

Package: actisensorlog (via r-universe)

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Type Package

Title Summarize 'SensorLog'/'SensorLogger' Activity Data

Version 0.2.0

Description Provides functions for analyzing 'SensorLog'
<<https://sensorlog.berndthomas.net/>> and 'SensorLogger'
<<https://www.tszheichoi.com/sensorlogger>> data.

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Depends R (>= 4.1.0)

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lubridate, lutz, purrr, readr, tidyr

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<https://jhuwit.github.io/actisensorlog/>

BugReports <https://github.com/jhuwit/actisensorlog/issues>

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acti_convert_sensorlogger_time
<i>Convert vectors ensuring no new NA</i>

Description

Convert vectors ensuring no new NA

Usage

acti_convert_sensorlogger_time(x)

Arguments

x a vector

Value

A converted ‘vector’ the same length as ‘x’ or errors if there are introduced NAs.

acti_example_sensorlog_file

Activity/Actigraphy Example Data

Description

Activity/Actigraphy Example Data

Usage

```
acti_example_sensorlog_file()
```

Value

A file path

Examples

```
library(actiread)
acti_example_gt3x()
acti_example_cwa()
acti_example_sensorlogger_file()
```

acti_example_sensorlogger_file

Activity/Actigraphy Example Data

Description

Activity/Actigraphy Example Data

Usage

```
acti_example_sensorlogger_file()
```

Value

A file path

Examples

```
library(actiread)
acti_example_gt3x()
acti_example_cwa()
acti_example_sensorlogger_file()
```

acti_example_sensorlogger_location_file
Activity/Actigraphy Example Data

Description

Activity/Actigraphy Example Data

Usage

```
acti_example_sensorlogger_location_file()
```

Value

A file path

Examples

```
library(actiread)
acti_example_gt3x()
acti_example_cwa()
acti_example_sensorlogger_file()
```

acti_process_sensorlog
Process SensorLog Data

Description

Process SensorLog Data

Usage

```
acti_process_sensorlog(
  data,
  lat = NULL,
  lon = NULL,
  dist_fun = geosphere::distVincentyEllipsoid,
  expected_timezone = NULL,
  check_data = TRUE,
  remove_cols = c("file", "index"),
  verbose = FALSE,
  ...,
  distance_cutoff = 180
)
```

```

acti_check_duplicate_times(data, remove_cols = c("file", "index"))

acti_calculate_distance(
  data,
  lat,
  lon,
  distance_cutoff = 180,
  dist_fun = geosphere::distVincentyEllipsoid,
  fast = TRUE
)

```

Arguments

data	A SensorLog-style data.frame
lat	Latitude of central point (e.g. home) to calculate distance. Set to NULL if distance should not be calculated.
lon	Longitude of central point (e.g. home) to calculate distance Set to NULL if distance should not be calculated.
dist_fun	Distance function to pass to geosphere::distm
expected_timezone	Expected Timezone based on the latitude/longitude of the data based on the lat/lon values from SensorLog (e.g. "America/New_York"). Set to NULL if not to be checked.
check_data	should acti_check_duplicate_times be run?
remove_cols	columns to remove from duplicate checking in acti_check_duplicate_times . Default is c("file", "index")
verbose	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
...	additional arguments to pass to acti_sensorlog_process_time , including apply_tz and tz
distance_cutoff	Distance in meters to consider within home, in meters
fast	Calculate distance on the distinct latitude/longitude, not the full data. Should be used unless some precision looks wrong.

Value

A data.frame of transformed data

Note

This calls [acti_check_duplicate_times](#), [acti_calculate_distance](#), and [acti_sensorlog_process_time](#)

Examples

```

sensorlog = suppressMessages(
  actiread::acti_read_sensorlog(actiread::acti_example_sensorlog_file())
)
sensorlog = dplyr::distinct(sensorlog, time, .keep_all = TRUE)
result = acti_process_sensorlog(
  sensorlog,
  lat = 39.3,
  lon = -76.6,
  expected_timezone = "America/New_York",
  check_data = FALSE
)
head(result)
minute = acti_minute_sensorlog(result)
summary = acti_summarize_sensorlog(result)

```

acti_read_sensorlog	<i>Read SensorLog Data</i>
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Description

Read SensorLog Data

Usage

```
acti_read_sensorlog(file, verbose = FALSE, robust = FALSE)
```

Arguments

file	A character vector of SensorLog files, usually from unzipping the file
verbose	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
robust	if TRUE then acti_rewrite_sensorlog_csv is run on the data to try to fix any shifts with the data.

Value

A data.frame of data

Examples

```

library(actiread)
file = acti_example_sensorlog_file()
df = acti_read_sensorlog(file)
head(df)

```

`acti_read_sensorlogger`*Read SensorLogger Data*

Description

Read SensorLogger Data

Usage`acti_read_sensorlogger(file, verbose = FALSE, ...)`**Arguments**

<code>file</code>	A character vector of SensorLogger files, usually from unzipping the file, or a zip file of SensorLogger files
<code>verbose</code>	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
<code>...</code>	additional arguments to pass to <code>readr::read_csv()</code> . If <code>verbose = FALSE</code> , then <code>progress = FALSE</code> and <code>show_col_types = FALSE</code> , unless otherwise overridden

Value

A data.frame of data

`acti_read_sensorlogger_general`*Read SensorLogger Data*

Description

Read SensorLogger Data

Usage`acti_read_sensorlogger_general(file, ..., verbose = FALSE)`**Arguments**

<code>file</code>	A character vector of SensorLogger files, usually from unzipping the file, or a zip file of SensorLogger files
<code>...</code>	additional arguments to pass to <code>readr::read_csv()</code> . If <code>verbose = FALSE</code> , then <code>progress = FALSE</code> and <code>show_col_types = FALSE</code> , unless otherwise overridden
<code>verbose</code>	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.

Value

A data.frame of data

acti_read_sensorlogger_location
Read SensorLogger Data

Description

Read SensorLogger Data

Usage

```
acti_read_sensorlogger_location(file, ...)
```

Arguments

file	A character vector of SensorLogger files, usually from unzipping the file, or a zip file of SensorLogger files
...	additional arguments to pass to <code>readr::read_csv()</code> . If verbose = FALSE, then progress = FALSE and show_col_types = FALSE, unless otherwise overridden

Value

A data.frame of data

acti_rewrite_sensorlog_csv
Rewrite a CSV that may have issues with export from SensorLog

Description

Rewrite a CSV that may have issues with export from SensorLog

Usage

```
acti_rewrite_sensorlog_csv(
  file,
  outfile = tempfile(fileext = ".csv"),
  verbose = FALSE
)
```

Arguments

file	Input CSV file
outfile	Output CSV file
verbose	Print Diagnostic messages

Value

A file path to the new CSV

Examples

```
sl_file = actiread::acti_example_sensorlog_file()
tfile = tempfile()
files = utils::unzip(sl_file, exdir = tfile)
result = actiread::acti_rewrite_sensorlog_csv(files)
```

acti_sensorlog_csv_colnames_mapping
Read SensorLog Data

Description

Read SensorLog Data

Usage

```
acti_sensorlog_csv_colnames_mapping()
```

Value

A data.frame of data

Examples

```
library(actiread)
file = acti_example_sensorlog_file()
df = acti_read_sensorlog(file)
head(df)
```

`acti_sensorlog_csv_spec`*Read SensorLog Data*

Description

Read SensorLog Data

Usage

```
acti_sensorlog_csv_spec()
```

Value

A data.frame of data

Examples

```
library(actiread)
file = acti_example_sensorlog_file()
df = acti_read_sensorlog(file)
head(df)
```

`acti_sensorlog_process_time`*Process the Time data from SensorLog and Compare to an Expected Timezone*

Description

Process the Time data from SensorLog and Compare to an Expected Timezone

Usage

```
acti_sensorlog_process_time(
  data,
  expected_timezone = "America/New_York",
  tz = "GMT",
  apply_tz = TRUE,
  check_data = TRUE,
  verbose = FALSE,
  ...
)
```

Arguments

<code>data</code>	A SensorLog-style <code>data.frame</code>
<code>expected_timezone</code>	Expected Timezone based on the latitude/longitude of the data based on the lat/lon values from SensorLog (e.g. "America/New_York"). Set to NULL if not to be checked.
<code>tz</code>	timezone to project the data into. Keeping as GMT and should have same value for <code>apply_tz</code> to agree (caution: always check data) with ActiGraph, passed to lubridate::as_datetime .
<code>apply_tz</code>	Apply the timezone from the timezone shift from the timezone, e.g. "2025-03-11T14:44:11-04:00" becomes "2025-03-11T18:44:11" if <code>apply_tz</code> = TRUE, but "2025-03-11T14:44:11" if <code>apply_tz</code> = FALSE.
<code>check_data</code>	if TRUE any duplicates for time are checked for.
<code>verbose</code>	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
<code>...</code>	additional arguments to pass to lutz::tz_lookup_coords()

Value

A `data.frame`

`acti_sensorlogger_location_colnames_mapping`
Read SensorLogger Data

Description

Read SensorLogger Data

Usage

```
acti_sensorlogger_location_colnames_mapping()
```

Value

A `data.frame` of data

acti_sensorlogger_location_spec
Read SensorLogger Data

Description

Read SensorLogger Data

Usage

acti_sensorlogger_location_spec()

Value

A data.frame of data

acti_summarize_sensorlog
Summarize SensorLog Data

Description

Summarize SensorLog Data

Usage

acti_summarize_sensorlog(data)

acti_summarise_sensorlog(data)

acti_minute_sensorlog(data, seconds = 60L)

acti_summarize_distance_sensorlog(data)

Arguments

data	A SensorLog-style data.frame, usually output from acti_process_sensorlog
seconds	integer of the number of seconds to summarize the data for the "minute" level. Usually 1 minute/60 seconds. For acti_summarize_distance_sensorlog, summarization is done depending on how the data is grouped.

Value

The data.frame with the summarized data for each date

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