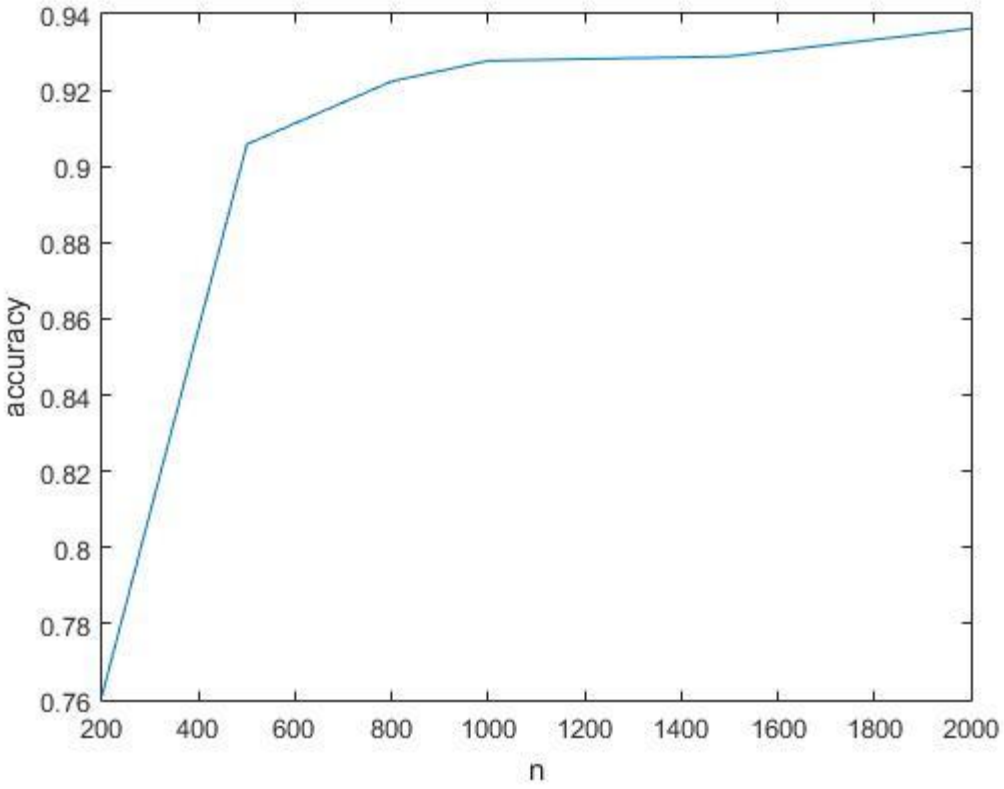
1. The Accuracy are 0.7612, 0.906, 0.922, 0.928, 0.929, 0.936

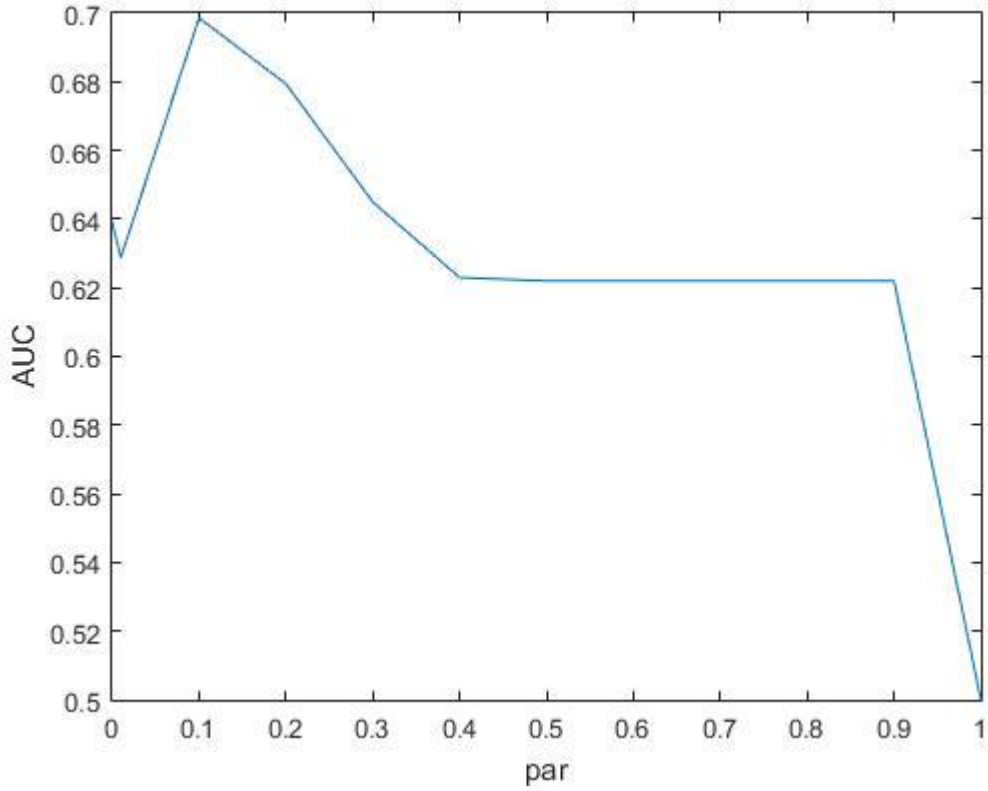


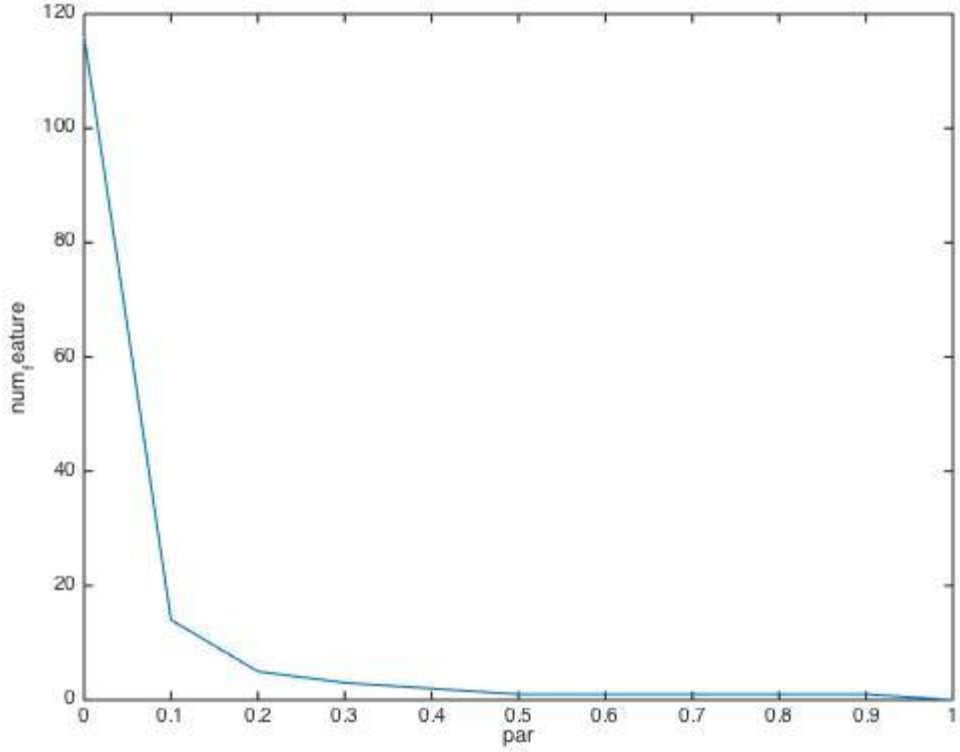
As the training size increase, AUC increase.

2. The AUC are 0.639 0.629 0.699 0.679 0.645 0.623 0.622 0.622 0.622 0.622 0.622 0.500

The numbers of non-zero features are: 116, 106, 14, 5, 3, 2, 1, 1, 1, 1, 1, 0

The figures are


AUC
par
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.56
0.54
0.52
0.5
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1


num_feature
par
120
100
80
60
40
20
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

The AUC first increase then decrease. That is because at first the data dimension is too high. The model is overfitting. When the par increase, overfitting is prevented. AUC increase. But when the par is too high, too many weights are zero. Some useful feature are not used in the model. Hence AUC decrease. When there are no feature selected, all the prediction is positive. Hence the AUC is 0.5.