Package: localsp (via r-universe)

Title Local Indicator of Stratified Power

Version 0.1.0

Description Implements a local indicator of stratified power to analyze local spatial stratified association and demonstrate how spatial stratified association changes spatially and in local regions, as outlined in Hu et al. (2024) <doi:10.1080/13658816.2024.2437811>.

License GPL-3

Encoding UTF-8

RoxygenNote 7.3.2

URL https://ausgis.github.io/localsp/,

https://github.com/ausgis/localsp

BugReports https://github.com/ausgis/localsp/issues

Depends R (>= 4.1.0)

Imports dplyr, gdverse, purrr, sdsfun, sf, tibble, tidyr

Suggests automap, gstat, knitr, readr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

Author Jiao Hu [aut, cph] (<https://orcid.org/0000-0002-9644-9763>),
Wenbo Lv [aut, cre] (<https://orcid.org/0009-0002-6003-3800>),
Yongze Song [aut] (<https://orcid.org/0000-0003-3420-9622>)

Maintainer Wenbo Lv <lyu.geosocial@gmail.com>

Repository CRAN

Date/Publication 2025-01-27 18:20:08 UTC

Config/pak/sysreqs libfontconfig1-dev libfreetype6-dev libgdal-dev gdal-bin libgeos-dev make libicu-dev libpng-dev libssl-dev libproj-dev python3 libsqlite3-dev libudunits2-dev

Contents

---

lisp	*local indicator of stratified power*

Description

local indicator of stratified power

Usage

```
lisp(
  formula,
  data,
  threshold,
  distmat,
  discvar = NULL,
  discnum = 3:8,
  discmethod = c("sd", "equal", "geometric", "quantile", "natural"),
  cores = 1,
  ...
)
```

Arguments

formula	A formula.
data	The observation data.
threshold	The distance threshold employed to select "local" data.
distmat	The distance matrices.
discvar	(optional) Name of continuous variable columns that need to be discretized. Noted that when `formula` has `discvar`, `data` must have these columns. By default, all independent variables are used as `discvar`.
discnum	(optional) A vector of number of classes for discretization. Default is `3:8`.
discmethod	(optional) A vector of methods for discretization, default is using `c("sd","equal","geometric","quan` by invoking `sdsfun`.
cores	(optional) Positive integer (default is 1). When cores are greater than 1, use multi-core parallel computing.
...	(optional) Other arguments passed to `gdverse::gd_optunidisc()`. A useful parameter is `seed`, which is used to set the random number seed.

Value

A `tibble`.

Examples

```
gtc = readr::read_csv(system.file("extdata/gtc.csv", package = "localsp"))
gtc


# Sample 100 observations from the original data to save runtime;
# This is unnecessary in practice;
set.seed(42)
gtc1 = gtc[sample.int(nrow(gtc),size = 100),]
distmat = as.matrix(dist(gtc1[, c("X","Y")]))
gtc1 = gtc1[, -c(1,2)]
gtc1

# Use 2 cores for parallel computing;
# Increase cores in practice to speed up;
lisp(GTC ~ ., data = gtc1, threshold = 4.2349, distmat = distmat,
     discnum = 3:5, discmethod = "quantile", cores = 2)
```

Index

lisp,