

Package: plskit (via r-universe)

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Type Package

Title PLS Regression with Modern Inference

Version 0.7.2

Description PLS regression with modern inference: the 'split_exact' and 'split_nb' confirmatory tests and rotation-invariant subsampling confidence intervals. R wrapper around the Rust 'plskit' engine via 'extendr'.

License GPL (>= 3)

Encoding UTF-8

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pls1_confirmatory_test

Confirmatory test of a PLS1 signal

Description

R binding of `pls1_confirmatory_test`. Arguments, defaults and result fields are documented once, in the canonical reference: section "3.1 Confirmatory omnibus test" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_confirmatory_test(
  X,
  y,
  k = 1L,
  test_method = "auto",
  args = NULL,
  ci = FALSE,
  n_boot = NULL,
  m_rate = NULL,
  level = NULL,
  max_failure_rate = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  verbose = FALSE,
  weights = NULL,
```

```

    max_skip_rate = NULL
)

```

Arguments

X, y, k, test_method, args, ci, n_boot, m_rate, level, max_failure_rate,
pre_standardized, seed, verbose, weights, max_skip_rate
See the canonical reference.

Value

A list of class c("confirmatory_test_result", "plskit_result").

pls1_find_k_optimal	<i>Choose k for PLS1 by cross-validation or BIC</i>
---------------------	---

Description

R binding of pls1_find_k_optimal. Arguments, defaults and result fields are documented once, in the canonical reference: section "2.3 K-selection" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```

pls1_find_k_optimal(
  X,
  y,
  k_max,
  selector = "r2_se",
  diagnostic = NULL,
  args = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  verbose = FALSE,
  weights = NULL
)

```

Arguments

X, y, k_max, selector, diagnostic, args, pre_standardized, seed, verbose,
weights
See the canonical reference.

Value

A list of class c("find_k_optimal_result", "plskit_result").

pls1_find_k_sequence *Choose k for PLS1 by sequential testing*

Description

R binding of pls1_find_k_sequence. Arguments, defaults and result fields are documented once, in the canonical reference: section "2.3 K-selection" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_find_k_sequence(
  X,
  y,
  k_max,
  test_method = "auto",
  alpha = NULL,
  args = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  verbose = FALSE,
  weights = NULL
)
```

Arguments

X, y, k_max, test_method, alpha, args, pre_standardized, seed, verbose, weights

See the canonical reference.

Value

A list of class c("find_k_sequence_result", "plskit_result").

pls1_fit *Fit a PLS1 model*

Description

R binding of pls1_fit. Arguments, defaults and result fields are documented once, in the canonical reference: section "2.1 Fit" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_fit(
  X,
  y,
  k = 1L,
  k_max = NULL,
  find_k_args = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  weights = NULL
)
```

Arguments

X, y, k, k_max, find_k_args, pre_standardized, seed, weights
See the canonical reference.

Value

A list of class c("pls1_result", "plskit_result").

pls1_perm_alpha	<i>Dual coefficients of PLS1 fits from a Gram matrix</i>
-----------------	--

Description

R binding of pls1_perm_alpha. Arguments, defaults and result fields are documented once, in the canonical reference: section "3.5 Dual coefficients from a Gram matrix" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_perm_alpha(gram, Y, k = 1L, n_features)
```

Arguments

gram, Y, k, n_features
See the canonical reference.

Value

A list of class c("perm_alpha_result", "plskit_result").

pls1_perm_null	<i>Permutation null of PLS1 coefficients</i>
----------------	--

Description

R binding of `pls1_perm_null`. Arguments, defaults and result fields are documented once, in the canonical reference: section "3.3 Permutation-null engine" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_perm_null(  
  X,  
  y,  
  k,  
  n_perm = NULL,  
  return_perm_matrix = FALSE,  
  pre_standardized = FALSE,  
  seed = NULL,  
  verbose = FALSE,  
  weights = NULL  
)
```

Arguments

`X`, `y`, `k`, `n_perm`, `return_perm_matrix`, `pre_standardized`, `seed`, `verbose`,
`weights`

See the canonical reference.

Value

A list of class `c("perm_null_result", "plskit_result")`.

pls1_predict	<i>Predict from a fitted PLS1 model</i>
--------------	---

Description

R binding of `pls1_predict`. Arguments, defaults and result fields are documented once, in the canonical reference: section "2.2 Predict" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_predict(model, X_new)
```

Arguments

model, X_new See the canonical reference.

Value

A numeric vector.

pls1_rotation_stability

Rotation-stability diagnostic for PLS1

Description

R binding of pls1_rotation_stability. Arguments, defaults and result fields are documented once, in the canonical reference: section "4.2 Rotation-stability diagnostic" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls1_rotation_stability(
  X,
  y,
  k,
  rotation_method = "varimax",
  rotation_args = NULL,
  L = NULL,
  n_boot = NULL,
  m_rate = NULL,
  level = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  verbose = FALSE,
  weights = NULL,
  max_skip_rate = NULL
)
```

Arguments

X, y, k, rotation_method, rotation_args, L, n_boot, m_rate, level,
pre_standardized, seed, verbose, weights, max_skip_rate

See the canonical reference.

Value

A list of class c("rotation_stability_result", "plskit_result").

pls3_confirmatory_test

Confirmatory test of a PLS3 signal

Description

R binding of pls3_confirmatory_test. Arguments, defaults and result fields are documented once, in the canonical reference: section "3.4 Confirmatory PLS3 omnibus test" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls3_confirmatory_test(
  X,
  Y,
  k = 1L,
  test_method = "auto",
  args = NULL,
  pre_standardized_X = FALSE,
  pre_standardized_Y = FALSE,
  seed = NULL,
  verbose = FALSE
)
```

Arguments

X, Y, k, test_method, args, pre_standardized_X, pre_standardized_Y, seed, verbose

See the canonical reference.

Value

A list of class c("confirmatory_test_result", "plskit_result").

pls3_fit

Fit a PLS3 (PLS-SVD) model

Description

R binding of pls3_fit. Arguments, defaults and result fields are documented once, in the canonical reference: section "2c.1 Fit" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls3_fit(
  X,
  Y,
  k = 1L,
  pre_standardized_X = FALSE,
  pre_standardized_Y = FALSE,
  weights = NULL
)
```

Arguments

X, Y, k, pre_standardized_X, pre_standardized_Y, weights
See the canonical reference.

Value

A list of class c("pls3_result", "plskit_result").

pls3_transform	<i>Project new data onto a fitted PLS3 model</i>
----------------	--

Description

R binding of pls3_transform. Arguments, defaults and result fields are documented once, in the canonical reference: section "2c.2 Transform" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
pls3_transform(model, X_new = NULL, Y_new = NULL, which = "both")
```

Arguments

model, X_new, Y_new, which
See the canonical reference.

Value

A list of class c("pls3_scores", "plskit_result").

plssvd_fit	<i>Fit a PLS-SVD model (alias of pls3_fit)</i>
------------	--

Description

R binding of `plssvd_fit`. Arguments, defaults and result fields are documented once, in the canonical reference: section "2c.1 Fit" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
plssvd_fit(
  X,
  Y,
  k = 1L,
  pre_standardized_X = FALSE,
  pre_standardized_Y = FALSE,
  weights = NULL
)
```

Arguments

`X`, `Y`, `k`, `pre_standardized_X`, `pre_standardized_Y`, `weights`
See the canonical reference.

Value

A list of class `c("pls3_result", "plskit_result")`.

plssvd_transform	<i>Project new data onto a fitted PLS-SVD model</i>
------------------	---

Description

R binding of `plssvd_transform`. Arguments, defaults and result fields are documented once, in the canonical reference: section "2c.2 Transform" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
plssvd_transform(model, X_new = NULL, Y_new = NULL, which = "both")
```

Arguments

`model`, `X_new`, `Y_new`, `which`
See the canonical reference.

Value

A list of class `c("pls3_scores", "plskit_result")`.

```
preprocess
```

Standardize X and Y

Description

R binding of preprocess. Arguments, defaults and result fields are documented once, in the canonical reference: section "1. Preprocessing" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
preprocess(X = NULL, Y = NULL, weights = NULL)
```

Arguments

X, Y, weights See the canonical reference.

Value

A list of class `c("preprocess_result", "plskit_result")`.

```
rotate
```

Rotate PLS1 weights or a fitted PLS1 model

Description

R binding of rotate. Arguments, defaults and result fields are documented once, in the canonical reference: section "4.1 Rotation" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
rotate(model_or_W, method = "varimax", L = NULL, args = NULL)
```

Arguments

model_or_W, method, L, args
 See the canonical reference.

Value

A list of class `c("rotate_result", "plskit_result")`, or `c("pls1_result", "plskit_result")`, depending on the input.

split_nb_gate	<i>Query the split_nb auto-gate</i>
---------------	-------------------------------------

Description

R binding of split_nb_gate. Arguments, defaults and result fields are documented once, in the canonical reference: section "3.2 Auto-gate query" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
split_nb_gate(X, weights = NULL)
```

Arguments

X, weights See the canonical reference.

Value

A list of class c("split_nb_gate_result", "plskit_result").

splsl_find_k_optimal	<i>Choose k for sPLS1 by cross-validation or BIC</i>
----------------------	--

Description

R binding of splsl_find_k_optimal. Arguments, defaults and result fields are documented once, in the canonical reference: section "2b.3 K-selection at fixed keep" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
splsl_find_k_optimal(
  X,
  y,
  k_max,
  keep,
  selector = "r2_se",
  diagnostic = NULL,
  args = NULL,
  pre_standardized = FALSE,
  seed = NULL,
  verbose = FALSE,
  weights = NULL
)
```

Arguments

X, y, k_max, keep, selector, diagnostic, args, pre_standardized, seed, verbose, weights

See the canonical reference.

Value

A list of class c("find_k_optimal_result", "plskit_result").

spls1_find_k_sequence *Choose k for sPLS1 by sequential testing*

Description

R binding of spls1_find_k_sequence. Arguments, defaults and result fields are documented once, in the canonical reference: section "2b.3 K-selection at fixed keep" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
spls1_find_k_sequence(  
  X,  
  y,  
  k_max,  
  keep,  
  test_method = "auto",  
  alpha = NULL,  
  args = NULL,  
  pre_standardized = FALSE,  
  seed = NULL,  
  verbose = FALSE,  
  weights = NULL  
)
```

Arguments

X, y, k_max, keep, test_method, alpha, args, pre_standardized, seed, verbose, weights

See the canonical reference.

Value

A list of class c("find_k_sequence_result", "plskit_result").

spls1_find_keep_optimal

Choose the sPLS1 keep-count by cross-validation

Description

R binding of spls1_find_keep_optimal. Arguments, defaults and result fields are documented once, in the canonical reference: section "2b.2 Keep-count tuning" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
spls1_find_keep_optimal(
  X,
  y,
  k,
  args = NULL,
  seed = NULL,
  verbose = FALSE,
  weights = NULL
)
```

Arguments

X, y, k, args, seed, verbose, weights
See the canonical reference.

Value

A list of class c("find_keep_optimal_result", "plskit_result").

spls1_fit

Fit a sparse PLS1 model

Description

R binding of spls1_fit. Arguments, defaults and result fields are documented once, in the canonical reference: section "2b.1 Sparse fit" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
spls1_fit(X, y, k, keep, pre_standardized = FALSE, weights = NULL)
```

Arguments

X, y, k, keep, pre_standardized, weights
See the canonical reference.

Value

A list of class c("pls1_result", "plskit_result").

spls3_fit	<i>Fit a sparse PLS3 model</i>
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Description

R binding of spls3_fit. Arguments, defaults and result fields are documented once, in the canonical reference: section "2c.3 Sparse fit" of <https://github.com/pawlenartowicz/plskit/blob/main/docs/python/api.md>.

Usage

```
spls3_fit(  
  X,  
  Y,  
  k,  
  keep_X,  
  keep_Y,  
  pre_standardized_X = FALSE,  
  pre_standardized_Y = FALSE,  
  max_iter = NULL,  
  tol = NULL,  
  weights = NULL  
)
```

Arguments

X, Y, k, keep_X, keep_Y, pre_standardized_X, pre_standardized_Y, max_iter,
tol, weights
See the canonical reference.

Value

A list of class c("pls3_result", "plskit_result").

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