Package: edgeicgrs (via r-universe)

November 24, 2026

Title Rust Backend for edgeicg

Version 0.1.0

Description Compiled kernels for the edgeicg package: a generic cross-product (t(x) %*% y) through faer's cache-blocked, SIMD matrix multiply, so the method's hotspot runs fast on every platform independent of the BLAS R is linked to.

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Encoding UTF-8

Roxygen list(markdown = TRUE)

Config/rextendr/version 0.5.0

SystemRequirements Cargo (Rust's package manager), rustc >= 1.65.0, xz

Depends R (>= 4.2)

Suggests edgeicg, testthat (>= 3.0.0)

Remotes drieslab/edgeicg

Config/testthat/edition 3

RoxygenNote 7.3.3

Config/pak/sysreqs xz-utils libclang-dev

Repository https://drieslab.r-universe.dev

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RemoteUrl https://github.com/drieslab/edgeicgrs

RemoteRef HEAD

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crossprod_rs *Matrix products with a compiled GEMM*

Description

`crossprod_rs(x, y)` is `crossprod(x, y)` (that is `t(x) %*% y`) and `matprod_rs(x, y)` is `x %*% y`, both computed by faer's matrix multiply in Rust: cache-blocked and SIMD on every platform, so its speed does not depend on the BLAS R is linked to (R's reference BLAS is the default on macOS and Windows). It is the kernel edgeicg uses for its sweeps (`edgeicg(backend = "auto")` picks it up when this package is installed), and it is generic: any two numeric matrices (or vectors, taken as one-column matrices) with conforming dimensions.

Usage

```
crossprod_rs(x, y, threads = 1L)

matprod_rs(x, y, threads = 1L)
```

Arguments

`x, y`	numeric matrices (or vectors). Integer input is converted to double; dimnames are not carried over.
`threads`	threads for the product: 1 (default) runs on the calling thread, which is what parallel workers should use; 0 uses all cores.

Value

`t(x) %*% y` (`ncol(x)` x `ncol(y)`), or `x %*% y` (`nrow(x)` x `ncol(y)`).

Examples

```
x <- matrix(rnorm(2000), 200); y <- matrix(rnorm(6000), 200)
all.equal(crossprod_rs(x, y), crossprod(x, y), check.attributes = FALSE)
```

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