Fifteen years of the R Journal

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Contents

- Some History and Statistics
- Who we are, and how we work
  - Including tips for authors!
- Outlook

Some history

2001–2008	R News
2009	1st issue of R Journal
2013	100th paper published
2021	Associate editors
2022	HTML and pdf


The R Journal

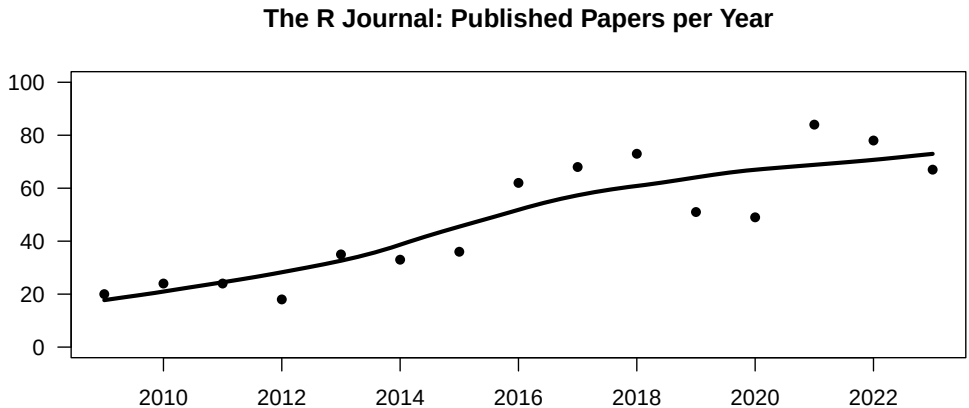
Volume 1/1, May 2009

A peer-reviewed, open-access publication of the R Foundation for Statistical Computing

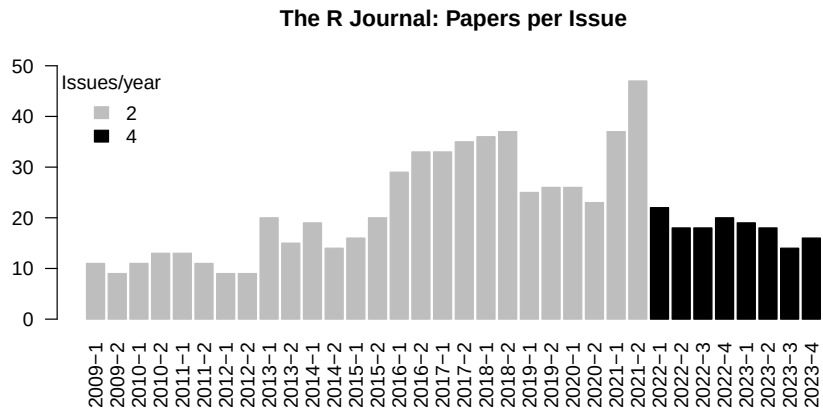
Contents

- Free Access
- No publication cost
- Run by volunteers

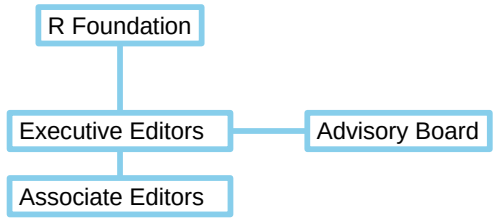
700+ papers published over 34 issues



Since 2022: 4 issues/year



The organization



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EiC 2026

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EiC 2024

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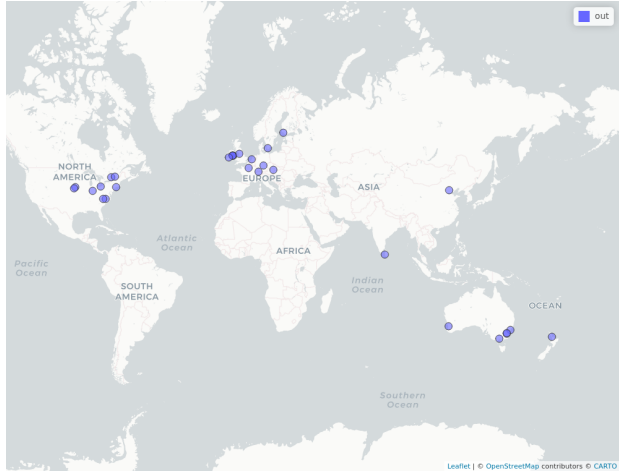


How we work

Editor in Chief

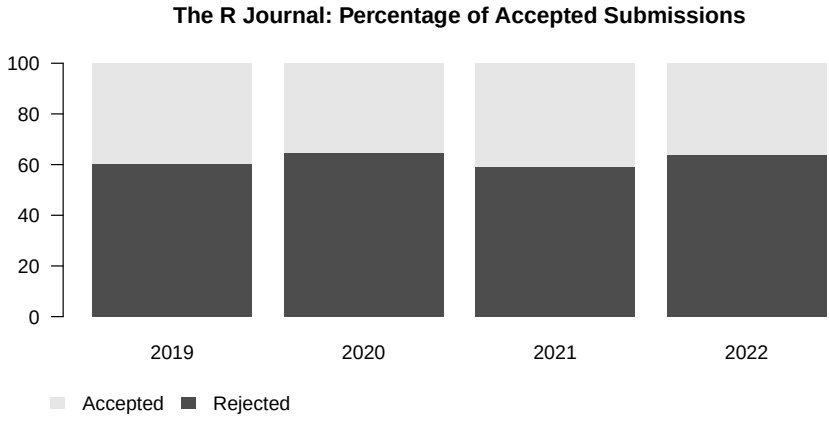
- Is also an executive editor
- Building journal issues
- Organisation (AE/EE meetings, etc.)

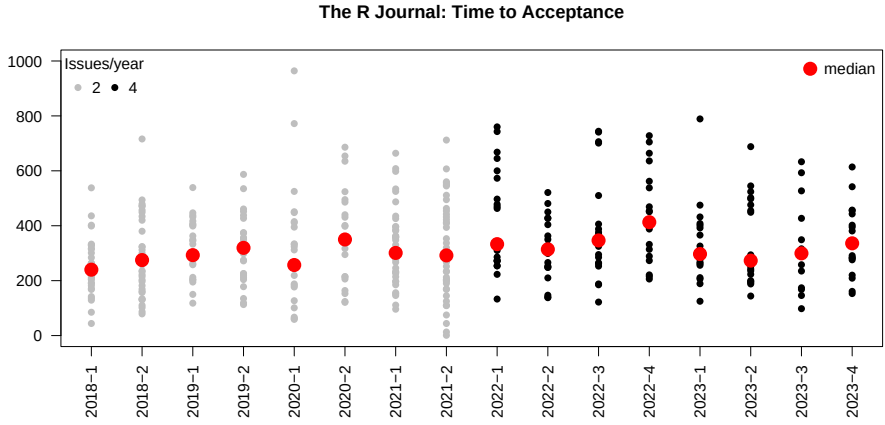
Executive Editors

- Decide if a submission is fit for review
- Have it reviewed (via AE, or by themselves)
- Take editorial decision (accept/major/minor/reject)

Associate Editors

- Have papers reviewed (assigned by their expertise)
- Advise decision to Executive editor


The R Journal: Percentage of Accepted Submissions
100
80
60
40
20
0
2019
2020
2021
2022
Accepted
Rejected


The R Journal: Time to Acceptance
Issues/year
2
4
median
1000
800
600
400
200
0
2018−1
2018−2
2019−1
2019−2
2020−1
2020−2
2021−1
2021−2
2022−1
2022−2
2022−3
2022−4
2023−1
2023−2
2023−3
2023−4

This paper got accepted 148 days before submission*

*According to the administration :-)

CONTRIBUTED RESEARCH ARTICLE 266

CopulaCenR: Copula based Regression Models for Bivariate Censored Data in R

by Tao Sun and Ying Ding

Abstract Bivariate time-to-event data frequently arise in research areas such as clinical trials and epidemiological studies, where the occurrence of two events are correlated. In many cases, the exact event times are unknown due to censoring. The copula model is a popular approach for modeling correlated bivariate censored data, in which the two marginal distributions and the between-margin dependence are modeled separately. This article presents the R package CopulaCenR, which is designed for modeling and testing bivariate data under right or (general) interval censoring in a regression setting. It provides a variety of Archimedean copula functions including a flexible two-parameter copula and different types of regression models (parametric and semiparametric) for marginal distributions. In particular, it implements a semiparametric transformation model for the margins with proportional hazards and proportional odds models being its special cases. The numerical optimization is based on a novel two-step algorithm. For the regression parameters, three likelihood-based tests (Wald, generalized score and likelihood ratio tests) are also provided. We use two real data examples to illustrate the key functions in CopulaCenR.

Introduction

Bivariate data arise frequently in many research areas such as health, epidemiology, and economics. For example, bivariate time-to-event endpoints are often used in clinical trials studying bilateral diseases (e.g., eye diseases) or complex diseases (e.g., cancer and psychiatric disorders). The two events are correlated as they come from the same subject. In many situations, the two event times cannot be precisely observed, leading to bivariate censored data. Specifically, bivariate right-censored data occur when the study ends prior to the occurrence of one or both events. An example of such data comes from a clinical study assessing the treatment effect on preventing blindness in Diabetic Retinopathy patients where each patient had one eye randomized to the treatment and the other eye received no treatment (Huster et al., 1989), and the time-to-blindness are bivariate and right-censored. We will illustrate the analysis of this study in Section 2.1. In another situation, bivariate interval-censored data occur when the status of both events are periodically examined at intermittent assessment times. In this case, the right censoring could also happen if the event still does not occur at the last assessment time. A special case of interval-censored data is the current status data if there is only one assessment time and the event is only known to occur or not by its assessment time. An example of bivariate interval-censored data will be demonstrated in Section 2.4, which came from a clinical trial studying the progression of a bilateral eye disease, Age-related Macular Degeneration (AMD), where the progression time to late-AMD are interval or right censored (AREDS Group, 1999). More examples can be found in books Hougaard (2000) and Sun (2007).

The development of our package is motivated by researches that are interested in (1) discovering covariates that are significantly associated with the bivariate censored outcomes, and (2) characterizing the joint and conditional risks of two events. For the bivariate events, the joint and conditional risks could be clinically more important than the marginal risk (of a single event). For example, the joint 5-year progression-free probability for both eyes helps identify patients with a high risk of progressing to late-AMD. For another example, for patients having one eye already progressed, the conditional 5-year progression-free probability for the non-progressed eye (given its fellow eye already progressed) provides important information for both clinicians and the patient since patients with both eyes progressed to the late stage of the disease may lose the ability to live independently.

There are three major approaches to fit regression models for bivariate censored data. The simplest way is to fit a marginal model and estimate the variance-covariance by a robust sandwich estimator (for example, Wei et al., 1989). This approach takes a working independence assumption, and thus cannot generate joint or conditional distributions. The second approach is based on frailty models (for example, Oakes, 1982), which are essentially mixed effects models and account for the dependence between two events by a latent frailty variable. However, the covariate effects in frailty models are usually interpreted on a conditional level (by conditioning on the frailty term), which is not straightforward. The third approach is to use copula models (for example, Clayton, 1978). Unlike the marginal or frailty approaches, the copula approach models the joint survival distribution by directly connecting the two marginal distributions through a copula function. One unique advantage of the copula is that it separately models the marginal distributions and the dependence parameter(s), allowing flexibility in marginal models and straightforward interpretation

Getting reviewed

Prepare your submission carefully

- Use the `rjtools` package.
- Make sure the code runs(!)
- All code must be open source, also code you depend on for your paper
- Package?
  - Publish on CRAN or BioConductor
  - Write proper vignettes
  - A decent set of unit test
  - Decent code quality

And obviously (but we have encountered this)

- The paper must be original
- The topic must be related to R

Passing the review

Paper

- Write for a broad audience; avoid unexplained jargon.
- Focus on the contribution to R (we are not a methodology journal)
- Compare with related work, and define the novelty

Package (if any)

- Usability:
  - clear and user-friendly workflow?
  - well-written and user-oriented documentation?
- Code:
  - obvious edge cases covered?
  - could functions/interfaces be improved?
  - code well-organized and understandable?

Things we like to see more of

- Studies on R/Software community
- Topical reviews
- Trends or methods in R coding
- CRAN-studies

Become an RJ reviewer

Thank you

```
rj |> sort() |> paste(collapse=", ") |> strwrap(80) |> paste(collapse="\n") |> cat()
```

Abhishek Ulayil, Adam Loy, Beth Atkinson, Bettina Grün, Bill Venables, Catherine Hurley, Chris Brunsdon, Christoph Sax, Deepayan Sarkar, Dianne Cook, Doublas Bates, Earo Wang, Elizabeth Sweeney, Emi Tanaka, Emily Zabor, Fritz Leisch, G. Jay Kerns, Gabriela de Quiroz, Hadley Wickham, Heather Turner, Henrik Bengtssen, Isabella Gollini, Ivan Svetunkov, John Fox, John Verzani, Jouni Helske, Katarina Domijan, Kevin Burke, Kieran Healy, Kurt Hornik, Louis Aslett, Lucy D'Agostino McGowan, Mark van der Loo, Martyn Plummer, Matthias Templ, Michael Kane, Michael Lawrence, Mine Çetinkaya-Rundel, Nicholas Tierney, Norman Matloff, Paul Murrel, Peter Dalgaard, Priyanga Dilini Talagala, Przemek Biecek, Rafael de Andrade Moral, Rasmus Bååth, Rebecca Killick, Roger Bivand, Romain Lesur, Simon Urbanek, Simone Blomberg, Susan Vanderplas, Thiyanga Talagala, Thomas Fung, Thomas Lumley, Torsten Hothorn, Ursula Laa, Uwe Ligges, Vince Carey, Vincent Arel-Bundock, Wenjie Wang, Xiaoqian Wang, Xiaoyue Cheng, Yanfei Kang

Slides