Package ‘kNNvs’

October 13, 2022

Type Package
Date 2021-05-11
Title k Nearest Neighbors with Grid Search Variable Selection
Version 0.1.0
Maintainer Eddie Pei <ep2667@rit.edu>
Description k Nearest Neighbors with variable selection, combine grid search and forward selection to achieve variable selection in order to improve k Nearest Neighbors predictive performance.
License GPL-3
Encoding UTF-8
RoxygenNote 7.1.1
NeedsCompilation no
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Repository CRAN
Date/Publication 2021-05-12 12:10:05 UTC

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kNNvs k Nearest Neighbors with Grid Search Variable Selection

Description

k Nearest Neighbors with Grid Search Variable Selection
Usage

kNNvs(
    train_x, test_x, cl_train, cl_test, k,
    model = c("regression", "classification")
)

Arguments

train_x matrix or data frame of training set
test_x matrix or data frame of test set
cl_train factor of true classifications of training set
cl_test factor of true classifications of test set
k the number of neighbors
model regression or classification

Details

kNNvs is simply use add one and then compare acc to pick the best variable set for the knn model

Value

ACC or MSE, best variable combination, estimate value yhat

Examples

{
data(iris3)
train_x <- rbind(iris3[1:25,,1], iris3[1:25,,2], iris3[1:25,,3])
test_x <- rbind(iris3[26:50,,1], iris3[26:50,,2], iris3[26:50,,3])
cl_train<- factor(c(rep("s",25), rep("c",25), rep("v",25)))
k<- 5
# cl_test is not null
mymodel<-kNNvs(train_x,test_x,cl_train,cl_test,k,model="classification")
mymodel
# cl_test is null
mymodel<-kNNvs(train_x,test_x,cl_train,cl_test=NA,k,model="classification")
mymodel
}
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