Package ‘LogicForest’

March 13, 2024

Title Logic Forest
Version 2.1.1
Depends R (>= 2.10)
Imports LogicReg, methods
Suggests data.table, knitr, rmarkdown
Description

License GPL-3
Encoding UTF-8
RoxygenNote 7.3.1
VignetteBuilder knitr
NeedsCompilation no
Author Bethany Wolf [aut],
        Melica Nikahd [ctb, cre],
        Madison Hyer [ctb]
Maintainer Melica Nikahd <melica.nikahd@osumc.edu>
Repository CRAN
Date/Publication 2024-03-13 11:20:08 UTC

R topics documented:

LF.data ................................................................. 2
logforest ............................................................... 2

Index 4
LF.data

Description
A data frame containing 200 observations and 52 variables with value 0 or 1.

Details
Simulated binary data for logic forest example

Author(s)
Bethany Wolf <wolf@musc.edu>

References
https://github.com/cran/LogicForest/blob/master/data/LF.data.rda

logforest

Description
Constructs an ensemble of logic regression models using bagging for classification and identification of important predictors and predictor interactions

Usage
logforest(resp, Xs, nBSXVars, anneal.params, nBS=100, h=0.5, norm=TRUE, numout=5, nleaves)

Arguments
resp numeric vector of binary response values
Xs matrix or data frame of zeros and ones for all predictor variables
nBSXVars integer for the number of predictors used to construct each logic regression model. The default value is all predictors in the data.
anneal.params a list containing the parameters for simulated annealing. See the help file for the function logreg.anneal.control in the LogicReg package. If missing, default annealing parameters are set at start=1, end=-2, and iter=50000.
nBS number of logic regression trees to be fit in the logic forest model.
h a number between 0 and 1 for the minimum proportion of trees in the logic forest that must predict a 1 for the prediction to be one.
norm logical. If FALSE, predictor and interaction scores in model output are not normalized to range between zero and one.
numout number of predictors and interactions to be included in model output
nleaves the maximum number of end nodes generated for each tree
Value

An object of class "logforest" including a list of values
Index

* data
  LF.data, 2

LF.data, 2
logforest, 2