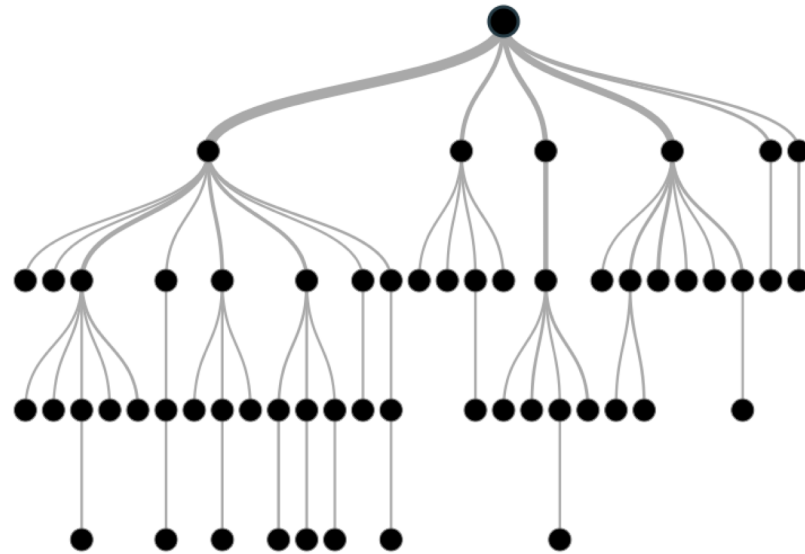
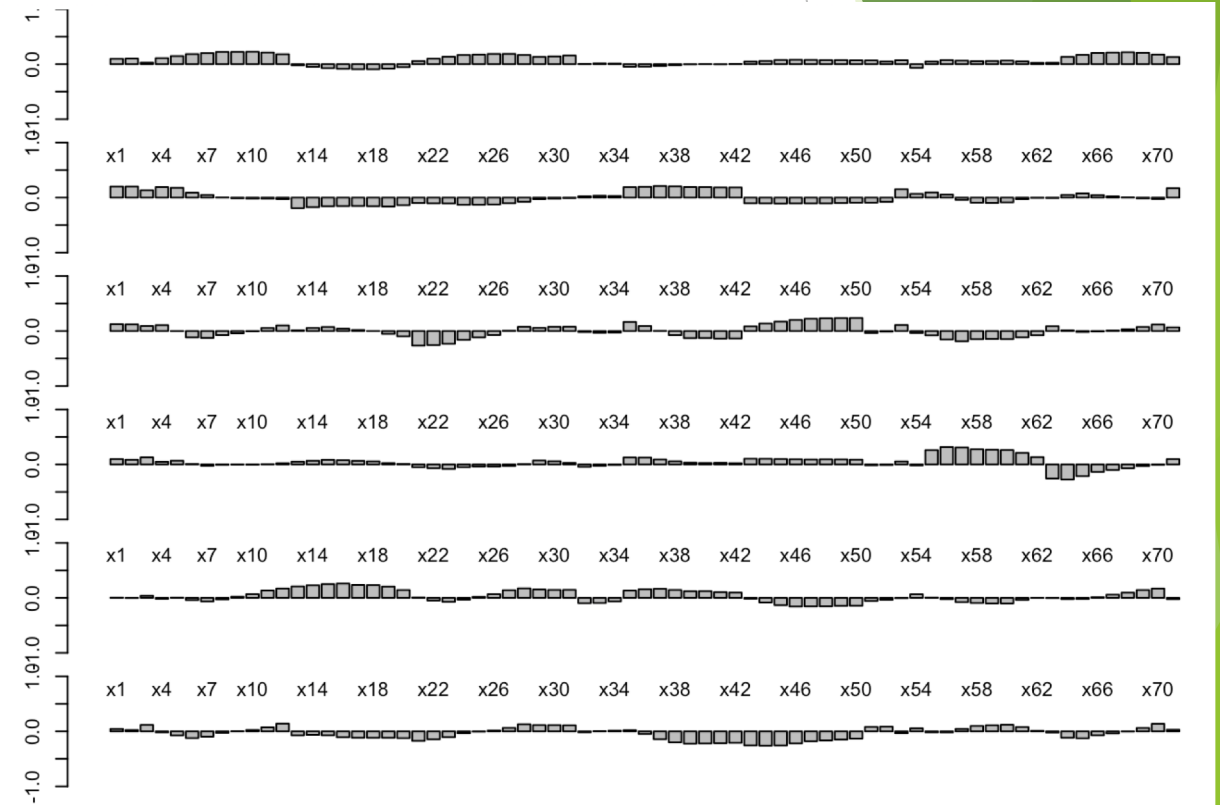
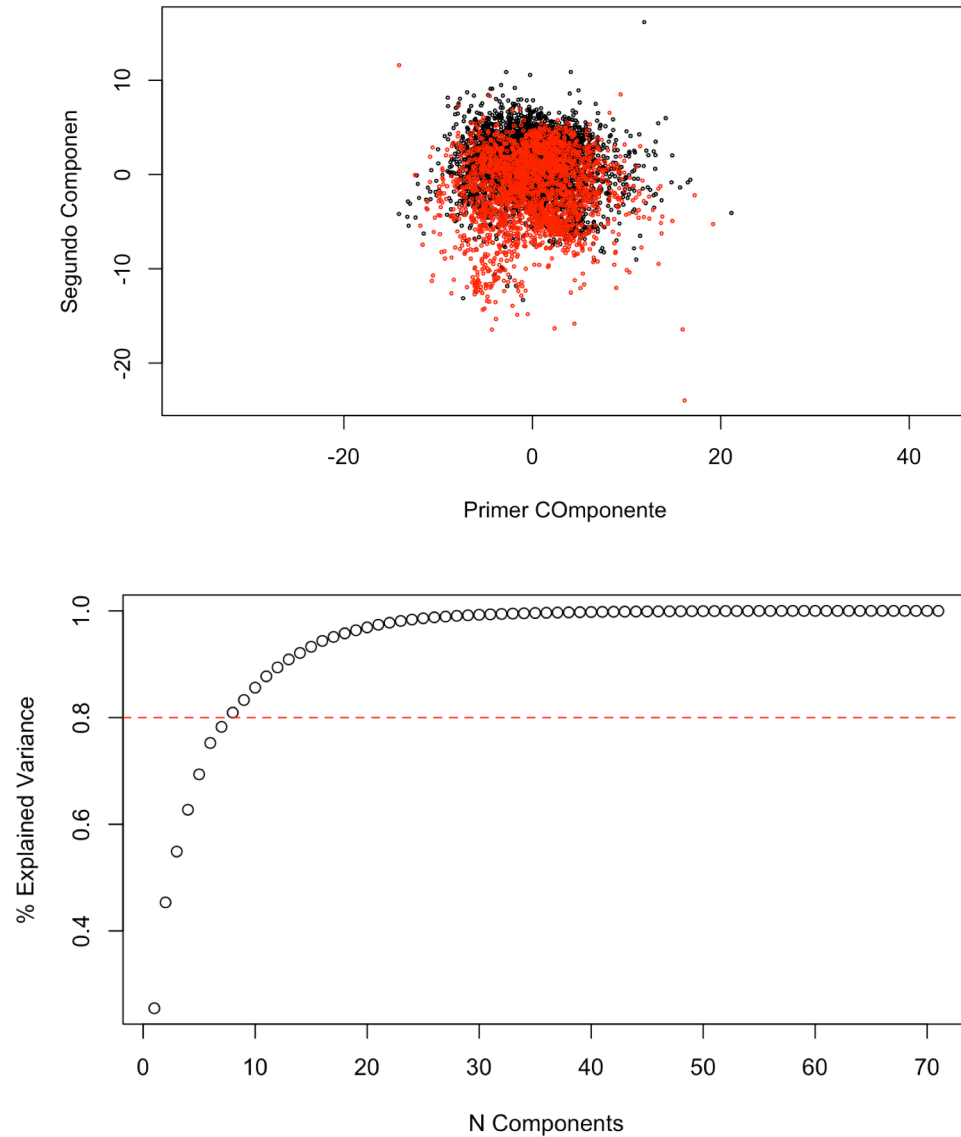


# Tree Learning Methods

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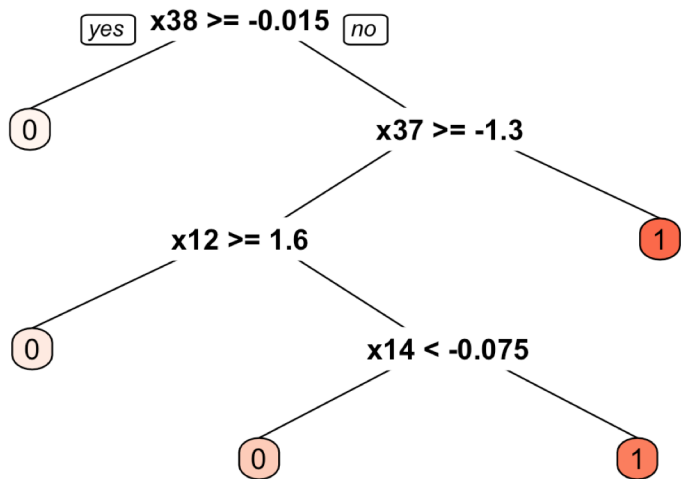


# 1. Exploratory Data Analysis



# 2. Results Single Tree vs Random Forest

Single tree classification



Confusion Matrix and Statistics

Reference			
Prediction	0	1	
0	1526	611	
1	221	458	

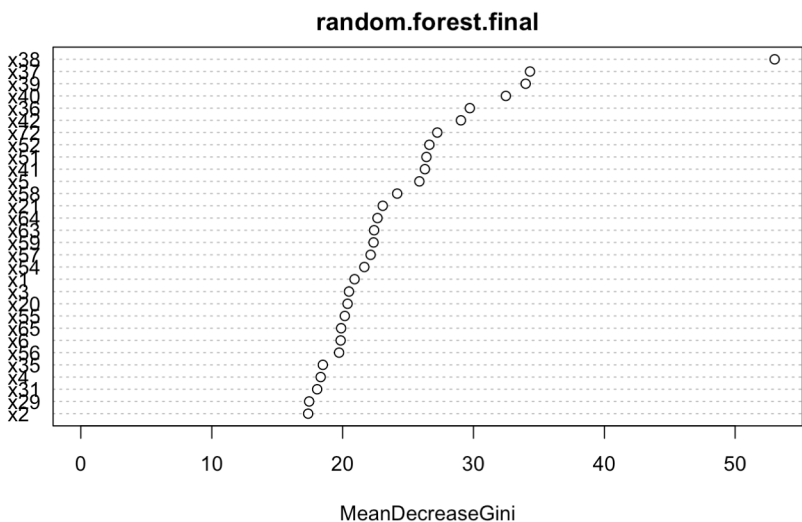
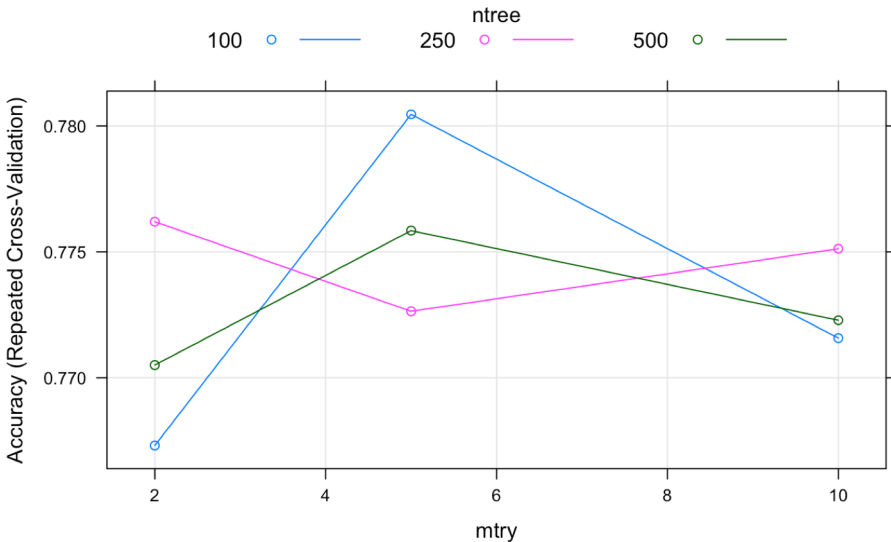
Accuracy : 0.7045  
95% CI : (0.6873, 0.7214)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Confusion Matrix and Statistics

Reference			
Prediction	0	1	
0	1571	404	
1	176	665	

Accuracy : 0.794  
95% CI : (0.7786, 0.8088)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.5438  
McNemar's Test P-Value : < 2.2e-16



# 3. Results Adaboost

## Stump tree 50 iterations

### Confusion Matrix and Statistics

	Reference	
Prediction	0	1
0	1559	442
1	188	627

Accuracy : 0.7763  
95% CI : (0.7604, 0.7916)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.5021  
McNemar's Test P-Value : < 2.2e-16

## 4 node tree 50 iterations

### Confusion Matrix and Statistics

	Reference	
Prediction	0	1
0	1546	454
1	201	615

Accuracy : 0.7674  
95% CI : (0.7513, 0.7829)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.4824  
McNemar's Test P-Value : < 2.2e-16

## 8 node tree 50 iterations

### Confusion Matrix and Statistics

	Reference	
Prediction	0	1
0	1554	439
1	193	630

Accuracy : 0.7756  
95% CI : (0.7597, 0.7909)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.5012  
McNemar's Test P-Value : < 2.2e-16

## 16 node tree 50 iterations

### Confusion Matrix and Statistics

	Reference	
Prediction	0	1
0	1547	432
1	200	637

Accuracy : 0.7756  
95% CI : (0.7597, 0.7909)  
No Information Rate : 0.6204  
P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.5026  
McNemar's Test P-Value : < 2.2e-16