

# Package ‘censored’

September 30, 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](https://doi.org/10.18637/jss.v070.i08)>), semi-parametric (e.g., Simon et al (2011) <[doi:10.18637/jss.v039.i05](https://doi.org/10.18637/jss.v039.i05)>), and tree-based models (e.g., Buehlmann and Hothorn (2007) <[doi:10.1214/07-STS242](https://doi.org/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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censored-package	<i>censored: parsnip Engines for Survival Models</i>
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### 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")

```

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time_to_million	<i>Number of days before a movie grosses \$1M USD</i>
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### 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

```

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