"Test data simulation in HMTree package"

Heejung Shim

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Contents

1   Test data simulation function in HMTree package

```r
library("devtools")
install_github("shimlab/HMTree")
library("HMTree")
packageVersion("HMTree")
## [1] '0.1.0'


curve_length = 1024
model_mode = 'poisson'
##model_mode = 'gaussian'
num_groups=1
num_individuals=10
WHMT_sigma=0.5
plotfn=FALSE

set.seed(666)
res.pois = hmt_data(curve_length, model_mode, num_groups=1,num_individuals=10,
    WHMT_sigma=0.5,plotfn=FALSE)
str(res.pois)
##List of 4
## $ lambda_vec : num [1:1024] 58.3 57.7 57.1 56.5 55.9 ...
```

```
## $ lambda_diff_vec: num [1:1024] 0 0 0 0 0 0 0 0 0 0 ...
## $ data         : num [1:10, 1:1024] 63 66 63 62 50 52 55 71 57 55 ...
## $ data_mean    : num [1:1024] 59.4 60.5 58.7 59.7 55.5 53.3 52.1 52.5 51.6 54.5
        ...

curve_length = 1024
##model_mode = 'poisson'
model_mode = 'gaussian'
num_groups=1
num_individuals=10
WHMT_sigma=0.5
plotfn=FALSE

set.seed(666)
res.gaus = hmt_data(curve_length, model_mode, num_groups=1,num_individuals=10,
    WHMT_sigma=0.5,plotfn=FALSE)
str(res.gaus)
##List of 4
## $ lambda_vec   : num [1:1024] 58.3 57.7 57.1 56.5 55.9 ...
## $ lambda_diff_vec: num [1:1024] 0 0 0 0 0 0 0 0 0 0 ...
## $ data         : num [1:1024] 58.6 58.7 56.9 57.5 54.8 ...
## $ data_mean    : num [1:1024] 58.6 58.7 56.9 57.5 54.8 ...

#######################################################
## let's compare those outputs with files Or generated.
#######################################################
### You need to modify the following two lines.
setwd('/home/hjshim/d/hjshim/projects/HMTprior/HMTree_test/')
hmt.repodir.path = scan('.hmt.repodir.txt', what="")

pois.true = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _poiss.true.txt"))))
pois.mean = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _poiss.noisy.txt"))))
pois.data = t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt_poiss.
    individual.noisy.txt")))

gaus.true = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _gaussian.true.txt"))))
```

```
gaus.mean = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _gaussian.noisy.txt"))))

sum(abs(res.pois$lambda_vec - pois.true) < 0.001)
sum(abs(res.pois$data_mean - pois.mean) < 0.001)
sum(abs(res.pois$data - pois.data) < 0.001)
## [1] 1024
## [1] 1024
## [1] 10240

sum(abs(res.gaus$lambda_vec - gaus.true) < 0.001)
sum(abs(res.gaus$data_mean - gaus.mean) < 0.001)
sum(abs(res.gaus$data - gaus.mean) < 0.001)
## [1] 1024
## [1] 1024
## [1] 1024
```