

Package: xmrr (via r-universe)

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Type Package

Title Generate XMR Control Chart Data from Time-Series Data

Description XMRs combine X-Bar control charts and Moving Range control charts. These functions also will recalculate the reference lines when significant change has occurred.

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LazyData TRUE

License GPL-3

BugReports <https://github.com/Zanidean/xmrr/issues>

Imports dplyr, tidyr, ggplot2, purrr, rlang, tibble, qpdf

Suggests testthat, knitr, rmarkdown

VignetteBuilder knitr

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Config/pak/sysreqs libicu-dev libjpeg-dev libssl-dev

Repository <https://zanidean.r-universe.dev>

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`xmr`*Generate XMR data for time-series data*

Description

Calculates XmR chart statistics and optionally recalculates the central line and natural process limits when short-run or long-run signals are detected.

Usage

```
xmr(  
  df,  
  measure,  
  recalc = TRUE,  
  reuse = TRUE,  
  interval = 5,  
  longrun = c(5, 8),  
  shortrun = c(3, 4),  
  testing = FALSE,  
  prefer_longrun = FALSE  
)
```

Arguments

<code>df</code>	A data frame or tibble containing time-series data.
<code>measure</code>	Character string naming the numeric measure column. If omitted, the second column is used.
<code>recalc</code>	Logical. Recalculate limits when runs are detected.
<code>reuse</code>	Logical. Allow points used in previous run calculations to be reused. Points in the initial interval are always reserved.
<code>interval</code>	Number of initial observations used to calculate the starting chart statistics.
<code>longrun</code>	Numeric vector of length one or two. The first value is the number of points used for recalculation. The second value is the qualifying consecutive-run length.
<code>shortrun</code>	Numeric vector of length one or two. The first value is the number of qualifying points required. The second value is the window size.
<code>testing</code>	Logical. Print detected runs and calculation points.
<code>prefer_longrun</code>	Logical. Check long runs before short runs.

xmr_chart	<i>Generate the XMR chart for XMR data</i>
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Description

Useful for diagnostics on xmr, and just visualizing the data.

Usage

```
xmr_chart(  
  dataframe,  
  time,  
  measure,  
  boundary_linetype = "dashed",  
  central_linetype = "dotted",  
  boundary_colour = "#d02b27",  
  point_colour = "#7ECBB5",  
  point_size = 2,  
  line_width = 0.5,  
  text_size = 9  
)
```

Arguments

dataframe	Output from xmR()
time	Time column
measure	Measure
boundary_linetype	Type of line for upper and lower boundary lines. Defaults to "dashed".
central_linetype	Type of line for central line. Defaults to "dotted".
boundary_colour	Colour of line for upper and lower boundary lines. Defaults to "#d02b27".
point_colour	Colour of points. Defaults to "#7ECBB5".
point_size	Size of points. Defaults to 2.
line_width	Width of lines. Defaults to 0.5.
text_size	Size of chart text. Defaults to 9.

xmr_chart2	<i>Generate the XMR chart for XMR data.</i>
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Description

Useful for diagnostics on xmr, and just visualizing the data. Now works with more tidy workflows.

Usage

```
xmr_chart2(dataframe, time, measure, ...)
```

Arguments

dataframe	Output from xmr()
time	Time column
measure	Measure
...	Arguments to pipe to xmr_chart()

xmr2	<i>Tidyeval Version of xmr()</i>
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Description

Used to calculate XMR data. Now works with more tidy workflows.

Usage

```
xmr2(dataframe, measure, ...)
```

Arguments

dataframe	The dataframe or tibble to calculate from. Data must be in a tidy format. At least one variable for time and one variable for measure.
measure	The column containing the measure. Must be in numeric format.
...	Arguments to pipe to xmr

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