Package

March 18, 2019

Title Package to create interactive Ceteris Paribus plots

Version 0.0.1

Description
Package to create interactive Ceteris Paribus plots based on ceterisParibus package using D3.

Depends R (>= 3.4.4), htmlwidgets

Suggests randomForest, ceterisParibus, DALEX

Imports ceterisParibus

License GPL-2

Encoding UTF-8

LazyData true

URL https://github.com/flaminka/ceterisParibusD3

BugReports https://github.com/flaminka/ceterisParibusD3/issues

RoxygenNote 6.1.1

R topics documented:

`ceterisParibusD3` *Create interactive D3-based Ceteris Paribus Explanations Plots*

Description

Function 'ceterisParibusD3' plots interactive version of Ceteris Paribus Plots available in ceterisParibus package. Various parameters help to decide what (profiles, aggregated profiles, points or rugs) and how it should be plotted.

Usage

```
ceterisParibusD3(model, ..., selected_variables = NULL, color = NULL,
  width = NULL, height = NULL, no_colors = 3,
  is_categorical_ordered = FALSE, size_rugs = NULL,
  alpha_rugs = NULL, color_rugs = NULL, color_points = NULL,
  color_residuals = NULL, color_pdps = NULL, alpha_residuals = NULL,
  alpha_points = NULL, alpha_ices = NULL, alpha_pdps = NULL,
  size_points = NULL, size_residuals = NULL, size_ices = NULL,
  size_pdps = NULL, show_profiles = TRUE, show_observations = TRUE,
  show_rugs = NULL, show_residuals = NULL, aggregate_profiles = NULL,
  font_size_titles = NULL, font_size_legend = NULL,
  font_size_axes = NULL, font_size_tootlips = NULL,
  font_size_table = NULL, add_table = NULL,
  font_size_plot_title = NULL, plot_title = NULL, yaxis_title = NULL,
  auto_resize = TRUE)
```

Arguments

model	a ceteris paribus explainer produced with function 'ceteris_paribus()' from ceterisParibus package
...	other explainers that shall be plotted together
selected_variables	if not NULL then only 'selected_variables' will be presented
color	a character. Either name of a color or name of a variable that should be used for coloring. If color is a categorical variable, it should have max. 9 categories. Use '_label_' to color by model type
width	a numeric. Width (in px) of the whole plot
height	a numeric. Heigth (in px) of the whole plot
no_colors	a numeric. Number of colors in legend for sequential scales (currently available: between 1 and 9)
is_categorical_ordered	a logical. If TRUE categorical variables values on x axis will be sorted alphabetically
size_rugs	a numeric. Size of rugs to be plotted, between 0 and 1
alpha_rugs	a numeric between 0 and 1. Opacity of rug lines
color_rugs	a character. Name of a color. If NULL elements are plotted according to 'color' arguments
color_points	a character. Name of a color. If NULL elements are plotted according to 'color' arguments
color_residuals	a character. Name of a color. If NULL elements are plotted according to 'color' arguments
color_pdps	a character. Name of a color.
alpha_residuals	a numeric between 0 and 1. Opacity of residuals
alpha_points	a numeric between 0 and 1. Opacity of points
alpha_ices	a numeric between 0 and 1. Opacity of ICE lines
alpha_pdps	a numeric between 0 and 1. Opacity of PDP lines

`size_points` a numeric. Size of points to be plotted

`size_residuals` a numeric. Size of residuals (lines and points) to be plotted

`size_ices` a numeric. Size of ICE lines to be plotted

`size_pdps` a numeric. Size of PDP lines to be plotted

`show_profiles` a logical. If TRUE then individual profiles will be plotted

`show_observations` a logical. If TRUE then individual observations will be marked as points

`show_rugs` a logical. If TRUE then individual observations will be marked as rugs

`show_residuals` a logical. If TRUE then residuals will be plotted as a line ended with a point

`aggregate_profiles` a character. Either 'mean' or 'median'. If not NULL then profiles will be aggregated according to chosen metric and the aggregate profiles will be plotted

`font_size_titles` a numeric. Font size in px of subplots titles

`font_size_legend` a numeric. Font size in px of texts in legend

`font_size_axes` a numeric. Font size in px of texts on axes

`font_size_tootlips` a numeric. Font size in px of texts in tooltip

`font_size_table` a numeric. Font size in px of texts in table

`add_table` a logical. If TRUE then table will be plotted, default is TRUE

`font_size_plot_title` a numeric. Font size in px of plot main title

`plot_title` a character. Main title of the plot

`yaxis_title` a character. Vertical (y) axis title of the plot

`auto_resize` a logical. If FALSE plot's elements (like fonts or lines) won't be automatically resized when changinh size of the window.

Value

a ceterisParibusD3 object

Examples

```
 ## Not run:
library("DALEX")
library("ceterisParibusD3")
library("ceterisParibus")
library("randomForest")
set.seed(59)


apartments_rf_model <- randomForest(m2.price ~ construction.year + surface + floor +
                                      no.rooms + district,
                                    data = apartments)

explainer_rf <- explain(apartments_rf_model,
```

```
                      data = apartmentsTest[,2:6],
                      y = apartmentsTest$m2.price)

apartments_A <- apartmentsTest[958,]
cp_rf_A <- ceteris_paribus(explainer_rf, apartments_A, y = apartments_A$m2.price)

# plot in ceterisParibus package
plot(cp_rf_A, show_profiles = TRUE, show_observations = TRUE,
    selected_variables = c("surface","construction.year"))

# interactive version from ceterisParibusD3 package
ceterisParibusD3(cp_rf_A, show_profiles = TRUE, show_observations = TRUE,
               selected_variables = c("surface","construction.year"), add_table = FALSE)


## End(Not run)
```

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