Package ‘CpGFilter’

Type Package

Title CpG Filtering Method Based on Intra-Class Correlation Coefficients

Version 1.1

Date 2017-08-23

Author Jun Chen <chen.jun2@mayo.edu>

Maintainer Jun Chen <chen.jun2@mayo.edu>

Description Filter CpGs based on Intra-class Correlation Coefficients (ICCs) when replicates are available. ICCs are calculated by fitting linear mixed effects models to all samples including the un-replicated samples. Including the large number of un-replicated samples improves ICC estimates dramatically. The method accommodates any replicate design.

License GPL-3

Depends R (>= 3.1.0)

Imports stats, matrixStats

Encoding UTF-8

NeedsCompilation no

Repository CRAN

Date/Publication 2017-08-23 22:09:07 UTC

R topics documented:

CpGFilterICC ......................................................... 2

Index 3
CpGFilterICC

CpG filtering method based on intra-class correlation coefficients.

Description

Filter CpGs based on Intra-class Correlation Coefficients (ICCs). ICCs are calculated by fitting linear mixed effects models to all samples including the un-replicated samples. Including the large number of un-replicated samples improves ICC estimates dramatically. The method accommodates any replicate design.

Usage

CpGFilterICC(dat, rep.design, REML = FALSE, logit.transform = TRUE, verbose = TRUE)

Arguments

dat  a matrix of CpG beta-values, row - CpG, column - sample
rep.design  a vector indicating the replicate design, it could be factor, character or numeric vectors. Example - c(1, 2, 3, 4, 4, 5, 5) OR c('S1', 'S2', 'S2', 'S2', 'S1')
REML  If TRUE, Restricted Maximum Likelihood (REML) method will be used; Otherwise, Maximum Likelihood (ML) method will be used. Default is FALSE.
logit.transform  If TRUE, beta-value will be converted into M-value; Default is TRUE.
verbose  If TRUE, print run information

Value

ICCs for all probes

Author(s)

Jun Chen

References


Examples

require(CpGFilter)
# 10 samples replicated twice, 5 samples replicated four times.
rho <- CpGFilterICC(matrix(rnorm(140*1000), 1000, 140), rep.design, logit=FALSE)
Index

*Topic **EWAS**
  CpGFilterICC, 2

*Topic **ICC**
  CpGFilterICC, 2

*Topic **LMM**
  CpGFilterICC, 2

CpGFilterICC, 2