

# Package ‘discrim’

March 8, 2023

**Title** Model Wrappers for Discriminant Analysis

**Version** 1.0.1

**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](https://doi.org/10.1111/j.1469-1809.1936.tb02137.x)>), regularized (Friedman (1989) <[doi:10.1080/01621459.1989.10478752](https://doi.org/10.1080/01621459.1989.10478752)>), and flexible (Hastie, Tibshirani, and Buja (1994) <[doi:10.1080/01621459.1994.10476866](https://doi.org/10.1080/01621459.1994.10476866)>), as well as naive Bayes classifiers (Hand and Yu (2007) <[doi:10.1111/j.1751-5823.2001.tb00465.x](https://doi.org/10.1111/j.1751-5823.2001.tb00465.x)>).

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**URL** <https://github.com/tidymodels/discrim>,  
<https://discrim.tidymodels.org/>

**BugReports** <https://github.com/tidymodels/discrim/issues>

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

**Imports** dials, rlang, stats, 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

**Config/Needs/website** tidymodels/tidymodels, tidyverse/tidytemplate

**Encoding** UTF-8

**Language** en-US

**LazyData** true

**RoxygenNote** 7.2.3

**Config/testthat/edition** 3

**NeedsCompilation** no

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**Repository** CRAN

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frac_common_cov	<i>Parameter objects for Regularized Discriminant Models</i>
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### 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()
```

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parabolic	<i>Parabolic class boundary data</i>
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**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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