Package 'OddsPlotty'

October 12, 2022

Type Package

Title Odds Plot to Visualise a Logistic Regression Model

Version 1.0.2

Maintainer Gary Hutson <hutsons-hacks@outlook.com>

Description Uses the outputs of a logistic regression model, from caret <https://CRAN.R-project.org/package=caret>, to build an odds plot.
This allows for the rapid visualisation of odds plot ratios and works best with the outputs of CARET's GLM model class, by returning the final trained model.

License GPL (>= 3)

URL https://github.com/StatsGary/OddsPlotty

LazyData FALSE

Imports caret, mlbench, magrittr, ggplot2, tibble, ggthemes, e1071, tidymodels, rmarkdown

Suggests knitr, covr, testthat, markdown

VignetteBuilder knitr

RoxygenNote 7.1.13

Encoding UTF-8

NeedsCompilation no

Author Gary Hutson [aut, cre] (<https://orcid.org/0000-0003-3534-6143>)

Repository CRAN

Date/Publication 2021-11-13 14:40:02 UTC

R topics documented:

odds_plot *odds_plot - a function to create Odds Plots*

Description

This has been created to generate odds plots on the back of results from a generalised linear model.

Usage

```
odds_plot(
  x,
  x_label = "Variables",
  y_label = "Odds Ratio",
  title = NULL,
  subtitle = NULL,
  point_col = "blue",
  error_bar_colour = "black",
  point_size = 5,
  error_bar_width = 0.3,
  h_line_color = "black"
)
```

Arguments

x	The trained caret GLM logistic regression model
x_label	The label name for the x_label
y_label	The label name for the y_label
title	Title for the Odds Plot
subtitle	Subtitle for the Odds Plot
point_col	Defaults to blues, but R colour codes can be passed
error_bar_colour	the colour of the error bar
point_size	the point size of the plot
error_bar_width	the width of the displayed error bar
h_line_color	the colour of the horizontal line

Value

A list of the odds returned from logistic regression and a plot showing the odds

Examples

```
#We will use the cancer dataset to build a GLM model to predict cancer status
#this will detail whether the patient has a benign or malignant
library(mlbench)
library(caret)
library(tibble)
library(ggplot2)
library(OddsPlotty)
library(e1071)
library(ggthemes)

#Bring in the data
data("BreastCancer", package = "mlbench")
breast <- BreastCancer[complete.cases(BreastCancer), ]
breast <- breast[, -1]
head(breast, 10)
breast$Class <- factor(breast$Class)
for(i in 1:9) {
breast[, i] <- as.numeric(as.character(breast[, i]))
}

#Train GLM model
glm_model <- train(Class ~ ., data = breast, method = "glm", family = "binomial")

#Visualise the data with OddsPlotty
plotty <- OddsPlotty::odds_plot(glm_model$finalModel,title = "Odds Plot")
plotty$odds_plot

#Extract underlying odds ratios
plotty$odds_data
```

Index