

Package ‘tdcmStan’

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Type Package

Title Automating the Creation of Stan Code for TDCMs

Version 1.0.0

Description A collection of functions for automatically creating 'Stan' code for transition diagnostic classification models (TDCMs) as they are defined by Madison and Bradshaw (2018) <[DOI:10.1007/s11336-018-9638-5](https://doi.org/10.1007/s11336-018-9638-5)>. This package supports automating the creation of 'Stan' code for TDCMs, fungible TDCMs (i.e., TDCMs with item parameters constrained to be equal across all items), and multi-threaded TDCMs.

License GPL (>= 2)

Imports dplyr (>= 1.0.7), glue (>= 1.4.2), magrittr (>= 2.0.1), rlang (>= 0.4.11), stringr (>= 1.4.0), tibble (>= 3.1.5), tidyr (>= 1.1.4)

Suggests readr (>= 2.0.0), testthat (>= 3.0.4)

Depends R (>= 3.5.0)

Encoding UTF-8

RoxygenNote 7.1.2

NeedsCompilation no

Author Jeffrey Hoover [aut, cre, cph]
(<<https://orcid.org/0000-0002-0276-0308>>),
W. Jake Thompson [aut] (<<https://orcid.org/0000-0001-7339-0300>>)

Maintainer Jeffrey Hoover <jeffrey.c.hoover@gmail.com>

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create_fng_stan_tdc *Creating Fungible TDCM Stan Code*

Description

Automating the creation of fungible Stan code for a TDCM.

Usage

```
create_fng_stan_tdc(q_matrix, profs)
```

Arguments

`q_matrix` A tibble containing the assessment Q-matrix.
`profs` A tibble of the possible attribute mastery profiles.

Value

'stan_code' A list containing the text for the Stan code blocks.

Examples

```
qmatrix = tibble::tibble(att_1 = c(1, 0, 1, 0, 1, 1), att_2 = c(0, 1, 0, 1, 1, 1))  
possible_profiles = tibble::tibble(att_1 = c(0, 1, 0, 1), att_2 = c(0, 1, 0, 1))  
create_fng_stan_tdc(q_matrix = qmatrix, profs = possible_profiles)
```

create_stan_tdc *Creating TDCM Stan Code*

Description

Automating the creation of Stan code for a TDCM.

Usage

```
create_stan_tdc(q_matrix, profs)
```

Arguments

`q_matrix` A tibble containing the assessment Q-matrix.
`profs` A tibble of the possible attribute mastery profiles.

Value

'stan_code' A list containing the text for the Stan code blocks.

Examples

```
qmatrix = tibble::tibble(att_1 = c(1, 0, 1, 0, 1, 1), att_2 = c(0, 1, 0, 1, 1, 1))
possible_profiles = tibble::tibble(att_1 = c(0, 1, 0, 1), att_2 = c(0, 1, 0, 1))
create_stan_tdc(qmatrix = qmatrix, profs = possible_profiles)
```

```
create_threaded_stan_tdc
```

Creating Multi-Threaded TDCM Stan Code

Description

Automating the creation of multi-threaded Stan code for a TDCM.

Usage

```
create_threaded_stan_tdc(qmatrix, profs)
```

Arguments

qmatrix	A tibble containing the assessment Q-matrix.
profs	A tibble of the possible attribute mastery profiles.

Value

‘stan_code‘ A list containing the text for the Stan code blocks.

Examples

```
qmatrix = tibble::tibble(att_1 = c(1, 0, 1, 0, 1, 1), att_2 = c(0, 1, 0, 1, 1, 1))
possible_profiles = tibble::tibble(att_1 = c(0, 1, 0, 1), att_2 = c(0, 1, 0, 1))
create_threaded_stan_tdc(qmatrix = qmatrix, profs = possible_profiles)
```

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