Package 'rcell2.examples'

April 15, 2022

Title Example Rmd notebooks and sample data for rcell2 (CellID Data Analysis Inside the Tidyverse)

Version 0.0.3

Description Analyse cellID data in the tidyverse framework. This package also has utility functions to generate, filter and preview data from fluorescence microscopy experiments (and maybe general cell cytometry).
Included are the tools to process CellID output (from tidyCell). Also, rcell2 interfaces directly with two other packages. The rcell2.cellid package bundles the CellID program source, and wraps it in a single R function. The rcell2.magick package offers R-Shiny apps and magick-based functions to help users preview cell images and filter data graphically.
This group of packages is meant to succeed the older RCell package.

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.2

Depends R (>= 3.6)

biocViews

Imports stats

Suggests tidyverse

R topics documented:

get_workflow_template *A function to donwload the latest worflow tempalte in Rmarkdown*

Description

Will donwload the .Rmd file to the current working directory.

Usage

```
get_workflow_template(file_name = "rcell2_workflow_template.Rmd")
```

Arguments

file_name	File name for the wokflow template.

rcell2.examples *Examples for Yeast Cell Cytometry Suite for CellID in R.*

Description

It is a rewrite and revamp of the previously awesome Rcell package, by Dr. Alan Bush. Plotting functions from that package have been excluded in the name of minimalism. Thoughfully, ggplot2 definitions for all those "cplots" are available in our vignettes (happy copy-pasting!).

Details

The cellMagick package provides three categories of important functions: cellMagick, tidyCell and shinyCell.

tidyCell functions

The tidyCell functions run CellID and/or manage it's output. Also useful to turn custom data into compatible dataframes for the other functions in this package.

cellMagick functions

Renders images from individual cells, based on original images, user defined filters and data from cells. It should not be required that the data comes from images processed by CellID. Requirement of the imagemagick library might bother some, so this awesome feature is optional.

shinyCell functions

R-Shiny based graphical interface to filter cells by arbitrary variables, and inspect and annotate cells. It should not be required that the data comes from images processed by CellID.

See Also

magick

smooth.spline.poly *whuber's spline.poly adapted to stats::smooth.spline*

Description

See: https://gis.stackexchange.com/a/24929

Usage

```
smooth.spline.poly(xy, k = 3, dof = 5, length.out = nrow(xy), ...)
```

Arguments

xy	A data.frame with ordered X/Y pairs representing the polygon
k	The amount of points used to "close" the path, and prevent discontinuous derivatives at the end-points.
dof	The degrees of freedom used by `stats::smooth.spline`
length.out	Set to an integer length for the smoothed output (defaults to input length).

Details

Splining a polygon with `stats::smooth.spline`

The rows of 'xy' give coordinates of the boundary vertices, in order. 'vertices' is the number of spline vertices to create. (Not all are used: some are clipped from the ends.) 'k' is the number of points to wrap around the ends to obtain a smooth periodic spline.

Value

Returns a data.frame of smooth points.

spline.poly *Splining a polygon with* `stats::spline`

Description

whuber's spline.poly as shared in StackExchange

Usage

```
spline.poly(xy, vertices, k = 3, ...)
```

Arguments

xy	A data.frame with ordered X/Y pairs representing the polygon
vertices	The amount of vertices in the final smoothing/interpolation.
k	The amount of points used to "close" the path, and prevent discontinuous derivatives at the end-points.

Details

See: https://gis.stackexchange.com/a/24929

The rows of 'xy' give coordinates of the boundary vertices, in order. 'vertices' is the number of spline vertices to create. (Not all are used: some are clipped from the ends.) 'k' is the number of points to wrap around the ends to obtain a smooth periodic spline.

Value

Returns an array of points.

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