Package ‘OddsPlotty’

October 12, 2022

Type Package

Title Odds Plot to Visualise a Logistic Regression Model

Version 1.0.2

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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.

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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

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Repository CRAN

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

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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
go_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
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