The MRC IEU 🚀 R-Universe of Mendelian randomization related R packages

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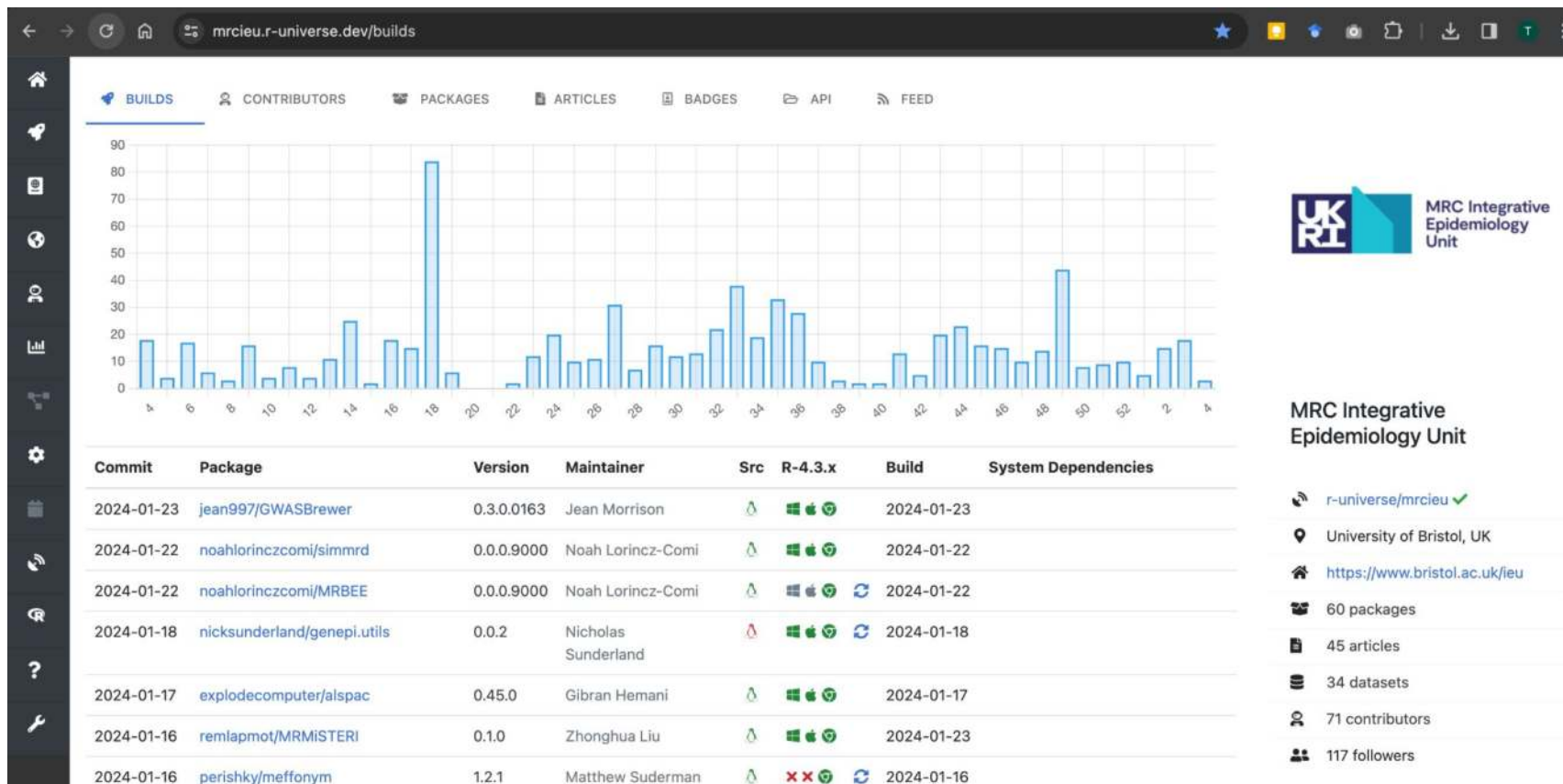
https://mrcieu.r-universe.dev/builds

mrcieu/TwoSampleMR 0.5.8

TwoSampleMR: Two Sample MR Functions and Interface to MR Base Database

A package for performing Mendelian randomization using GWAS summary data. It uses the IEU GWAS database to obtain data automatically, and a wide range of methods to run the analysis. You can use the MR-Base web app to try out a limited range of the functionality in this package, but for any serious work we strongly recommend using this R package.

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Gibran Hemani

- TwoSampleMR_0.5.8.tar.gz
- TwoSampleMR_0.5.8.zip (r-4.4) TwoSampleMR_0.5.8.zip (r-4.3) TwoSampleMR_0.5.8.zip (r-4.2)
- TwoSampleMR_0.5.8.tgz (r-4.3-any) TwoSampleMR_0.5.8.tgz (r-4.2-any)
- TwoSampleMR_0.5.8.tar.gz (r-4.3-jammy) ⑦
- TwoSampleMR_0.5.8.tgz (r-4.3-emscripten) ⑦
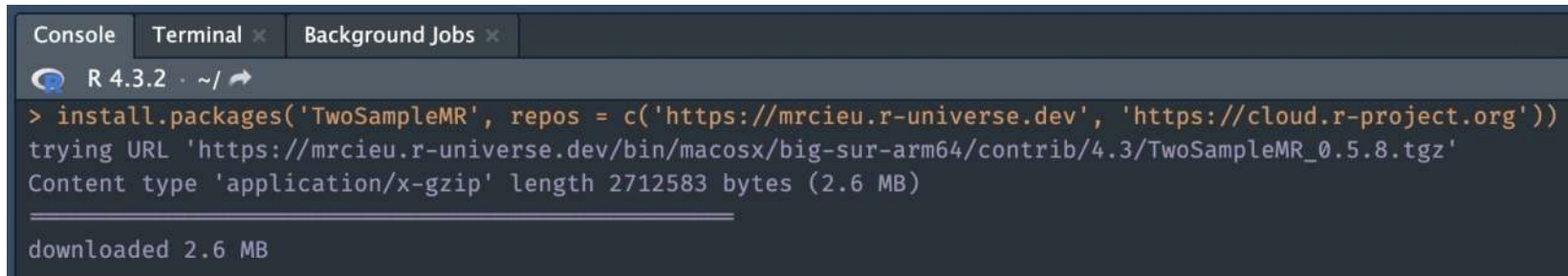- TwoSampleMR.pdf | TwoSampleMR.html ✨
- TwoSampleMR/json (API)
- NEWS

```
# Install TwoSampleMR in R:
install.packages('TwoSampleMR', repos = c('https://mrcieu.r-universe.dev', 'https://cloud.r-project.org'))
```

Installation code

- Windows and macOS users

```
Console    Terminal ×    Background Jobs ×
R 4.3.2 · ~/
> install.packages('TwoSampleMR', repos = c('https://mrcieu.r-universe.dev', 'https://cloud.r-project.org'))
trying URL 'https://mrcieu.r-universe.dev/bin/macosx/big-sur-arm64/contrib/4.3/TwoSampleMR_0.5.8.tgz'
Content type 'application/x-gzip' length 2712583 bytes (2.6 MB)

downloaded 2.6 MB
```

- Ubuntu Linux and WebR instructions
  https://github.com/MRCIEU/mrcieu.r-universe.dev#readme

Vignettes and helpfiles

📖 Exposure data

Gibran Hemani

Rendered from exposure.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

📖 Harmonise data

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Rendered from harmonise.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

📖 Introduction

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Rendered from introduction.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

📖 Major changes to the IEU GWAS resources for 2020

Rendered from gwas2020.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

📖 Outcome data

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Rendered from outcome.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

📖 Perform MR

Gibran Hemani and Philip Haycock

Rendered from perform_mr.Rmd using knitr::rmarkdown on 2024-01-15 06:02:44.

Reference manual

Help page	Topics
TwoSampleMR: Two Sample MR functions and interface to MR Base database	TwoSampleMR-package TwoSampleMR twosamplemr
Add meta data to extracted data	add_metadata
Estimate r-square of each association	add_rsq
Estimate allele frequency from SNP	allele_frequency
Get list of studies with available GWAS summary statistics through API	available_outcomes
Perform LD clumping on SNP data	clump_data
Combine all mr results	combine_all_mrresults
Combine data	combine_data
Obtain 2x2 contingency table from marginal parameters and odds ratio	contingency
Convert outcome data to exposure data	convert_outcome_to_exposure
Convert TwoSampleMR format to MendelianRandomization format	dat_to_MRInput
Convert dat to RadialMR format	dat_to_RadialMR
List of parameters for use with MR functions	default_parameters
Perform MR Steiger test of directionality	directionality_test

Installing R packages can be painful 🤕

- ***Sorry*** to everyone who has ever had to build TwoSampleMR and its dependencies from source 😔
- The pain can be real on Linux … many packages require additional system libraries … `sudo apt-get install` …
- (Well known) CRAN provides binary R packages for Windows and macOS (Intel and Apple Silicon)
- (Less well known) Public Posit Package Manager provides binary R packages for various Linux distros … but the packages need to be on CRAN
- Some other efforts r2u, bspm, PPAs etc.

rOpenSci 🚀 R-Universe https://r-universe.dev/

- CRAN like system for R packages on GitHub, GitLab, …
- No `devtools::check()` requirements
  - Requirements: file structure and DESCRIPTION file are correct (... some packages fail this!)
- Added MRC IEU R packages ... that I have seen … tell me about more
- Started adding MR and MR related packages from other authors
  - Got carried away … currently 60 packages
  - Have sent several pull requests to fix some broken packages
- How up-to-date is this? ... Refreshed every hour (occasionally wait till overnight)

Summary

- MRC IEU R-Universe makes GitHub R packages available in binary form (for the first time)
- Satisfied users

liaofengnan commented 2 weeks ago via email ✉

Thank you for your help! It really work!

yangj6688 commented on Oct 11, 2023

Thanks a lot, the code works.

😊 👍 1

- Gives an overview of available methods for MR
- Please let me know about additional R packages