

Package ‘runcharter’

November 9, 2021

Title Automatically Plot, Analyse and Revises Limits of Multiple Run Charts

Version 0.2.0

Description Plots multiple run charts, finds successive signals of improvement, and revises medians when each signal occurs. Finds runs above, below, or on both sides of the median, and returns a plot and a data.table summarising original medians and any revisions, for all groups within the supplied data.

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Encoding UTF-8

LazyData true

RoxygenNote 7.1.2

Depends R (>= 2.10)

Imports data.table, ggplot2, magrittr, zoo

Suggests knitr, rmarkdown, covr, pkgdown, testthat, NHSRdatasets

VignetteBuilder knitr

URL <https://github.com/johnmackintosh/runcharter>

BugReports <https://github.com/johnmackintosh/runcharter/issues>

NeedsCompilation no

Author John MacKintosh [aut, cre]

Maintainer John MacKintosh <johnmackintosh.jm@gmail.com>

Repository CRAN

Date/Publication 2021-11-09 07:50:01 UTC

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runcharter

runcharter

Description

Finds all runs of desired length occurring on desired side of median line. Can also find runs occurring on both sides of the line, though this is of limited use in terms of quality improvement. Re-bases median each time a run is discovered.

Usage

```
runcharter(
  df,
  med_rows = 13,
  runlength = 9,
  direction = c("above", "below", "both"),
  datecol = NULL,
  grpvar = NULL,
  yval = NULL,
  facet_cols = NULL,
  facet_scales = "fixed",
  chart_title = NULL,
  chart_subtitle = NULL,
  chart_caption = NULL,
  chart_breaks = NULL,
  line_colr = "#005EB8",
  line_size = 1.1,
  point_colr = "#005EB8",
  point_size = 2.5,
  median_colr = "#E87722",
  median_line_size = 1.05,
  highlight_fill = "#DB1884",
  highlight_point_size = 2.7
)
```

Arguments

df	data.frame or data table
med_rows	number of points to calculate initial baseline median
runlength	length of run that will trigger re-phased median
direction	should run occur "above", "below" or on "both" sides of median
datecol	name of date column
grpvar	character vector of grouping variable
yval	numeric y value
facet_cols	how many columns are required in the plot facets

facet_scales	defaults to "fixed". Alternatively, "free_y"
chart_title	title for the final chart
chart_subtitle	subtitle for chart
chart_caption	caption for chart
chart_breaks	character string defining desired x-axis date / datetime breaks. If the x axis is not a Date or datetime, then this argument is ignored, and ggplot2 will provide default breaks
line_colr	colour for run chart lines
line_size	thickness of connecting lines between run chart points
point_colr	colour for run chart points
point_size	size of normal run chart points
median_colr	colour for solid and extended median lines
median_line_size	thickness of solid and extended median lines
highlight_fill	fill colour for highlighting points in a sustained run
highlight_point_size	size of highlighted points in a sustained run

Details

Facets and axis limits are handled by ggplot, though x-axis breaks can be specified using the appropriate character string e.g. "3 months" if they are either of class dates or datetime

Value

list - faceted plot and data.table showing all identified runs

Examples

```
runcharter(signals, med_rows = 13, runlength = 9,  
direction = "above", datecol = date, grpvar = grp, yval = y,  
facet_cols = 2, chart_title = "Automated runs analysis",  
chart_subtitle = " some runs found", chart_caption = "powered by R",  
chart_breaks = "6 months")
```

signals	<i>#' 220 grouped observations over time.</i>
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Description

A dataset containing four equal groups of 55 integers simulating signals of improvement in multiple directions relative to their respective baseline medians.

Usage

signals

Format

A data frame with 220 rows and 4 variables:

grp a grouping variable, representing a specific department

y integers representing counts of an event over time

date date of the observation, by month

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