

Package ‘MultiClassROC’

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Type Package

Title ROC Curves for Multi-Class Analysis

Version 0.1.0

Description Function `multiroc()` can be used for computing and visualizing Receiver Operating Characteristics (ROC) and Area Under the Curve (AUC) for multi-class classification problems. It supports both One-vs-One approach by M.Bishop, C. (2006, ISBN:978-0-387-31073-2) and One-vs-All approach by Murphy P., K. (2012, ISBN:9780262018029).

License GPL-3

Encoding UTF-8

RoxygenNote 7.2.3

Imports `ggplot2`, `pROC`

NeedsCompilation no

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`multiroc` *ROC Curves for Multi-Class Analysis*

Description

Function ‘`multiroc`’ can be used for computing and visualizing Receiver Operating Characteristics (ROC) and Area Under the Curve (AUC) for multi-class classification problems. It supports both one-vs-one and one-vs-all approaches.

Usage

```
multiroc(y, x, k, type = c("OvO", "OvA"), plot = TRUE, data)
```

Arguments

y	A string, dependent variable
x	A vector of strings, independent variables
k	The number of categories
type	A string, "OvO" for one-vs-one, "OvA" for one-vs-all approach
plot	A logical, TRUE for the plot of the curves, FALSE for the average AUC
data	A data frame, the dataset to use

Value

plot with ROC curves using ggroc, pROC (if plot=TRUE) or the average AUC (if plot=FALSE)

Examples

```
multiroc(y="Species",
         x=c("Petal.Width", "Petal.Length", "Sepal.Width", "Sepal.Length"),
         k=3, type="OvA"),
plot=TRUE,
data=iris)
multiroc(y="Species",
         x=c("Petal.Width", "Petal.Length", "Sepal.Width", "Sepal.Length"),
         k=3,
         type="OvO"),
plot=FALSE,
data=iris)
```

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