

Package ‘actisensorlog’

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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)

Suggests testthat, covr, knitr, rmarkdown

Encoding UTF-8

Imports actibase, actiread, assertthat, dplyr, geosphere, janitor,
lubridate, lutz, purrr, readr, tidyr

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URL <https://github.com/jhuwit/actisensorlog>,
<https://jhuwit.github.io/actisensorlog/>

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

NeedsCompilation no

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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_sensorlogger_file
<i>Activity/Actigraphy Example Data</i>

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_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_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

<code>data</code>	A SensorLog-style <code>data.frame</code>
<code>lat</code>	Latitude of central point (e.g. home) to calculate distance. Set to NULL if distance should not be calculated.
<code>lon</code>	Longitude of central point (e.g. home) to calculate distance Set to NULL if distance should not be calculated.
<code>dist_fun</code>	Distance function to pass to geosphere::distm
<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>check_data</code>	should acti_check_duplicate_times be run?
<code>remove_cols</code>	columns to remove from duplicate checking in acti_check_duplicate_times . Default is <code>c("file", "index")</code>
<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 acti_sensorlog_process_time , including <code>apply_tz</code> and <code>tz</code>
<code>distance_cutoff</code>	Distance in meters to consider within home, in meters
<code>fast</code>	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 *Read SensorLog Data*

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

file	A character vector of SensorLogger files, usually from unzipping the file, or a zip file of SensorLogger files
verbose	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
...	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
<i>Read SensorLogger Data</i>

Description

Read SensorLogger Data

Usage

acti_read_sensorlogger_general(file, ..., verbose = FALSE)

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 <code>verbose = FALSE</code> , then <code>progress = FALSE</code> and <code>show_col_types = FALSE</code> , unless otherwise overridden
verbose	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
<i>Read SensorLogger Data</i>

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
<i>Rewrite a CSV that may have issues with export from SensorLog</i>

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_sensorlogger_location_colnames_mapping
<i>Read SensorLogger Data</i>

Description

Read SensorLogger Data

Usage

```
acti_sensorlogger_location_colnames_mapping()
```

Value

A data.frame of data

acti_sensorlogger_location_spec
<i>Read SensorLogger Data</i>

Description

Read SensorLogger Data

Usage

```
acti_sensorlogger_location_spec()
```

Value

A data.frame of data

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

data	A SensorLog-style data.frame
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.
tz	timezone to project the data into. Keeping as GMT and should have same value for apply_tz to agree (caution: always check data) with ActiGraph, passed to lubridate::as_datetime .
apply_tz	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 apply_tz = TRUE, but "2025-03-11T14:44:11" if apply_tz = FALSE.
check_data	if TRUE any duplicates for time are checked for.
verbose	print diagnostic messages. Either logical or integer, where higher values are higher levels of verbosity.
...	additional arguments to pass to lutz::tz_lookup_coords()

Value

A data.frame

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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