Package 'BIKEgait'

February 12, 2026

Type Package

Title Gait Event Detection Through Native Python Bridge

Version 0.1.0

Description Cross-language wrapper for BIKEgait native-accelerated gait event detection.
The package calls the Python module 'BIKEgait' through 'reticulate'
and exposes method selection and event detection from structured frames.

License Apache License (>= 2)

Encoding UTF-8

LazyData true

Imports jsonlite,
reticulate

Suggests testthat (>= 3.0.0)

Config/testthat/edition 3

RoxygenNote 7.3.2

Contents

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gait_detect *Detect Gait Events From Structured Frames*

Description

Bridge function calling `BIKEgait.detect_events_structured` via reticulate.

Usage

```
gait_detect(method, frames, fps = 100, module = "BIKEgait", units = list(position = "mm", angles = "deg"
```

Arguments

method	Detector method name.
frames	List of structured frame objects.
fps	Sampling frequency (Hz).
module	Python module name. Defaults to "BIKEgait".
units	Named list with position ("mm"/"m") and angles ("deg"/"rad").

Value

Named list with meta, heel_strikes, toe_offs, and cycles.

Examples

```
## Not run:
library(BIKEgait)

frames <- list(
  list(
    frame_index = 0L,
    left_hip_angle = 5,
    right_hip_angle = 5,
    left_knee_angle = 10,
    right_knee_angle = 10,
    left_ankle_angle = 0,
    right_ankle_angle = 0,
    landmark_positions = list(
      left_knee = c(0, 0, 0),
      right_knee = c(0, 0, 0),
      left_ankle = c(0, 0, 0),
      right_ankle = c(0, 0, 0)
    )
  )
)

res <- gait_detect(
  method = "bayesian_bis",
  frames = frames,
  fps = 100,
  units = list(position = "mm", angles = "deg")
)

str(res$meta)

## End(Not run)
```

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gait_install_python   *Install Python Backend (BIKEgait)*

Description

Convenience helper to install the BIKEgait Python backend package from R.

Usage

```
gait_install_python(package = "BIKEgait", envname = NULL, pip = TRUE)
```

Arguments

package	Python package name.
envname	Optional reticulate environment name.
pip	Logical, whether to use pip.

Value

Invisible TRUE on success.

Examples

```
## Not run:
library(BIKEgait)
gait_install_python()

## End(Not run)
```

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gait_methods   *List Available Detection Methods*

Description

List methods exposed by the BIKEgait backend.

Usage

```
gait_methods(module = "BIKEgait")
```

Arguments

module	Python module name. Defaults to "BIKEgait".

Value

Character vector of method names.

Examples

```
## Not run:
library(BIKEgait)
gait_methods()

## End(Not run)
```

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