnson"

"Asinh", "Log<br/>", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" **XVarTrans** 

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

NumberBins numeric Title character ShowLabels character Title.YAxis character Title.XAxis character

"auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" EchartsTheme #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet","red","roma","royal", #' "sakura","shine","tech-blue","vintage","walden","wef","weforum","

TimeLine logical X\_Scroll logical logical Y\_Scroll

TextColor Not Implemented Debugging purposes Debug

ZeroLineColor character hex ZeroLineWidth numeric

## Author(s)

Adrian Antico

Plot.Residuals.Scatter 47

#### See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.Box(), Plot.PartialDependence.Line(), Plot.Roc(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()
```

Plot.Residuals.Scatter

Plot.Residuals.Scatter

## **Description**

Residuals\_2 Plot

## Usage

```
Plot.Residuals.Scatter(
  dt = NULL,
  AggMethod = "mean",
  SampleSize = 1e+05,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Residual Scatterplot",
  ShowLabels = FALSE,
  Title.YAxis = "Target - Predicted",
  Title.XAxis = "Predicted",
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

#### **Arguments**

dt source data.table

AggMethod character

SampleSize numeric

XVar X-Axis variable name

YVar Y-Axis variable name

Plot.River

| GroupVar     | Character variable   |
|--------------|--|
| YVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"   |
| XVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"   |
| FacetRows    | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows   |
| FacetCols    | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels  | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display.   |
| Title        | character  |
| ShowLabels   | character  |
| Title.YAxis  | character  |
| Title.XAxis  | character  |
| EchartsTheme | "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", " |
| TimeLine     | logical  |
| X_Scroll     | logical  |
| Y_Scroll     | logical  |
| TextColor    | "Not Implemented"  |
| Debug        | Debugging purposes   |
| NumberBins   | numeric  |
|              |  |

# Author(s)

Adrian Antico

# See Also

Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.Plot.PartialDependence.Line(), Plot.RoC(), Plot.Residuals.Histogram(), Plot.ShapImportance(), Plot.VariableImportance()

# **Description**

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

Plot.River 49

#### Usage

```
Plot.River(
  dt = NULL,
  AggMethod = "mean",
  PreAgg = TRUE,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "River Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  X_Scroll = FALSE,
  Y_Scroll = FALSE,
  TimeLine = TRUE,
  ShowSymbol = FALSE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
  yaxis.fontSize = 14,
  Debug = FALSE
)
```

# **Arguments**

source data.table AggMethod character PreAgg logical XVar X-Axis variable name YVar Y-Axis variable name. You can supply multiple YVars GroupVar One Grouping Variable "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**YVarTrans** ize", "BoxCox", "YeoJohnson" "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**XVarTrans** ize", "BoxCox", "YeoJohnson" FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

50 Plot.River

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height = NULL,

Width = NULL,

Title "Title"

ShowLabels character

Title.YAxis character

Title.XAxis character

EchartsTheme Provide an "Echarts" theme

X\_Scroll logical

Y\_Scroll logical

TimeLine Logical

ShowSymbol = FALSE

TextColor "Not Implemented"

Debugging purposes

ZeroLineColor color

ZeroLineWidth 1

 ${\sf BackGroundColor}$ 

color outside of plot window. Rcolors and hex

ChartColor color

FillColor color

FillColorReverse

character

# Author(s)

Adrian Antico

# See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.ROC 51

Plot.ROC Plot.ROC

## **Description**

**ROC** Plot

# Usage

```
Plot.ROC(
  dt = NULL,
  SampleSize = 1e+05,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "ROC Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  Debug = FALSE
)
```

## **Arguments**

dt source data.table

SampleSize numeric

XVar X-Axis variable name
YVar Y-Axis variable name
GroupVar Character variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

52 Plot.Scatter

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

AggMethod character Title character ShowLabels character Title.YAxis character Title.XAxis character

**EchartsTheme** "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine logical X Scroll logical Y\_Scroll logical

TextColor character hex

Debug Debugging purposes

NumberBins numeric

#### Author(s)

Adrian Antico

#### See Also

Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDepende Plot.PartialDependence.Line(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance(), Plot.VariableImportance()

Plot.Scatter

Plot.Scatter

# **Description**

Build a copula plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

```
Plot.Scatter(
  dt = NULL,
  SampleSize = 30000L,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
```

Plot.Scatter 53

```
XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Scatter Plot",
  ShowLabels = FALSE,
  AddGLM = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  TimeLine = FALSE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  xaxis.rotate = 0,
  yaxis.rotate = 0,
  ContainLabel = TRUE,
  tooltip.trigger = "axis",
  Debug = FALSE
)
```

# **Arguments**

Width

= NULL,

| dt          | source data.table  |
|-------------|--|
| SampleSize  | numeric  |
| XVar        | X-Axis variable name   |
| YVar        | Y-Axis variable name   |
| GroupVar    | Character variable   |
| YVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| XVarTrans   | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"                                 |
| FacetRows   | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows       |
| FacetCols   | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns  |
| FacetLevels | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display. |
| Height      | = NULL,  |

54 Plot.Scatter3D

```
Title
                   character
ShowLabels
                   character
Title.YAxis
                   character
Title.XAxis
                   character
EchartsTheme
                    "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"
                   #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire
                   #" "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-
                   velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "
TimeLine
                   logical
X_Scroll
                   logical
                   logical
Y_Scroll
TextColor
                   character hex
                   Debugging purposes
```

## Author(s)

Debug

Adrian Antico

# See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(),
Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(),
Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.StackedBar(), Plot.Step()
```

Plot.Scatter3D

Plot.Scatter3D

# **Description**

Build a 3D-copula plot by simply passing arguments to a single function. It will sample your data using SampleSize number of rows. Sampled data is randomized.

```
Plot.Scatter3D(
  dt = NULL,
  SampleSize = 1e+05,
  XVar = NULL,
  YVar = NULL,
  ZVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
```

Plot.Scatter3D 55

```
Title = "3D Scatter",
  ShowLabels = FALSE,
 Title.YAxis = NULL,
 Title.XAxis = NULL,
 EchartsTheme = "macarons",
 TimeLine = FALSE,
 TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
 yaxis.fontSize = 14,
 xaxis.fontSize = 14,
  zaxis.fontSize = 14,
  xaxis.rotate = 0,
 yaxis.rotate = 0,
 zaxis.rotate = 0,
 ContainLabel = TRUE,
 Debug = FALSE
)
```

## **Arguments**

dt source data.table

SampleSize An integer for the number of rows to use. Sampled data is randomized. If NULL

then ignored

XVar X-Axis variable name
YVar Y-Axis variable name
ZVar Z-Axis variable name

GroupVar Requires an XVar and YVar already be defined

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

 $\begin{tabular}{lll} \mbox{Height} &= \mbox{NULL}, \\ \mbox{Width} &= \mbox{NULL}, \\ \mbox{Title} & 'Violin Plot' \\ \mbox{ShowLabels} & \mbox{character} \\ \end{tabular}$ 

Plot.ShapImportance

```
Title.YAxis character
Title.XAxis character
EchartsTheme = "macaron"
TimeLine Logical
TextColor 'darkblue'
Debug Debugging purposes
```

## Author(s)

Adrian Antico

# See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter(), Plot.StackedBar(), Plot.Step()
```

Plot.ShapImportance

Plot.ShapImportance

# **Description**

Plot.ShapImportance variable importance

```
Plot.ShapImportance(
  dt,
  PreAgg = FALSE,
  AggMethod = "meanabs",
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumberBins = 21,
  NumLevels_X = 33,
  NumLevels_Y = 33,
  Height = NULL,
  Width = NULL,
  Title = "Shap Importance",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "dark",
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
```

Plot.ShapImportance 57

```
TextColor = "white",
  Debug = FALSE
)
```

# **Arguments**

| dt           | source data.table   |
|--------------|---|
| AggMethod    | "mean", "median", "sum", "sd", "skewness", "kurtosis", "coeffvar", "meanabs", "medianabs", "sumabs", "sdabs", "skewnessabs", "kurtosisabs", "CoeffVarabs" |
| YVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"  |
| XVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"  |
| ZVarTrans    | "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson"  |
| FacetRows    | Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows                          |
| FacetCols    | Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns                     |
| FacetLevels  | Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display.                    |
| NumberBins   | = 21  |
| NumLevels_X  | = 20  |
| NumLevels_Y  | = 20  |
| Title        | "Heatmap"   |
| ShowLabels   | character   |
| Title.YAxis  | character   |
| Title.XAxis  | character   |
| EchartsTheme | "dark-blue"   |
| Debug        | = FALSE   |

# Author(s)

Adrian Antico

# See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.Plot.PartialDependence.Line(), Plot.RoC(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.VariableImportance()
```

58 Plot.StackedBar

Plot.StackedBar

Plot.StackedBar

# **Description**

Build a stacked bar plot vs a grouped bar plot

# Usage

```
Plot.StackedBar(
  dt = NULL,
  PreAgg = FALSE,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "Stacked Bar",
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  ShowLabels = FALSE,
  EchartsTheme = "macarons",
  TimeLine = TRUE,
  X_Scroll = TRUE,
  Y_Scroll = TRUE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  yaxis.fontSize = 14,
  xaxis.fontSize = 14,
  xaxis.rotate = 0,
  yaxis.rotate = 0,
  ContainLabel = TRUE,
  Debug = FALSE
)
```

# **Arguments**

dt source data.table
PreAgg logical

XVar X-Axis variable name

Plot.StackedBar 59

YVar Y-Axis variable name Column name of Group Variable for distinct colored histograms by group levels GroupVar "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**YVarTrans** ize", "BoxCox", "YeoJohnson" "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**XVarTrans** ize", "BoxCox", "YeoJohnson" FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a numeric value for the number of output grid rows FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply a numeric value for the number of output grid columns FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your GroupVar has more you can supply the levels to display. Choose from 'mean', 'sum', 'sd', and 'median' AggMethod **NULL** Height Width **NULL** Title title Title.YAxis NULL. If NULL, YVar name will be used Title.XAxis NULL. If NULL, XVar name will be used ShowLabels logical "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" **EchartsTheme** #' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire #" "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "redvelvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine logical

X\_Scroll logical

Y\_Scroll logical

TextColor 'darkblue'

Debugging purposes

## Author(s)

Adrian Antico

## See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.Step()
```

60 Plot.StandardPlots

Plot.StandardPlots

Plot.StandardPlots

# **Description**

Helper for standard plots

## Usage

```
Plot.StandardPlots(
  dt = NULL,
  PreAgg = FALSE,
  PlotType = "Scatter",
  SampleSize = 100000L,
  AggMethod = "mean",
  NumberBins = 30,
  YVar = NULL,
  DualYVar = NULL,
  XVar = NULL,
  ZVar = NULL,
  GroupVar = NULL,
  YVarTrans = NULL,
  DualYVarTrans = NULL,
  XVarTrans = NULL,
  ZVarTrans = NULL,
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  EchartsTheme = "dark-blue",
  TimeLine = FALSE,
  Title = NULL,
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  NumLevels_Y = 75,
  NumLevels_X = 40,
  TextColor = "white",
  FontSize = 14,
  Debug = FALSE
```

# Arguments

dt source data.table
PreAgg FALSE
PlotType character
SampleSize character
AggMethod character

Plot.StandardPlots 61

NumberBins For histograms

YVar Y-Axis variable name

Secondary Axis for Line, Step, and Area plots DualYVar

XVar X-Axis variable name Z-Axis variable name ZVar

GroupVar Character variable variable

**YVarTrans** "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

"Asinh", "Log<br/>", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standardize", "BoxCox", "YeoJohnson" DualYVarTrans

"Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-**XVarTrans** 

ize", "BoxCox", "YeoJohnson"

**ZVarTrans** "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height NULL or valid css unit Width NULL or valid css unit

"auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo" EchartsTheme

"" "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine character Title character ShowLabels character Title.YAxis character Title.XAxis character TextColor character FontSize numeric

Debug Debugging purposes

## Author(s)

Adrian Antico

#### See Also

Other Auto Plotting: Plots.ModelEvaluation()

62 Plot.Step

Plot.Step

Plot.Step

# **Description**

This function automatically builds calibration plots and calibration boxplots for model evaluation using regression, quantile regression, and binary and multinomial classification

```
Plot.Step(
  dt = NULL,
  AggMethod = "mean",
  PreAgg = TRUE,
  XVar = NULL,
  YVar = NULL,
  DualYVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  DualYVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  Height = NULL,
  Width = NULL,
  Title = "Line Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "macarons",
  X_Scroll = FALSE,
  Y_Scroll = FALSE,
  TimeLine = TRUE,
  ShowSymbol = FALSE,
  TextColor = "white",
  title.fontSize = 22,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  xaxis.fontSize = 14,
  yaxis.fontSize = 14,
  xaxis.rotate = 0,
  yaxis.rotate = 0,
  ContainLabel = TRUE,
  Debug = FALSE
```

Plot.Step 63

#### **Arguments**

dt source data.table

AggMethod character PreAgg logical

XVar X-Axis variable name

YVar Y-Axis variable name. You can supply multiple YVars

DualYVar Secondary Y-Axis variables. Leave NULL for no secondary axis. Only one

variable is allowed and when this is set only one YVar is allowed. An error will

be thrown if those conditions are not met

GroupVar One Grouping Variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

DualYVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

Height = NULL,
Width = NULL,
Title "Title"
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme Provide an "Echarts" theme

 $X_Scroll$  logical  $Y_Scroll$  logical  $Y_Scroll$  Logical  $Y_Scroll$  Logical  $Y_Scroll$   $Y_Scroll$  Logical  $Y_Scroll$   $Y_Scroll$   $Y_Scroll$   $Y_Scroll$  Logical  $Y_Scroll$   $Y_S$   $Y_S$  Y

TextColor "Not Implemented"

Debug Debugging purposes

## Author(s)

Adrian Antico

# See Also

```
Other Standard Plots: Plot.Area(), Plot.BarPlot3D(), Plot.Bar(), Plot.Box(), Plot.Copula3D(), Plot.Copula(), Plot.CorrMatrix(), Plot.Density(), Plot.HeatMap(), Plot.Histogram(), Plot.Line(), Plot.Pie(), Plot.River(), Plot.Scatter3D(), Plot.Scatter(), Plot.StackedBar()
```

64 Plot.Stock

Plot.Stock Plot.Stock

## **Description**

Create a candlestick plot for stocks. See https://plotly.com/r/figure-labels/

## Usage

```
Plot.Stock(
  StockDataOutput,
  Type = "candlestick",
  Metric = "Stock Price",
  Width = NULL,
  Height = NULL,
  EchartsTheme = "macarons",
  TextColor = "white",
  ShadowBlur = 0,
  ShadowColor = "black",
  ShadowOffsetX = 0,
  ShadowOffsetY = 0,
  title.fontSize = 14,
  title.fontWeight = "bold",
  title.textShadowColor = "#63aeff",
  title.textShadowBlur = 3,
  title.textShadowOffsetY = 1,
  title.textShadowOffsetX = -1,
  Color = "green",
  Color0 = "red",
  BorderColor = "transparent",
  BorderColor0 = "transparent",
  BorderColorDoji = "transparent",
  xaxis.fontSize = 14,
  yaxis.fontSize = 14,
  Debug = FALSE
)
```

# **Arguments**

StockDataOutput

PolyOut returned from StockData()

Type 'candlestick', 'ohlc'

Width = "1450px" Height = "600px" EchartsTheme = "macarons" TextColor = "white"

ShadowBlur = 5. Chart boxes' shadow blur amount. This attribute should be used along with

shadowColor,shadowOffsetX, shadowOffsetY to set shadow to component

ShadowColor "black"

## Author(s)

Adrian Antico

## See Also

Other Stock Plots: StockData()

Plot.VariableImportance

Plot.VariableImportance

# Description

Generate variable importance plots

```
Plot.VariableImportance(
  dt = NULL,
  XVar = NULL,
  YVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  AggMethod = "mean",
  Height = NULL,
  Width = NULL,
  Title = "Variable Importance Plot",
  ShowLabels = FALSE,
  Title.YAxis = NULL,
```

```
Title.XAxis = NULL,
EchartsTheme = "macarons",
TimeLine = TRUE,
X_Scroll = TRUE,
Y_Scroll = TRUE,
TextColor = "white",
title.fontSize = 22,
title.fontWeight = "bold",
title.textShadowColor = "#63aeff",
title.textShadowOffsetY = 1,
title.textShadowOffsetY = 1,
xaxis.fontSize = 14,
yaxis.fontSize = 14,
Debug = FALSE
```

## **Arguments**

dt source data.table

XVar Column name of X-Axis variable. If NULL then ignored YVar Column name of Y-Axis variable. If NULL then ignored

GroupVar Column name of Group Variable for distinct colored histograms by group levels YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

AggMethod Choose from 'mean', 'sum', 'sd', and 'median'

Title title
ShowLabels character
Title.YAxis character
Title.XAxis character

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

"," "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet", "red", "roma", "royal", #' "sakura", "shine", "tech-blue", "vintage", "walden", "wef", "weforum", "

TimeLine logical
X\_Scroll logical
Y\_Scroll logical
TextColor 'darkblue'

Debugging purposes

Plots.ModelEvaluation 67

#### Author(s)

Adrian Antico

## See Also

```
Other Model Evaluation: Plot.BinaryMetrics(), Plot.Calibration.Box(), Plot.Calibration.Line(), Plot.ConfusionMatrix(), Plot.Gains(), Plot.Lift(), Plot.PartialDependence.Box(), Plot.PartialDependence.Box(), Plot.PartialDependence.Line(), Plot.Roc(), Plot.Residuals.Histogram(), Plot.Residuals.Scatter(), Plot.ShapImportance()
```

 ${\tt Plots.ModelEvaluation} \ \ {\it Plots.ModelEvaluation}$ 

# Description

Plot helper for model evaluation plot types

```
Plots.ModelEvaluation(
  dt = NULL,
  AggMethod = "mean",
  SampleSize = 100000L,
  PlotType = NULL,
  YVar = NULL,
  TargetLevel = NULL,
  ZVar = NULL,
  XVar = NULL,
  GroupVar = NULL,
  YVarTrans = "Identity",
  XVarTrans = "Identity",
  ZVarTrans = "Identity",
  FacetRows = 1,
  FacetCols = 1,
  FacetLevels = NULL,
  NumLevels_Y = 75,
  NumLevels_X = 40,
  Height = NULL,
  Width = NULL,
  Title = NULL,
  ShowLabels = FALSE,
  Title.YAxis = NULL,
  Title.XAxis = NULL,
  EchartsTheme = "dark-blue",
  TimeLine = FALSE,
  TextColor = "white",
  FontSize = 14L,
  NumberBins = 20,
  Debug = FALSE
```

68 Plots.ModelEvaluation

#### **Arguments**

dt source data.table

AggMethod character
SampleSize 100000L
PlotType character

YVar Y-Axis variable name
ZVar Z-Axis variable name
XVar X-Axis variable name
GroupVar Character variable

YVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

XVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

ZVarTrans "Asinh", "Log", "LogPlus1", "Sqrt", "Asin", "Logit", "PercRank", "Standard-

ize", "BoxCox", "YeoJohnson"

FacetRows Defaults to 1 which causes no faceting to occur vertically. Otherwise, supply a

numeric value for the number of output grid rows

FacetCols Defaults to 1 which causes no faceting to occur horizontally. Otherwise, supply

a numeric value for the number of output grid columns

FacetLevels Faceting rows x columns is the max number of levels allowed in a grid. If your

GroupVar has more you can supply the levels to display.

 $\begin{aligned} & \text{NumLevels}\_Y & = 75 \\ & \text{NumLevels}\_X & = 40 \\ & \text{Height} & = \text{NULL}, \end{aligned}$ 

Width = NULL,

EchartsTheme "auritus", "azul", "bee-inspired", "blue", "caravan", "carp", "chalk", "cool", "dark-bold", "dark", "eduardo"

#' "essos", "forest", "fresh-cut", "fruit", "gray", "green", "halloween", "helianthus", "infographic", "inspire

#' "jazz", "london", "dark", "macarons", "macarons2", "mint", "purple-passion", "red-

velvet","red","roma","royal", #' "sakura","shine","tech-blue","vintage","walden","wef","weforum","

TimeLine logical
TextColor hex
NumberBins numeric

Debugging purposes

#### Author(s)

Adrian Antico

# See Also

Other Auto Plotting: Plot.StandardPlots()

StockData 69

StockData StockData

# **Description**

Create stock data for plotting using Plot.Stock()

# Usage

```
StockData(
  PolyOut = NULL,
  Symbol = "TSLA",
  CompanyName = "Tesla Inc. Common Stock",
  Metric = "Stock Price",
  TimeAgg = "days",
  StartDate = "2022-01-01",
  EndDate = Sys.Date(),
  APIKey = NULL,
  timeElapsed = 61,
  Debug = FALSE
)
```

# **Arguments**

PolyOut NULL. If NULL, data is pulled. If supplied, data is not pulled.

Symbol ticker symbol string

CompanyName company name if you have it. ends up in title, that is all

Metric Stock Price, Percent Returns (use symbol for percent), Percent Log Returns (use

symbol for percent), Index, Quadratic Variation

TimeAgg = 'days', 'weeks', 'months'

StartDate Supply a start date. E.g. '2022-01-01'
EndDate Supply an end date. E.g. 'Sys.Date()'

APIKey Supply your polygon API key

timeElapsed = 60

Type 'candlestick', 'ohlc'

# Author(s)

Adrian Antico

# See Also

```
Other Stock Plots: Plot.Stock()
```

70 UpdateDocs

UpdateDocs

UpdateDocs

# Description

Update helf files and reference manual

# Usage

```
UpdateDocs(BuildVignette = FALSE, Root = NULL)
```

# Author(s)

Adrian Antico

# See Also

Other Utilities: BuildBinary(), Install()

# Index

| * Auto Plotting                    | Install, 4   |
|------------------------------------|--|
| Plot.StandardPlots, 60             | UpdateDocs, 70   |
| Plots.ModelEvaluation, 67          | opadicesocs, 70  |
| * Data Wrangling                   | BuildBinary, 2, 4, 70  |
| FakeDataGenerator, 3               | bullubiliar y, 2, 4, 70  |
| * Model Evaluation                 | FakeDataGenerator, 3   |
| Plot.BinaryMetrics, 10             | Takebatagenerator, 3   |
| Plot.Calibration.Box, 14           | T+-11 2 4 70   |
| Plot.Calibration.Line, 15          | Install, 2, 4, 70  |
| Plot.ConfusionMatrix, 17           | D1   |
| Plot.Gains, 27                     | Plot. Area, 4, 8, 10, 14, 21, 23, 25, 27, 30, 32                           |
| Plot.Lift, 32                      | 36, 45, 50, 54, 56, 59, 63   |
| Plot.PartialDependence.Box, 37     | Plot.Bar, 6, 6, 10, 14, 21, 23, 25, 27, 30, 32,                            |
| Plot.PartialDependence.HeatMap, 39 | 36, 45, 50, 54, 56, 59, 63   |
| Plot.PartialDependence.Line, 41    | Plot.BarPlot3D, 6, 8, 8, 14, 21, 23, 25, 27,                               |
| Plot.Residuals.Histogram, 45       | 30, 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.Residuals.Scatter, 47         | Plot.BinaryMetrics, 10, 15, 17, 19, 29, 34, 39, 41, 43, 47, 48, 52, 57, 67 |
| Plot.ROC, 51                       | Plot. Box, 6, 8, 10, 12, 21, 23, 25, 27, 30, 32,                           |
| Plot.ShapImportance, 56            | 36, 45, 50, 54, 56, 59, 63   |
| Plot.VariableImportance, 65        | Plot.Calibration.Box, 12, 14, 17, 19, 29,                                  |
| * Standard Plots                   | 34, 39, 41, 43, 47, 48, 52, 57, 67   |
| Plot.Area,4                        | Plot.Calibration.Line, <i>12</i> , <i>15</i> , 15, <i>19</i> , <i>29</i> , |
| Plot.Bar, 6                        | 34, 39, 41, 43, 47, 48, 52, 57, 67   |
| Plot.BarPlot3D, 8                  | Plot.ConfusionMatrix, <i>12</i> , <i>15</i> , <i>17</i> , 17, 29,          |
| Plot.Box, 12                       | 34, 39, 41, 43, 47, 48, 52, 57, 67   |
| Plot.Copula, 20                    | Plot.Copula, 6, 8, 10, 14, 20, 23, 25, 27, 30,                             |
| Plot.Copula3D, 22                  | 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.CorrMatrix, 24                | Plot.Copula3D, 6, 8, 10, 14, 21, 22, 25, 27,                               |
| Plot.Density, 25                   | 30, 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.HeatMap, 29                   | Plot.CorrMatrix, 6, 8, 10, 14, 21, 23, 24, 27                              |
| Plot.Histogram, 31                 | 30, 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.Line, 34                      | Plot. Density, 6, 8, 10, 14, 21, 23, 25, 25, 30                            |
| Plot.Pie, 43                       | 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.River, 48                     | Plot.Gains, 12, 15, 17, 19, 27, 34, 39, 41, 43                             |
| Plot.Scatter, 52                   | 47, 48, 52, 57, 67   |
| Plot.Scatter3D, 54                 | Plot.HeatMap, 6, 8, 10, 14, 21, 23, 25, 27, 29                             |
| Plot.StackedBar, 58                | 32, 36, 45, 50, 54, 56, 59, 63   |
| Plot.Step, 62                      | Plot.Histogram, 6, 8, 10, 14, 21, 23, 25, 27,                              |
| * Stock Plots                      | 30, 31, 36, 45, 50, 54, 56, 59, 63   |
| Plot.Stock, 64                     | Plot.Lift, 12, 15, 17, 19, 29, 32, 39, 41, 43,                             |
| StockData, 69                      | 47, 48, 52, 57, 67   |
| * Utilities                        | Plot.Line, 6, 8, 10, 14, 21, 23, 25, 27, 30, 32                            |
| BuildBinary, 2                     | 34, 45, 50, 54, 56, 59, 63   |

72 INDEX

```
Plot.PartialDependence.Box, 12, 15, 17,
          19, 29, 34, 37, 41, 43, 47, 48, 52, 57,
         67
Plot.PartialDependence.HeatMap, 12, 15,
          17, 19, 29, 34, 39, 39, 43, 47, 48, 52,
         57,67
Plot.PartialDependence.Line, 12, 15, 17,
          19, 29, 34, 39, 41, 41, 47, 48, 52, 57,
Plot. Pie, 6, 8, 10, 14, 21, 23, 25, 27, 30, 32,
          36, 43, 50, 54, 56, 59, 63
Plot.Residuals.Histogram, 12, 15, 17, 19,
          29, 34, 39, 41, 43, 45, 48, 52, 57, 67
Plot.Residuals.Scatter, 12, 15, 17, 19, 29,
          34, 39, 41, 43, 47, 47, 52, 57, 67
Plot.River, 6, 8, 10, 14, 21, 23, 25, 27, 30,
          32, 36, 45, 48, 54, 56, 59, 63
Plot.ROC, 12, 15, 17, 19, 29, 34, 39, 41, 43,
          47, 48, 51, 57, 67
Plot. Scatter, 6, 8, 10, 14, 21, 23, 25, 27, 30,
          32, 36, 45, 50, 52, 56, 59, 63
Plot.Scatter3D, 6, 8, 10, 14, 21, 23, 25, 27,
          30, 32, 36, 45, 50, 54, 54, 59, 63
Plot. ShapImportance, 12, 15, 17, 19, 29, 34,
          39, 41, 43, 47, 48, 52, 56, 67
Plot.StackedBar, 6, 8, 10, 14, 21, 23, 25, 27,
          30, 32, 36, 45, 50, 54, 56, 58, 63
Plot.StandardPlots, 60, 68
Plot. Step, 6, 8, 10, 14, 21, 23, 25, 27, 30, 32,
          36, 45, 50, 54, 56, 59, 62
Plot. Stock, 64, 69
Plot. Variable Importance, 12, 15, 17, 19,
          29, 34, 39, 41, 43, 47, 48, 52, 57, 65
Plots.ModelEvaluation, 61, 67
StockData, 65, 69
UpdateDocs, 2, 4, 70
```