07-23-2023-2

Morty

2023-07-23

```
system.time({
  alpha0 = 1
  v0 = 1
  eta = length(Y)
  result1 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)
  alpha0 = 3
  v0 = 1
  eta = length(Y)
  result2 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 5
  v0 = 1
  eta = length(Y)
  result3 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 7
  v0 = 1
  eta = length(Y)
  result4 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)



})
```

```
##    user  system elapsed
## 1489.11   19.26 1774.69
```

```
all_c1 = data.frame(Index = 1:4,
                    C_train = c(C_index(colMeans(result1$BETA),Wmat),
```

```
                              C_index(colMeans(result2$BETA),Wmat),
                              C_index(colMeans(result3$BETA),Wmat),
                              C_index(colMeans(result4$BETA),Wmat)),
                    C_test = c(C_index(colMeans(result1$BETA_test),Wmat.test),
                               C_index(colMeans(result2$BETA_test),Wmat.test),
                               C_index(colMeans(result3$BETA_test),Wmat.test),
                               C_index(colMeans(result4$BETA_test),Wmat.test)),
                    Alpha0 = c(1,3,5,7),
                    V0 = c(1,1,1,1),
                    Eta = c(1,1,1,1),
                    Accept = c(result1$accept_beta,
                               result2$accept_beta,
                               result3$accept_beta,
                               result4$accept_beta))
all_c1
```

```
##   Index   C_train    C_test Alpha0 V0 Eta    Accept
## 1     1 0.6825754 0.7340909      1  1   1 0.6250000
## 2     2 0.7900345 0.6795455      3  1   1 0.6342727
## 3     3 0.8653760 0.6545455      5  1   1 0.6272727
## 4     4 0.8593727 0.6022727      7  1   1 0.6369091
```

```
system.time({
  alpha0 = 5
  v0 = 1
  eta = length(Y)
  result5 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)
  alpha0 = 5
  v0 = 3
  eta = length(Y)
  result6 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 5
  v0 = 5
  eta = length(Y)
  result7 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 5
  v0 = 7
  eta = length(Y)
  result8 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)
```

```
})
```

```
##    user  system elapsed
## 1727.00   26.00 2367.43
```

```
##   Index   C_train    C_test Alpha0 V0 Eta    Accept
## 1     5 0.8637250 0.7068182      5  1   1 0.6388182
## 2     6 0.8247036 0.7568182      5  3   1 0.6383636
## 3     7 0.7822302 0.6886364      5  5   1 0.6363636
## 4     8 0.7582170 0.7022727      5  7   1 0.6305455
```

```
system.time({
  alpha0 = 5
  v0 = 1
  eta = length(Y)
  result9 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)
  alpha0 = 5
  v0 = 1
  eta = 2*length(Y)
  result10 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 5
  v0 = 1
  eta = 3*length(Y)
  result11 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)

  alpha0 = 5
  v0 = 1
  eta = 4*length(Y)
  result12 = MH_GP_Sampling(tti,Y,Y.test,delta,delta.test,tau,
                           A,A.all,beta0,alpha0,v0,kappa,
                           m,B,eta,K.all,
                           Wmat_option=0)



})
```

```
##    user  system elapsed
## 1593.22   28.06 2174.47
```

```
all_c3 = data.frame(Index = 9:12,
                    C_train = c(C_index(colMeans(result9$BETA),Wmat),
                                C_index(colMeans(result10$BETA),Wmat),
                                C_index(colMeans(result11$BETA),Wmat),
                                C_index(colMeans(result12$BETA),Wmat)),
                    C_test = c(C_index(colMeans(result9$BETA_test),Wmat.test),
                               C_index(colMeans(result10$BETA_test),Wmat.test),
                               C_index(colMeans(result11$BETA_test),Wmat.test),
                               C_index(colMeans(result12$BETA_test),Wmat.test)),
                    Alpha0 = c(5,5,5,5),
                    V0 = c(1,1,1,1),
                    Eta = c(1,2,3,4),
                    Accept = c(result9$accept_beta,
                               result10$accept_beta,
                               result11$accept_beta,
                               result12$accept_beta))
all_c3
```

```
##   Index   C_train    C_test Alpha0 V0 Eta    Accept
## 1     9 0.8517184 0.7318182      5  1   1 0.6246364
## 2    10 0.9040973 0.6500000      5  1   2 0.5414545
## 3    11 0.9365151 0.6977273      5  1   3 0.4455455
## 4    12 0.9366652 0.6681818      5  1   4 0.2750000
```