Package 'metaSVM'

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Type Package

Title Meta-analytic Framework Based on Support Vector Machine

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Description This package contains functions for metaSVM.

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LazyData TRUE

Imports foreach, MCMCpack, glmnet, penalized, e1071

URL https://sites.google.com/site/sunghwanshome/

NeedsCompilation no

R topics documented:

`iSVM` *Integrated Support Vector Machine*

Description

This function develops an estiamation and variable selection algorithm for meta-analytic framework based on the support vector machine (Meta-SVM).

Usage

```
iSVM(sm, is.constant=TRUE)
```

Arguments

`sm`	A list generated from `SETUP`
`is.constant`	if TRUE, an intercept is included in the model; default is TRUE.

Details

The proposed Meta-SVM is motivated by the recent meta-analytic method exploiting the logistic regression. We develop a novel implementation strategy in spirit of Newton's method in the Meta-SVM. For the most part, the objective function of SVM is formed with the hinge loss and a range of penalty terms (e.g., L1-lasso, group lasso and etcs). We particularly adopts the sparse group lasso enabling to capture both common and study specific genetic signals among all studies.

Value

A list contains information on the final model

Author(s)

SungHwan Kim, JungJun Lee, Jae-Hwan Jhong, Ja-Yong Koo

See Also

SETUP

SETUP *Setup a basic list*

Description

This function generates a basic list from data sets to perform meta-SVM.

Usage

```
SETUP(X, Y, lambda1, lambda2)
```

Arguments

X	The predictor variable
Y	The response variable
lambda1	A tuning parameter controls the first penalty term (group lasso)
lambda2	A tuning parameter controls the second penalty term (L1-lasso)

Value

sm	A list contains a basic information about model.

Author(s)

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See Also

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