Evaluate testing data (regression) - Lasso

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Contents


```
## user input
project_home <- "~/EVE/examples"
project_name <- "lasso_regression2"
```

0. Load Data

```
## 300 of samples were used
```

```
## 101 of full features
```

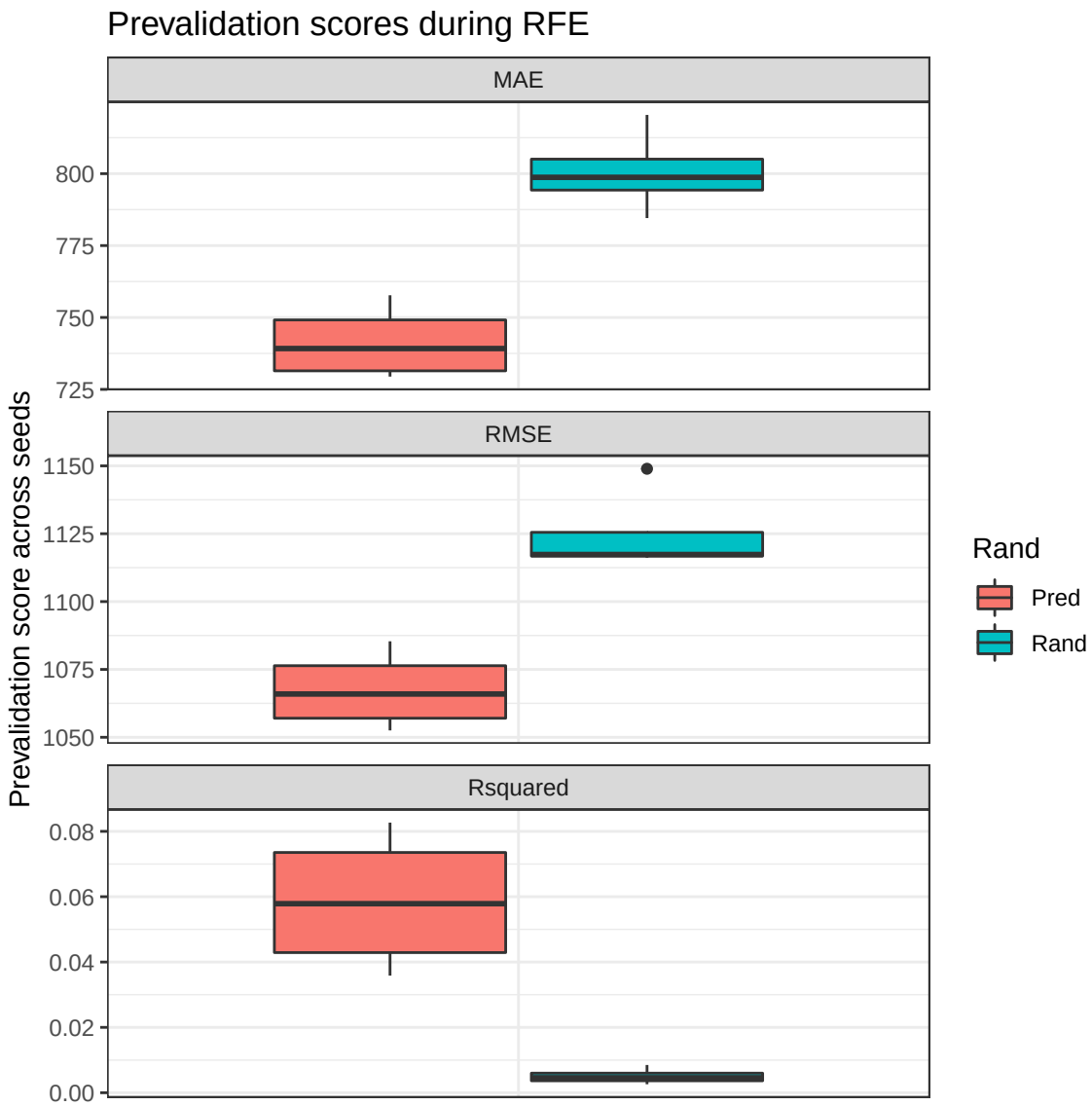
```
## 4 runs, each run contains 5 CVs.
```

```
## os_time :
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     0.0   182.8   480.0   889.4  1221.2  7125.0
```

run with lasso.r.

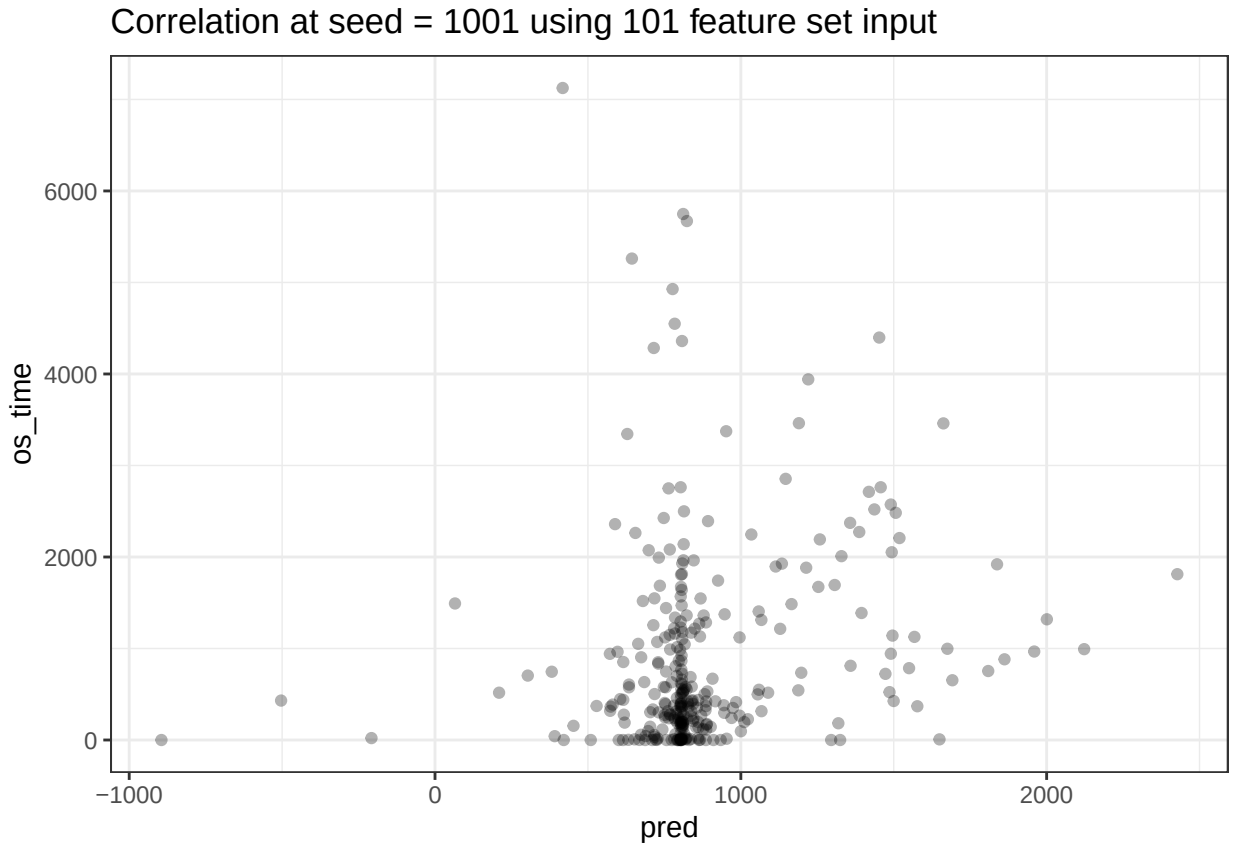
1. Scores



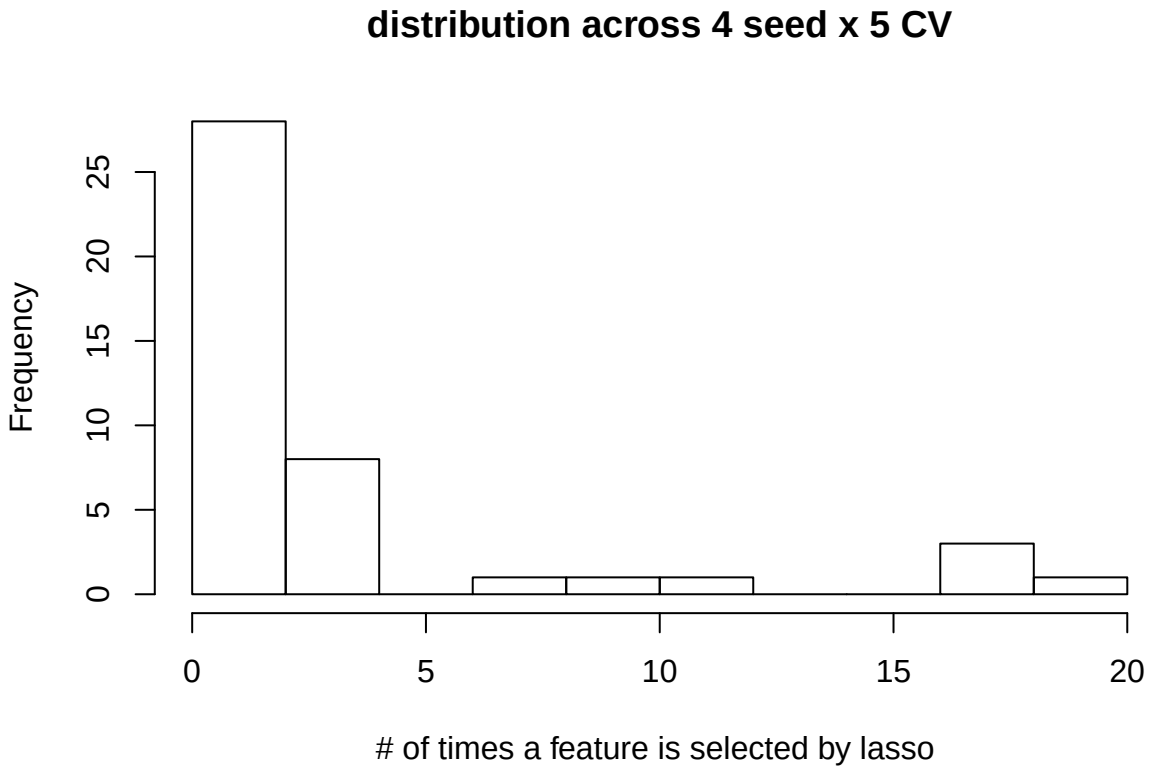
'Pred' compares the actual CV prediction with observed value. 'Rand' compares permuted CV prediction with observed to mimic random prediction.

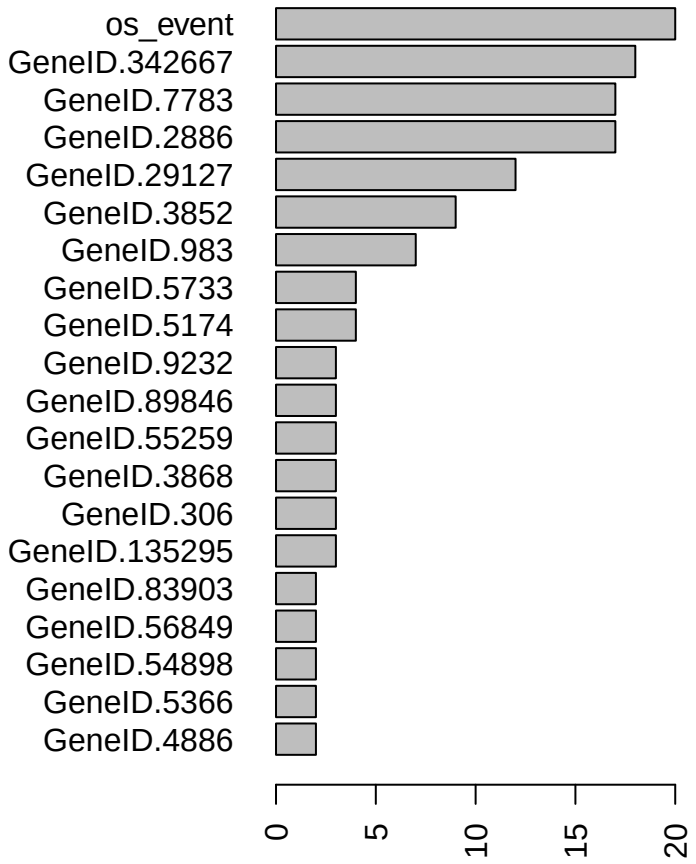
correlation

```
##
##
## Table: Averaged pearson correlation across seeds
##
##    cor.avg     cor.sdt
## ----------  ----------
##  0.2387742   0.0455151
```



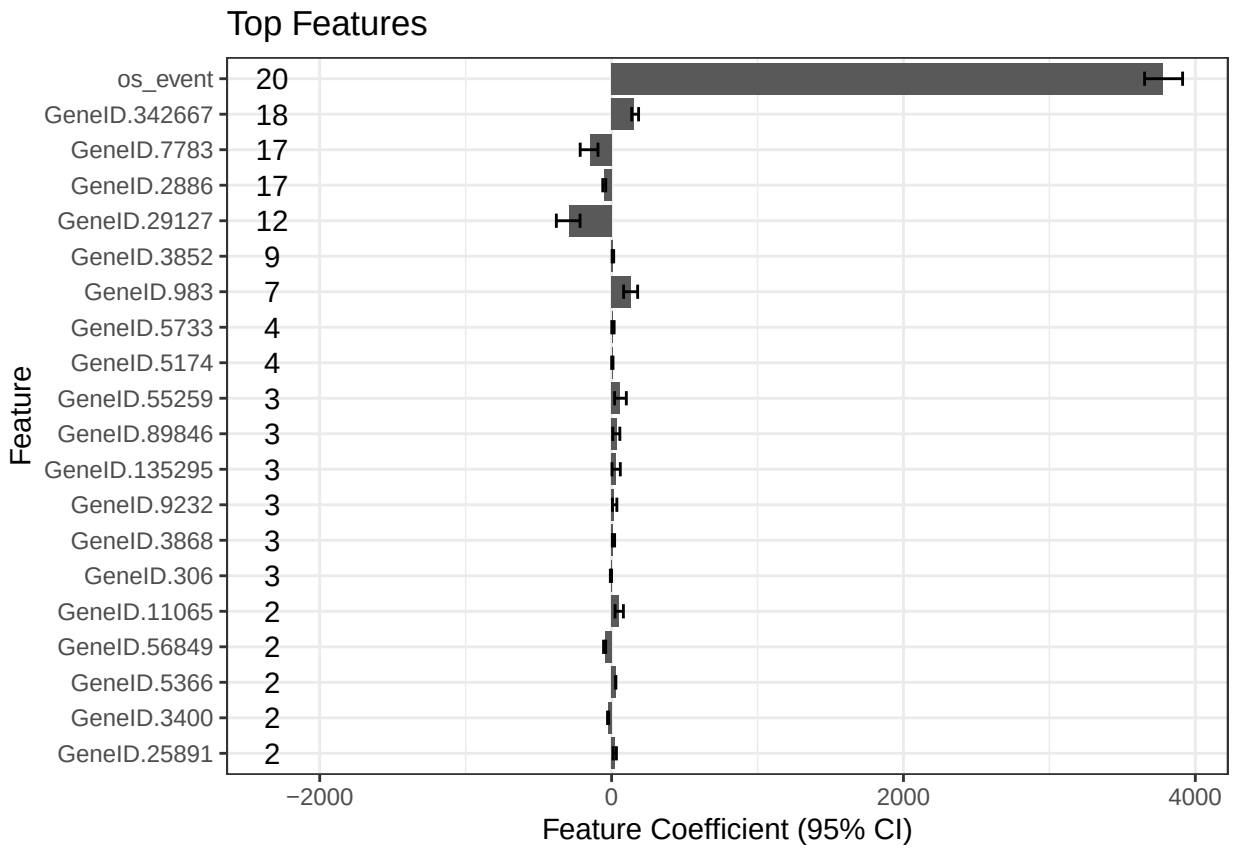
2. Important Features






```
## (currently only Lasso has this graph)[1] "there are 43 unique features used from the 101 feature set
## [1] "summary of number of features used in each run under 4 seeds and 5 CVs"

##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##     2.0     5.0     7.0     8.2     9.0    23.0
```


Top Features
os_event 20
GeneID.342667 18
GeneID.7783 17
GeneID.2886 17
GeneID.29127 12
GeneID.3852 9
GeneID.983 7
GeneID.5733 4
GeneID.5174 4
GeneID.55259 3
GeneID.89846 3
GeneID.135295 3
GeneID.9232 3
GeneID.3868 3
GeneID.306 3
GeneID.11065 2
GeneID.56849 2
GeneID.5366 2
GeneID.3400 2
GeneID.25891 2
Feature
−2000
0
2000
4000
Feature Coefficient (95% CI)

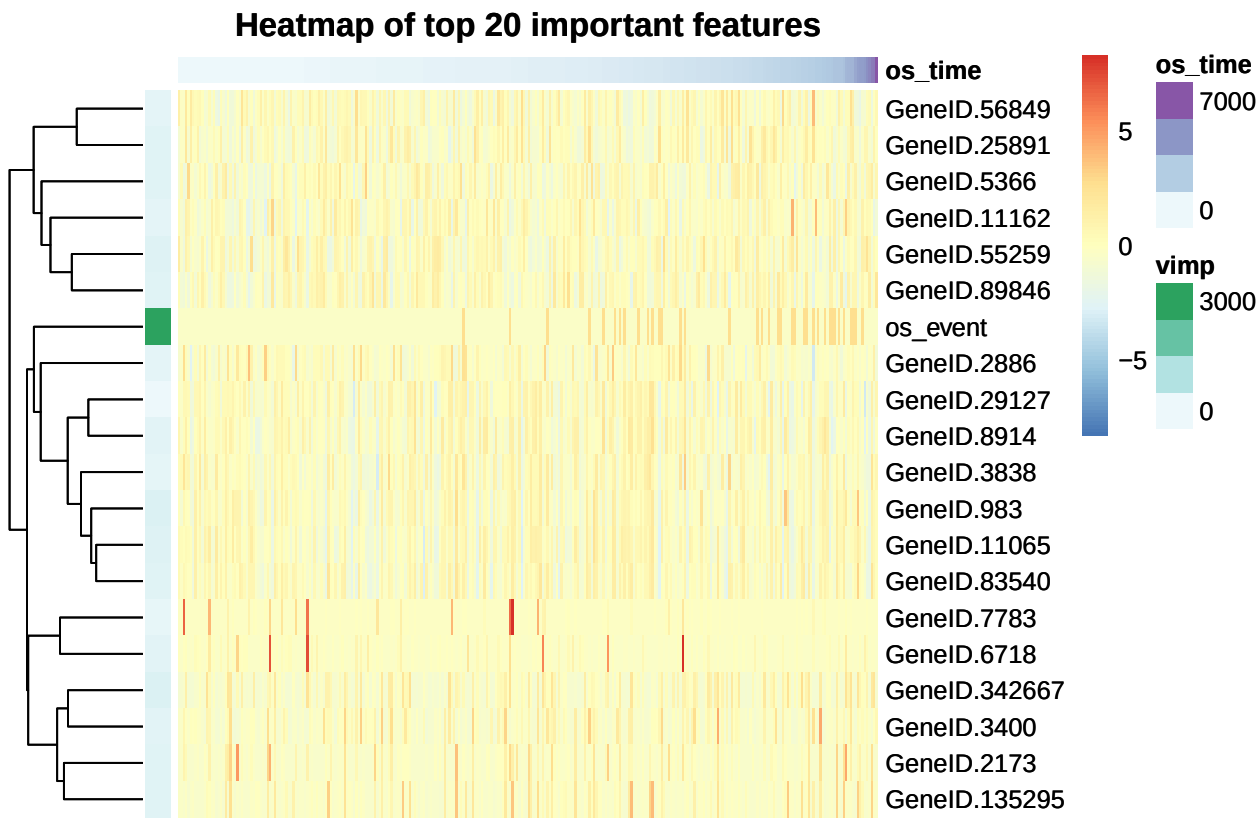

Heatmap of top 20 important features
os_time
GeneID.56849
GeneID.25891
GeneID.5366
GeneID.11162
GeneID.55259
GeneID.89846
os_event
GeneID.2886
GeneID.29127
GeneID.8914
GeneID.3838
GeneID.983
GeneID.11065
GeneID.83540
GeneID.7783
GeneID.6718
GeneID.342667
GeneID.3400
GeneID.2173
GeneID.135295
5
0
−5
os_time
7000
0
vimp
3000
0

Table 1: parameter selection

seed	alpha	lambda	cv
1001	1.0	93.44830	1
1001	1.0	112.59688	2
1001	1.0	46.83710	3
1001	1.0	145.67965	4
1001	1.0	98.66623	5
1002	1.0	68.57789	1
1002	1.0	126.96355	2
1002	1.0	102.44912	3
1002	1.0	74.04304	4
1002	1.0	98.71226	5
1003	1.0	122.10369	1
1003	1.0	105.23697	2
1003	1.0	69.98744	3
1003	1.0	122.72948	4
1003	0.5	202.81368	5
1004	1.0	59.77844	1
1004	1.0	129.05504	2
1004	1.0	129.44260	3
1004	1.0	136.08532	4
1004	1.0	91.23534	5