

A small comparison between random forests implementations in R

true

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toys data in dimension 200

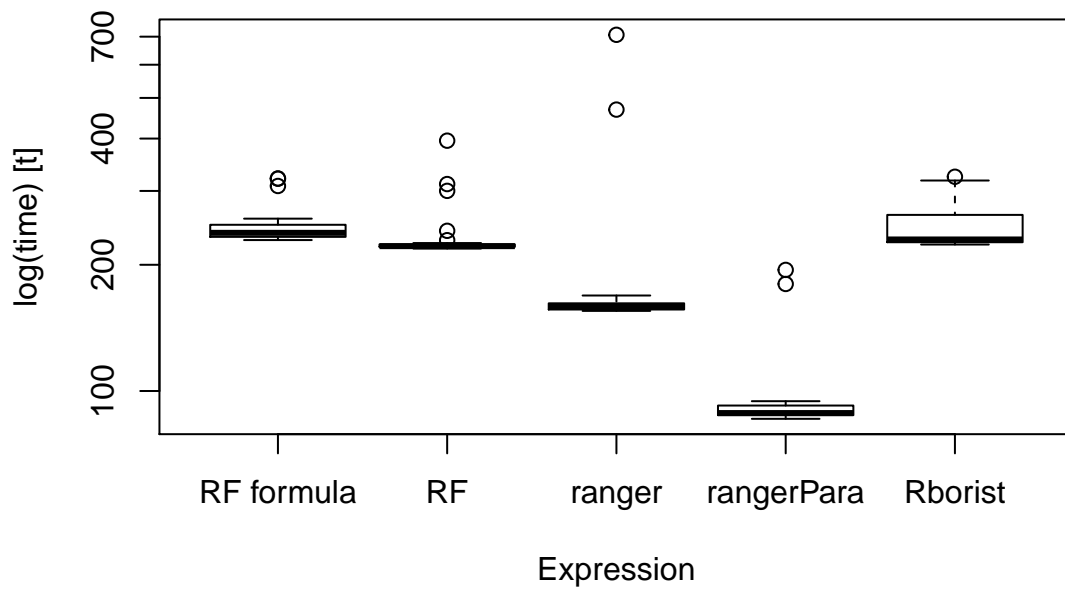
Data are available in the *VSURF* package Genuer, Poggi, and Tuleau-Malot (2018).

```
## [1] 100 200
```

```
## Factor w/ 2 levels "-1","1": 1 1 2 1 2 1 1 2 2 1 ...
```

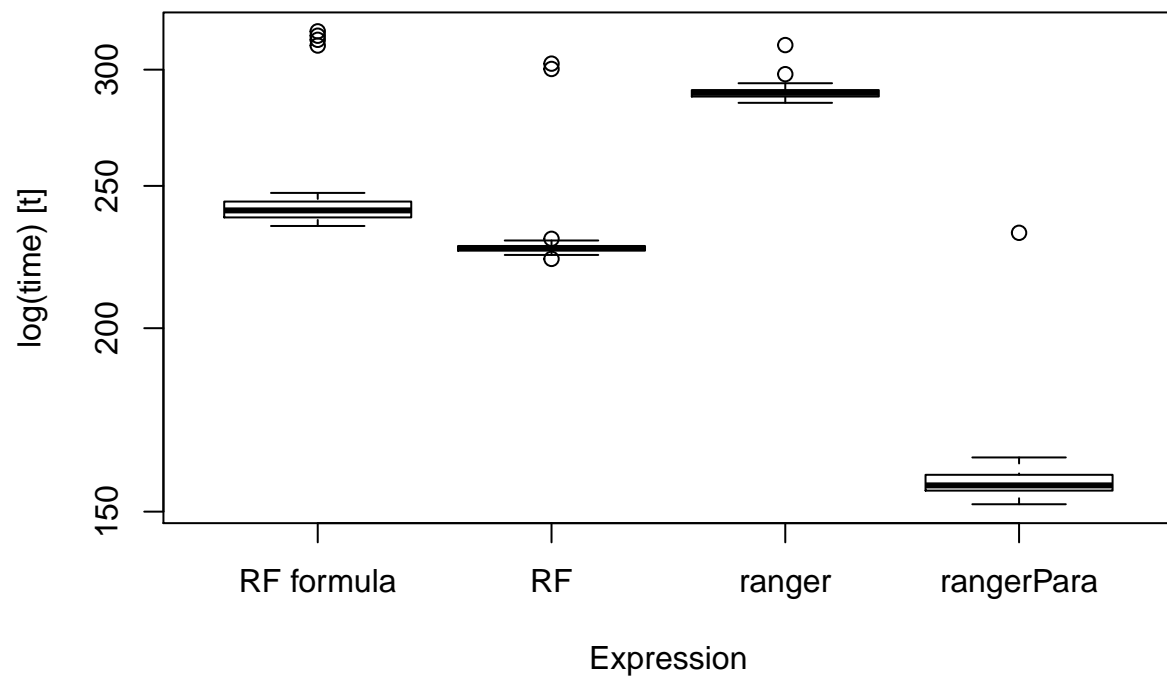
```
## Unit: milliseconds
```

```
##                                                                 expr
##      randomForest::randomForest(y ~ ., toysData, ntree = 500, mtry = mtryToys)
##      randomForest::randomForest(toys$x, toys$y, ntree = 500, mtry = mtryToys)
##      ranger::ranger(y ~ ., toysData, num.trees = 500, mtry = mtryToys,      num.threads = 1)
##      ranger::ranger(y ~ ., toysData, num.trees = 500, mtry = mtryToys,      num.threads = ncores)
##      Rborist::Rborist(toys$x, toys$y, nTree = 500, predFixed = mtryToys)
##      min      lq      mean      median      uq      max neval
## 229.06804 233.14108 248.61174 238.36094 249.1341 321.2990    25
## 218.63774 220.70807 236.05502 221.54228 223.6929 395.4043    25
## 155.24783 156.43729 193.47614 158.65012 161.8591 707.1804    25
##  85.83232  87.57082  97.12156  88.59168  92.3278 194.4447    25
## 223.51582 226.36902 249.28719 229.80600 263.0319 324.3351    25
```



With variable importance computation

```
## Unit: milliseconds
##
##           randomForest::randomForest(y ~ ., toysData, ntree = 500, importance = TRUE,
##           randomForest::randomForest(toys$x, toys$y, ntree = 500, importance = TRUE,
##           ranger::ranger(y ~ ., toysData, num.trees = 500, importance = "permutation", mtry = mtryT
## ranger::ranger(y ~ ., toysData, num.trees = 500, importance = "permutation", mtry = mtryToys, n
##      min      lq      mean  median      uq      max neval
## 234.7732 237.9437 251.9984 240.5794 243.9415 318.5754    25
## 222.9668 225.8667 232.7086 226.7962 227.5215 302.8441    25
## 284.7880 287.6148 290.1932 289.2964 290.5547 311.7978    25
## 151.7483 155.0255 159.7490 156.3003 158.9184 232.2741    25
```



Genuer, Robin, Jean-Michel Poggi, and Christine Tuleau-Malot. 2018. *VSURF: Variable Selection Using Random Forests*. <https://CRAN.R-project.org/package=VSURF>.