

Package ‘tgmMultiClass’

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Type Package

Title Wrap functions for multi-class classification

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Description Wrap functions for multi-class classification

License Whatever

Depends VGAM

Suggests testthat

Imports methods

LazyLoad yes

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generateTestIndexes	<i>Generate indexes necessary to evaluate models</i>
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Description

Create dataset replications with training, validation and test sets.

Usage

```
generateTestIndexes(dataset, target_names, type = "3way", options, ...)
```

Arguments

dataset	Data.frame with the complete dataset available.
target_names	Character vector with the name of the columns in dataset that contain the target variables. For a classification problem with K classes, there should be K column names.
type	Type of sampling used. Currently, only '3way' is implemented, see details.
options	List with parameters to be passed to the resampling function. It depends on the parameter type, see details.
...	further arguments. Currently not used.

Value

S3 object of class 'datasetResample'.

Examples

```
data(soccer_game)
indexes <- generateTestIndexes(dataset = soccer_game,
                              target_names = c("home.win", "home.draw", "home.lose"),
                              type = "3way",
                              options = list(prop_v = 0.2,
                                              prop_test = 0.2,
                                              number_replicates = 4))
```

mcGet	<i>Generic function to extract object elements</i>
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Description

Standard function to be used when extracting information from objects.

Usage

```
mcGet(x, attr, ...)
```

mcGet.datasetResample *Extract info from datasetResample objects*

Description

Extract info from datasetResample objects

Usage

```
## S3 method for class datasetResample
mcGet(x, attr)
```

mcGet.multiClass *Extract info from multiClass objects*

Description

Extract info from multiClass objects

Usage

```
## S3 method for class multiClass
mcGet(x, attr, i = NULL)
```

predict_r_vgam *multi-class prediction probability with 'vgam'*

Description

predict_r_vgam apply vgam function to different training and test sets.

Usage

```
predict_r_vgam(data, resample_indexes, ...)
```

Arguments

data	A data.frame containing the response variable and the features used for fitting and predictions.
resample_indexes	An object that contains information about resampled instances of data, usually generated by generateTestIndexes .
...	Arguments to be used in the vgam function.

Details

predict_r_vgam will then train with the training and validation parts of the data using vgam and output the predicted probabilities on the test sets.

Value

It returns an S3 object of class `c("multiClass_vgam", "multiClass")`. This object contains the predicted probabilities for each test set. See the examples to get more info about how to extract the desired info from this object.

Examples

```
data(soccer_game)
indexes <- generateTestIndexes(dataset = soccer_game,
                              target_names = c("home.win", "home.draw", "home.lose"),
                              type = "3way",
                              options = list(prop_v = 0.2,
                                              prop_test = 0.2,
                                              number_replicates = 4))

pred_obj <- predict_r_vgam(data = soccer_game,
                           resample_indexes = indexes,
                           formula = cbind(home.win, home.draw, home.lose) ~ 1 + fair.odd.home + fair.odd.away,
                           family = "multinomial")

all_predictions <- mcGet(pred_obj, "prob")
second_replication_only <- mcGet(pred_obj, "prob", 2)
```

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