Package 'discrim'

October 13, 2022

Title Model Wrappers for Discriminant Analysis

Version 1.0.0

Description Bindings for additional classification models for use with the 'parsnip' package. Models include flavors of discriminant analysis, such as linear (Fisher (1936) <doi:10.1111/j.1469-1809.1936.tb02137.x>), regularized (Friedman (1989) <doi:10.1080/01621459.1989.10478752>), and flexible (Hastie, Tibshirani, and Buja (1994) <doi:10.1080/01621459.1994.10476866>), as well as naive Bayes classifiers (Hand and Yu (2007) <doi:10.1111/j.1751-5823.2001.tb00465.x>).

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URL https://discrim.tidymodels.org/, https://github.com/tidymodels/discrim/

BugReports https://github.com/tidymodels/discrim/issues

Depends parsnip (>= 0.2.0), R (>= 3.4)

Imports dials, purrr, rlang, tibble, withr

Suggests covr, dplyr, earth, ggplot2, klaR, knitr, MASS, mda, mlbench, modeldata, naivebayes, rmarkdown, sda, sparsediscrim (>= 0.3.0), spelling, testthat (>= 3.0.0), xml2

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NeedsCompilation no

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R topics documented:

`frac_common_cov` *Parameter objects for Regularized Discriminant Models*

Description

`discrim_regularized()` describes the effect of `frac_common_cov()` and `frac_identity()`. `smoothness()` is an alias for the `adjust` parameter in `stats::density()`.

Usage

```
frac_common_cov(range = c(0, 1), trans = NULL)

frac_identity(range = c(0, 1), trans = NULL)

smoothness(range = c(0.5, 1.5), trans = NULL)
```

Arguments

`range`	A two-element vector holding the *defaults* for the smallest and largest possible values, respectively.
`trans`	A `trans` object from the `scales` package, such as `scales::log10_trans()` or `scales::reciprocal_trans()`. If not provided, the default is used which matches the units used in `range`. If no transformation, `NULL`.

Details

These parameters can modulate a RDA model to go between linear and quadratic class boundaries.

Value

A function with classes "quant_param" and "param"

Examples

```
frac_common_cov()
```

parabolic *Parabolic class boundary data*

Description

Parabolic class boundary data

Details

These data were simulated. There are two correlated predictors and two classes in the factor outcome.

Value

`parabolic` a data frame

Examples

```
data(parabolic)

library(ggplot2)
ggplot(parabolic, aes(x = X1, y = X2, col = class)) +
  geom_point(alpha = .5) +
  theme_bw()
```

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