Package 'censored'

October 12, 2022

Title 'parsnip' Engines for Survival Models

Version 0.1.1

Description Engines for survival models from the 'parsnip' package. These
include parametric models (e.g., Jackson (2016) <doi:10.18637/jss.v070.i08>),
semi-parametric (e.g., Simon et al (2011) <doi:10.18637/jss.v039.i05>), and
tree-based models (e.g., Buehlmann and Hothorn (2007) <doi:10.1214/07-STS242>).

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URL https://github.com/tidymodels/censored

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

Depends parsnip (>= 1.0.0), R (>= 3.5.0), survival (>= 3.3-1)

Imports dials, dplyr (>= 0.8.0.1), generics, glue, hardhat (>= 1.1.0),
mboost, prettyunits, purrr, rlang (>= 1.0.0), stats, tibble (>=
3.1.3), tidyr (>= 1.0.0)

Suggests coin, covr, flexsurv (>= 2.2), glmnet (>= 4.1), ipred,
partykit, pec, rmarkdown, rpart, testthat (>= 3.0.0)

Config/Needs/website tidymodels, tidyverse/tidytemplate

Config/testthat/edition 3

Encoding UTF-8

LazyData true

RoxygenNote 7.2.1

NeedsCompilation no

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Repository CRAN

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R topics documented:

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censored-package   *censored: parsnip Engines for Survival Models*

Description

censored provides engines for survival models from the parsnip package. The models include parametric survival models, proportional hazards models, decision trees, boosted trees, bagged trees, and random forests. See the "Fitting and Predicting with censored" article for various examples. See below for examples of classic survival models and how to fit them with censored.

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- RStudio [copyright holder, funder]

See Also

Useful links:

- https://github.com/tidymodels/censored
- Report bugs at https://github.com/tidymodels/censored/issues

Examples

```
# Accelerated Failure Time (AFT) model

fit_aft <- survival_reg(dist = "weibull") %>%
  set_engine("survival") %>%
  fit(Surv(time, status) ~ age + sex + ph.karno, data = lung)
predict(fit_aft, lung[1:3, ], type = "time")


# Cox's Proportional Hazards model

fit_cox <- proportional_hazards() %>%
  set_engine("survival") %>%
  fit(Surv(time, status) ~ age + sex + ph.karno, data = lung)
```

```
predict(fit_cox, lung[1:3, ], type = "time")


# Andersen-Gill model for recurring events

fit_ag <- proportional_hazards() %>%
  set_engine("survival") %>%
  fit(Surv(tstart, tstop, status) ~ treat + inherit + age + strata(hos.cat),
      data = cgd)
predict(fit_ag, cgd[1:3, ], type = "time")
```

| time_to_million | *Number of days before a movie grosses $1M USD* |

Description

These data are a somewhat biased random sample of 551 movies released between 2015 and 2018. Columns include

Details

- title: a character string for the movie title.
- time: number of days until the movie earns a million US dollars.
- event: a binary value for whether the movie reached this goal. About 94% of the movies had observed events.
- released: a date field for the release date.
- distributor: a factor with the the name of the distributor.
- released_theaters: the maximum number of theaters where the movie played in the first two weeks of release.
- year: the release year.
- rated: a factor for the Motion Picture Association film rating.
- runtime: the length of the movie (in minutes).
- A set of indicators columns for the movie genre (e.g. action, crime, etc.).
- A set of indicators for the language (e.g., english, hindi, etc.).
- A set of indicators for countries where the movie was released (e.g., uk, japan, etc.)

Value

time_to_million

a tibble

Index