

Package ‘GWmodelVis’

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Type Package

Title Visualization Tools for Geographically Weighted Models

Version 1.0.0

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Repository CRAN

Description

The increasing popularity of geographically weighted (GW) techniques has resulted in the development of several R packages, such as 'GWmodel'. To facilitate their usages, 'GWmodelVis' provides a 'shiny'-based interactive visualization toolkit for geographically weighted (GW) models. It includes a number of visualization tools, including dynamic mapping of parameter surfaces, statistical visualization, sonification and exporting videos via 'FFmpeg'.

License GPL (>= 2)

Encoding UTF-8

Depends R (>= 4.2.0)

Imports GWmodel, sf, ggspatial, shiny, sp, shinyjs, shinydashboard, shinyFiles, shinyWidgets, signal, tuneR, dplyr, DT, av, servr, leaflet.extras, leaflet

Suggests knitr, testthat

URL <http://gwmodel.whu.edu.cn/>

SystemRequirements GEOS (>= 3.8.0), FFmpeg (for video export)

NeedsCompilation no

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GWmodelVis-package *Visualization Tools for Geographically Weighted Models*

Description

In 'GWmodelVis', we developed visualization tools for a branch of spatial statistics termed geographically weighted (GW) models, including functions to calibrate: GW summary statistics, GW principal components analysis, GW discriminant analysis, and various forms of GW regression (provided in basic and robust forms). Sonification techniques are adopted to embed result visualization from GW models. To enable video rendering, users must install 'FFmpeg' (<https://ffmpeg.org/download.html>).

Details

Package:	GWmodelVis
Type:	Package
Version:	1.0-0
Date:	2025-03-31
License:	GPL (>=2)
LazyLoad:	yes

Note

To enable video rendering in 'GWmodelVis', install 'FFmpeg' (<https://ffmpeg.org/download.html>). Package examples and tests write output ONLY to `tempdir()` to comply with CRAN policies.

Author(s)

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References

Gollini et al. (2015) <doi:10.18637/jss.v063.i17>

Lu et al. (2014) <doi:10.1080/10095020.2014.917453>

Lu et al. (2024) "Gwmodels: A standalone software..." <<https://doi.org/10.1080/10095020.2024.2343011>>

Lu et al. (2023) "Gwmodels: A software..." <<https://doi.org/10.1016/j.softx.2022.101291>>

runGWmodelVis	<i>Launch the interactive visualization application provided by GWmodelVis.</i>
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Description

Loads interactive user interface built using R 'shiny'.

Usage

```
runGWmodelVis(host = "127.0.0.1", port = NULL, launch.browser = TRUE)
```

Arguments

host	Specifies the IPv4 address on which the application should listen. If the shiny.host option is set, its value will be used; otherwise, the default is "127.0.0.1".
port	Defines the TCP port on which the application will listen. If no port is specified but the shiny.port option is set (e.g., via options(shiny.port = XX)), that port will be used; otherwise, a random port will be chosen.
launch.browser	If true, the system's default web browser will automatically launch once the application starts (this is the default behavior in interactive sessions). Alternatively, this parameter can be assigned a function that will be called with the application's URL as its argument.

Details

Provide users with an interactive, multi-dimensional visualization of the geographically weighted models, enabling them to explore spatial relationships and gain insights from multiple perspectives.

Value

No return value

Examples

```
if(interactive()){  
  runGWmodelVis()  
}
```

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