RandomForest

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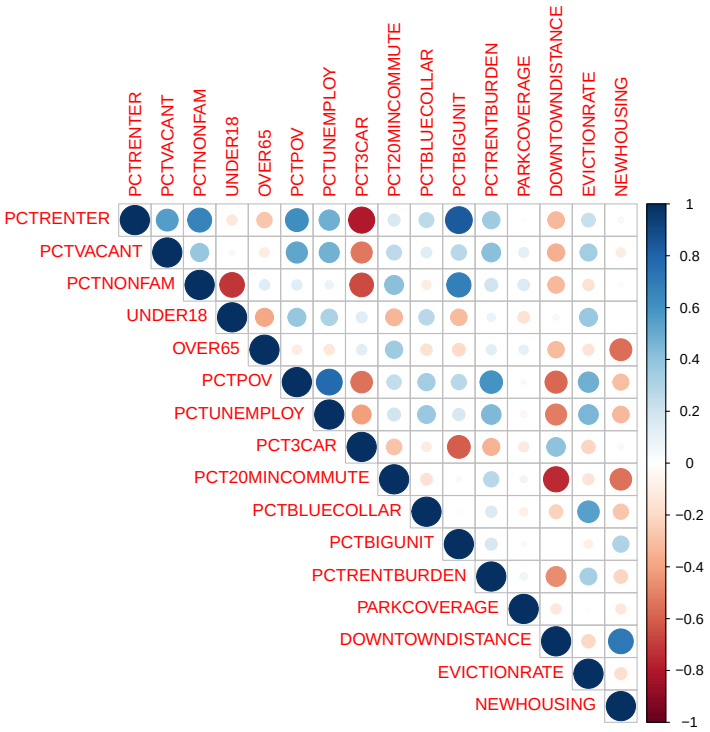
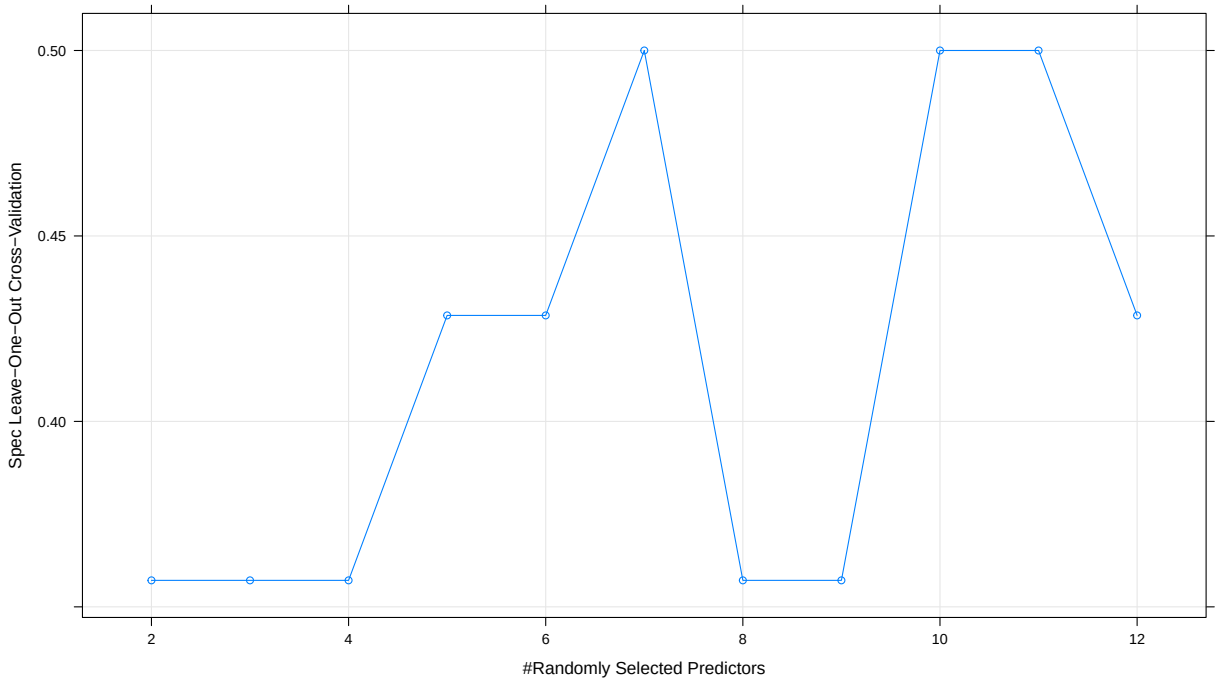



```
## Random Forest
##
## 107 samples
##  16 predictor
##   2 classes: 'X0', 'X1'
##
## No pre-processing
## Resampling: Leave-One-Out Cross-Validation
## Summary of sample sizes: 106, 106, 106, 106, 106, 106, ...
## Resampling results across tuning parameters:
##
##   mtry  ROC        Sens       Spec
##    2    0.9377880  0.9462366  0.3571429
##    3    0.9335637  0.9462366  0.3571429
##    4    0.9327957  0.9462366  0.3571429
##    5    0.9220430  0.9462366  0.4285714
##    6    0.9247312  0.9462366  0.4285714
##    7    0.9254992  0.9462366  0.5000000
##    8    0.9239631  0.9462366  0.3571429
##    9    0.9185868  0.9462366  0.3571429
##   10    0.9174347  0.9462366  0.5000000
##   11    0.9208909  0.9462366  0.5000000
##   12    0.9143625  0.9462366  0.4285714
```

```
##
## Spec was used to select the optimal model using the largest value.
## The final value used for the model was mtry = 7.
```



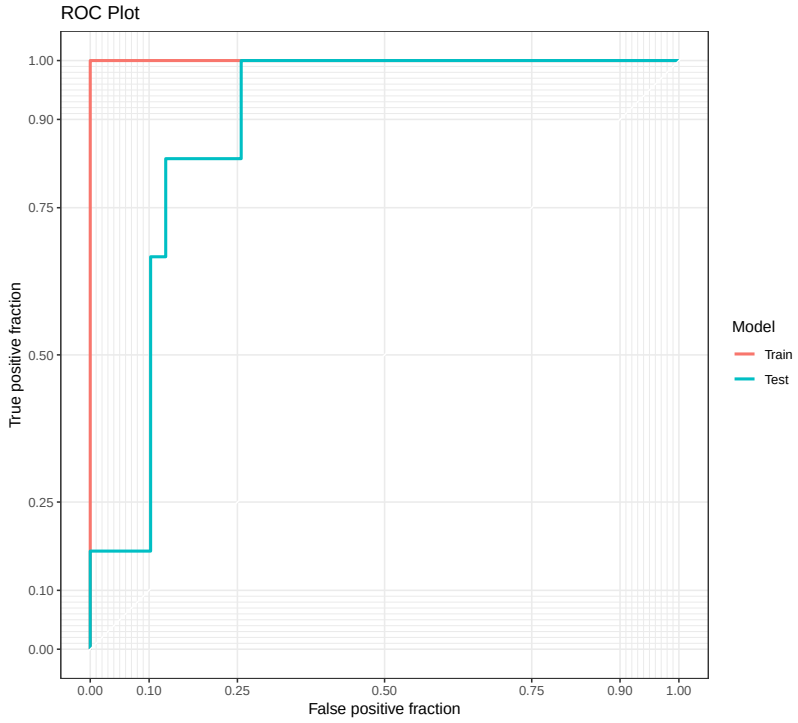

```
## Confusion Matrix and Statistics
##
##           Reference
## Prediction  0  1
##          0 33  1
##          1  6  5
##
##                Accuracy : 0.8444
##                  95% CI : (0.7054, 0.9351)
##     No Information Rate : 0.8667
##     P-Value [Acc > NIR] : 0.7544
##
##                   Kappa : 0.5024
##  Mcnemar's Test P-Value : 0.1306
##
##             Sensitivity : 0.8333
##             Specificity : 0.8462
##          Pos Pred Value : 0.4545
##          Neg Pred Value : 0.9706
##              Prevalence : 0.1333
##          Detection Rate : 0.1111
##    Detection Prevalence : 0.2444
##       Balanced Accuracy : 0.8397
##
##        'Positive' Class : 1
##
```

Table 1: Confusion Matrix

Predicted	Observed	
	Not Gentrifying	Gentrifying
Not Gentrifying	33	1
Gentrifying	6	5

Table 2: Variable Importance

Ranking	Variable	Importance
1	DOWNTOWNDISTANCE	100.00
2	PCTPOV	48.78
3	PCTVACANT	35.74
4	PCTUNEMPLOY	31.69
5	UNDER18	29.66
6	PARKCOVERAGE	23.23
7	PCTBIGUNIT	21.47
8	NEWHOUSING	21.36
9	PCT3CAR	20.55
10	PCTNONFAM	18.32
11	PCT20MINCOMMUTE	18.03
12	OVER65	15.78
13	PCTRENTER	14.34
14	PCTRENTBURDEN	6.12
15	EVICTIONRATE	1.61
16	PCTBLUECOLLAR	0.00




```
## Area under the curve: 1
```

Table 3: Random Forest Model Performance

Metric	Value
Accuracy	0.844
Kappa	0.502
Sensitivity	0.833
Specificity	0.846
Precision	0.455
F1	0.588
Balanced Accuracy	0.840
AUC	0.885

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Table 4: Random Forest Model Performance

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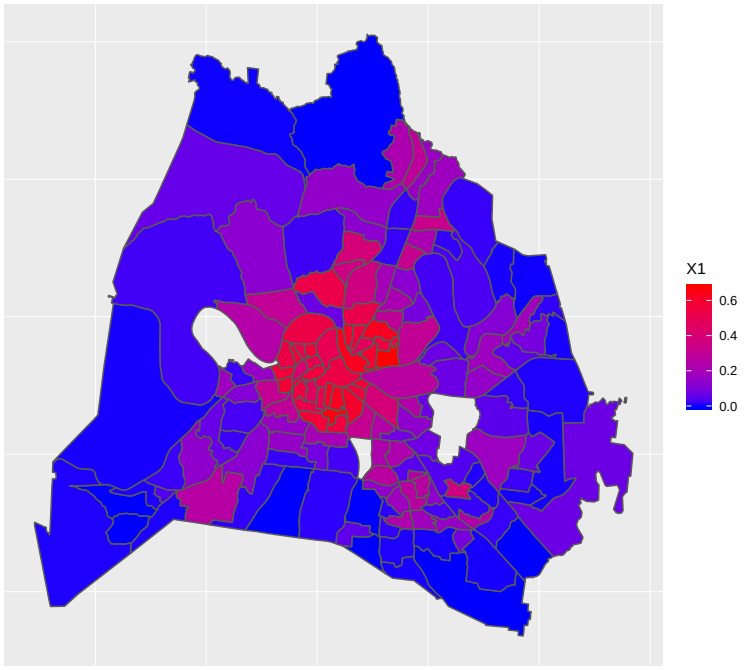
Nashville Neighborhood Change Predictions



Geometries: tigris

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