

Package ‘kNNvs’

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Type Package

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Title k Nearest Neighbors with Grid Search Variable Selection

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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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kNNvs	<i>k Nearest Neighbors with Grid Search Variable Selection</i>
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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<- cl_test<- 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=NULL,k,model="classification")
  mymodel
}
```

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