Confusion matrix of wi-fi location models

This document contains the confusion matrix and relevant statistics of the models trained.

Contents

[C5.0 2](#_Toc111555799)

[KNN 10](#_Toc111555800)

[Random Forest 18](#_Toc111555801)

## C5.0

Confusion Matrix and Statistics

Reference

Prediction 1\_101\_2 1\_102\_2 1\_103\_2 1\_104\_2 1\_105\_1 1\_105\_2 1\_106\_2 1\_107\_1 1\_107\_2

1\_101\_2 8 1 1 0 0 1 0 0 0

1\_102\_2 0 3 0 0 0 0 0 0 0

1\_103\_2 1 3 6 0 0 0 2 0 0

1\_104\_2 0 0 0 3 2 0 0 0 0

1\_105\_1 0 0 0 2 9 0 0 0 1

1\_105\_2 0 0 2 0 0 7 0 0 0

1\_106\_2 0 0 0 0 0 0 9 0 0

1\_107\_1 0 0 0 0 0 0 0 6 1

1\_107\_2 0 0 0 0 0 0 0 0 5

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_108\_1 1\_108\_2 1\_109\_1 1\_109\_2 1\_110\_1 1\_110\_2 1\_111\_1 1\_111\_2 1\_112\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 5 1 2 0 0 0 0 0 0

1\_108\_2 0 4 0 1 0 0 0 0 0

Reference

Prediction 1\_112\_2 1\_113\_2 1\_114\_1 1\_114\_2 1\_115\_1 1\_115\_2 1\_116\_2 1\_117\_2 1\_118\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 1 0 0

1\_106\_2 0 0 0 0 0 2 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 1 0 1 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_119\_2 1\_120\_2 1\_121\_2 1\_122\_2 1\_123\_2 1\_124\_1 1\_124\_2 1\_125\_1 1\_125\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 2 0 0 0 0 0 0 0 0

Reference

Prediction 1\_126\_2 1\_127\_2 1\_128\_1 1\_128\_2 1\_129\_1 1\_129\_2 1\_130\_1 1\_130\_2 1\_131\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_131\_2 1\_132\_2 1\_133\_1 1\_133\_2 1\_134\_1 1\_134\_2 1\_135\_1 1\_135\_2 1\_136\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_136\_2 1\_137\_2 1\_140\_1 1\_140\_2 1\_141\_2 1\_143\_1 1\_143\_2 1\_201\_2 1\_202\_2

1\_101\_2 0 0 0 0 0 0 1 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 1 1 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 1 0 0 0 0

Reference

Prediction 1\_203\_1 1\_203\_2 1\_204\_1 1\_204\_2 1\_205\_2 1\_206\_1 1\_206\_2 1\_207\_2 1\_209\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_212\_2 1\_214\_1 1\_214\_2 1\_215\_2 1\_216\_1 1\_216\_2 1\_217\_1 1\_218\_1 1\_218\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_219\_1 1\_220\_1 1\_221\_2 1\_223\_2 1\_224\_1 1\_224\_2 1\_225\_1

1\_101\_2 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0

[ reached getOption("max.print") -- omitted 77 rows ]

Overall Statistics

Accuracy : 0.7654

95% CI : (0.7304, 0.7978)

No Information Rate : 0.0299

P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.7622

Mcnemar's Test P-Value : NA

Statistics by Class:

Class: 1\_101\_2 Class: 1\_102\_2 Class: 1\_103\_2 Class: 1\_104\_2

Sensitivity 0.6667 0.333333 0.666667 0.500000

Specificity 0.9936 1.000000 0.990415 0.996820

Pos Pred Value 0.6667 1.000000 0.500000 0.600000

Neg Pred Value 0.9936 0.990506 0.995185 0.995238

Prevalence 0.0189 0.014173 0.014173 0.009449

Detection Rate 0.0126 0.004724 0.009449 0.004724

Detection Prevalence 0.0189 0.004724 0.018898 0.007874

Balanced Accuracy 0.8301 0.666667 0.828541 0.748410

Class: 1\_105\_1 Class: 1\_105\_2 Class: 1\_106\_2 Class: 1\_107\_1

Sensitivity 0.75000 0.87500 0.75000 1.000000

Specificity 0.99197 0.99522 0.99679 0.998410

Pos Pred Value 0.64286 0.70000 0.81818 0.857143

Neg Pred Value 0.99517 0.99840 0.99519 1.000000

Prevalence 0.01890 0.01260 0.01890 0.009449

Detection Rate 0.01417 0.01102 0.01417 0.009449

Detection Prevalence 0.02205 0.01575 0.01732 0.011024

Balanced Accuracy 0.87099 0.93511 0.87339 0.999205

Class: 1\_107\_2 Class: 1\_108\_1 Class: 1\_108\_2 Class: 1\_109\_1

Sensitivity 0.555556 1.000000 0.500000 0.000000

Specificity 0.996805 0.995238 0.993620 0.998418

Pos Pred Value 0.714286 0.625000 0.500000 0.000000

Neg Pred Value 0.993631 1.000000 0.993620 0.995268

Prevalence 0.014173 0.007874 0.012598 0.004724

Detection Rate 0.007874 0.007874 0.006299 0.000000

Detection Prevalence 0.011024 0.012598 0.012598 0.001575

Balanced Accuracy 0.776180 0.997619 0.746810 0.499209

Class: 1\_109\_2 Class: 1\_110\_1 Class: 1\_110\_2 Class: 1\_111\_1

Sensitivity 0.285714 1.000000 0.70000 1.000000

Specificity 0.998408 0.996835 0.99520 1.000000

Pos Pred Value 0.666667 0.600000 0.70000 1.000000

Neg Pred Value 0.992089 1.000000 0.99520 1.000000

Prevalence 0.011024 0.004724 0.01575 0.007874

Detection Rate 0.003150 0.004724 0.01102 0.007874

Detection Prevalence 0.004724 0.007874 0.01575 0.007874

Balanced Accuracy 0.642061 0.998418 0.84760 1.000000

Class: 1\_111\_2 Class: 1\_112\_1 Class: 1\_112\_2 Class: 1\_113\_2

Sensitivity 0.666667 0.88889 0.750000 1.00000

Specificity 1.000000 0.99840 0.998405 0.99519

Pos Pred Value 1.000000 0.88889 0.857143 0.78571

Neg Pred Value 0.996830 0.99840 0.996815 1.00000

Prevalence 0.009449 0.01417 0.012598 0.01732

Detection Rate 0.006299 0.01260 0.009449 0.01732

Detection Prevalence 0.006299 0.01417 0.011024 0.02205

Balanced Accuracy 0.833333 0.94365 0.874203 0.99760

Class: 1\_114\_1 Class: 1\_114\_2 Class: 1\_115\_1 Class: 1\_115\_2

Sensitivity 1.000000 1.00000 0.833333 0.555556

Specificity 1.000000 1.00000 0.996820 0.995208

Pos Pred Value 1.000000 1.00000 0.714286 0.625000

Neg Pred Value 1.000000 1.00000 0.998408 0.993620

Prevalence 0.007874 0.01732 0.009449 0.014173

Detection Rate 0.007874 0.01732 0.007874 0.007874

Detection Prevalence 0.007874 0.01732 0.011024 0.012598

Balanced Accuracy 1.000000 1.00000 0.915077 0.775382

Class: 1\_116\_2 Class: 1\_117\_2 Class: 1\_118\_2 Class: 1\_119\_2

Sensitivity 0.77778 0.77778 0.88889 0.63636

Specificity 0.99681 0.99681 0.99521 0.99199

Pos Pred Value 0.77778 0.77778 0.72727 0.58333

Neg Pred Value 0.99681 0.99681 0.99840 0.99358

Prevalence 0.01417 0.01417 0.01417 0.01732

Detection Rate 0.01102 0.01102 0.01260 0.01102

Detection Prevalence 0.01417 0.01417 0.01732 0.01890

Balanced Accuracy 0.88729 0.88729 0.94205 0.81418

Class: 1\_120\_2 Class: 1\_121\_2 Class: 1\_122\_2 Class: 1\_123\_2

Sensitivity 0.500000 1.0000 0.625000 0.750000

Specificity 0.998405 0.9936 0.996810 0.993620

Pos Pred Value 0.800000 0.6667 0.714286 0.600000

Neg Pred Value 0.993651 1.0000 0.995223 0.996800

Prevalence 0.012598 0.0126 0.012598 0.012598

Detection Rate 0.006299 0.0126 0.007874 0.009449

Detection Prevalence 0.007874 0.0189 0.011024 0.015748

Balanced Accuracy 0.749203 0.9968 0.810905 0.871810

Class: 1\_124\_1 Class: 1\_124\_2 Class: 1\_125\_1 Class: 1\_125\_2

Sensitivity 0.333333 0.87500 0.500000 0.87500

Specificity 0.996835 0.99362 0.996830 1.00000

Pos Pred Value 0.333333 0.63636 0.500000 1.00000

Neg Pred Value 0.996835 0.99840 0.996830 0.99841

Prevalence 0.004724 0.01260 0.006299 0.01260

Detection Rate 0.001575 0.01102 0.003150 0.01102

Detection Prevalence 0.004724 0.01732 0.006299 0.01102

Balanced Accuracy 0.665084 0.93431 0.748415 0.93750

Class: 1\_126\_2 Class: 1\_127\_2 Class: 1\_128\_1 Class: 1\_128\_2

Sensitivity 0.84615 0.81818 0.87500 0.625000

Specificity 0.99678 0.99679 0.99362 0.998405

Pos Pred Value 0.84615 0.81818 0.63636 0.833333

Neg Pred Value 0.99678 0.99679 0.99840 0.995231

Prevalence 0.02047 0.01732 0.01260 0.012598

Detection Rate 0.01732 0.01417 0.01102 0.007874

Detection Prevalence 0.02047 0.01732 0.01732 0.009449

Balanced Accuracy 0.92147 0.90749 0.93431 0.811703

Class: 1\_129\_1 Class: 1\_129\_2 Class: 1\_130\_1 Class: 1\_130\_2

Sensitivity 0.600000 0.72727 1.000000 0.63636

Specificity 1.000000 0.99840 0.998420 0.99519

Pos Pred Value 1.000000 0.88889 0.666667 0.70000

Neg Pred Value 0.996835 0.99521 1.000000 0.99360

Prevalence 0.007874 0.01732 0.003150 0.01732

Detection Rate 0.004724 0.01260 0.003150 0.01102

Detection Prevalence 0.004724 0.01417 0.004724 0.01575

Balanced Accuracy 0.800000 0.86284 0.999210 0.81578

Class: 1\_131\_1 Class: 1\_131\_2 Class: 1\_132\_2 Class: 1\_133\_1

Sensitivity 1.000000 0.81818 0.90909 0.750000

Specificity 0.998418 0.99840 1.00000 1.000000

Pos Pred Value 0.750000 0.90000 1.00000 1.000000

Neg Pred Value 1.000000 0.99680 0.99840 0.996820

Prevalence 0.004724 0.01732 0.01732 0.012598

Detection Rate 0.004724 0.01417 0.01575 0.009449

Detection Prevalence 0.006299 0.01575 0.01575 0.009449

Balanced Accuracy 0.999209 0.90829 0.95455 0.875000

Class: 1\_133\_2 Class: 1\_134\_1 Class: 1\_134\_2 Class: 1\_135\_1

Sensitivity 1.00000 0.666667 0.72727 0.750000

Specificity 0.99204 0.996820 1.00000 0.996810

Pos Pred Value 0.58333 0.666667 1.00000 0.750000

Neg Pred Value 1.00000 0.996820 0.99522 0.996810

Prevalence 0.01102 0.009449 0.01732 0.012598

Detection Rate 0.01102 0.006299 0.01260 0.009449

Detection Prevalence 0.01890 0.009449 0.01260 0.012598

Balanced Accuracy 0.99602 0.831744 0.86364 0.873405

Class: 1\_135\_2 Class: 1\_136\_1 Class: 1\_136\_2 Class: 1\_137\_2

Sensitivity 0.750000 1.00000 0.600000 0.555556

Specificity 0.998405 0.99682 0.993651 0.995208

Pos Pred Value 0.857143 0.77778 0.428571 0.625000

Neg Pred Value 0.996815 1.00000 0.996815 0.993620

Prevalence 0.012598 0.01102 0.007874 0.014173

Detection Rate 0.009449 0.01102 0.004724 0.007874

Detection Prevalence 0.011024 0.01417 0.011024 0.012598

Balanced Accuracy 0.874203 0.99841 0.796825 0.775382

Class: 1\_140\_1 Class: 1\_140\_2 Class: 1\_141\_2 Class: 1\_143\_1

Sensitivity 0.87500 0.63636 0.63636 0.77778

Specificity 0.99203 0.99679 0.99840 0.99840

Pos Pred Value 0.58333 0.77778 0.87500 0.87500

Neg Pred Value 0.99839 0.99361 0.99362 0.99681

Prevalence 0.01260 0.01732 0.01732 0.01417

Detection Rate 0.01102 0.01102 0.01102 0.01102

Detection Prevalence 0.01890 0.01417 0.01260 0.01260

Balanced Accuracy 0.93351 0.81658 0.81738 0.88809

Class: 1\_143\_2 Class: 1\_201\_2 Class: 1\_202\_2 Class: 1\_203\_1

Sensitivity 0.666667 0.833333 1.000000 1.000000

Specificity 0.996805 0.998410 0.998410 0.998418

Pos Pred Value 0.750000 0.833333 0.857143 0.750000

Neg Pred Value 0.995215 0.998410 1.000000 1.000000

Prevalence 0.014173 0.009449 0.009449 0.004724

Detection Rate 0.009449 0.007874 0.009449 0.004724

Detection Prevalence 0.012598 0.009449 0.011024 0.006299

Balanced Accuracy 0.831736 0.915872 0.999205 0.999209

Class: 1\_203\_2 Class: 1\_204\_1 Class: 1\_204\_2 Class: 1\_205\_2

Sensitivity 1.000000 0.666667 0.833333 0.666667

Specificity 0.996820 1.000000 0.998410 1.000000

Pos Pred Value 0.750000 1.000000 0.833333 1.000000

Neg Pred Value 1.000000 0.998420 0.998410 0.998420

Prevalence 0.009449 0.004724 0.009449 0.004724

Detection Rate 0.009449 0.003150 0.007874 0.003150

Detection Prevalence 0.012598 0.003150 0.009449 0.003150

Balanced Accuracy 0.998410 0.833333 0.915872 0.833333

Class: 1\_206\_1 Class: 1\_206\_2 Class: 1\_207\_2 Class: 1\_209\_2

Sensitivity 0.833333 0.833333 1.000000 1.000000

Specificity 1.000000 1.000000 1.000000 1.000000

Pos Pred Value 1.000000 1.000000 1.000000 1.000000

Neg Pred Value 0.998413 0.998413 1.000000 1.000000

Prevalence 0.009449 0.009449 0.009449 0.006299

Detection Rate 0.007874 0.007874 0.009449 0.006299

Detection Prevalence 0.007874 0.007874 0.009449 0.006299

Balanced Accuracy 0.916667 0.916667 1.000000 1.000000

Class: 1\_212\_2 Class: 1\_214\_1 Class: 1\_214\_2 Class: 1\_215\_2

Sensitivity 0.833333 1.000000 0.833333 0.833333

Specificity 0.998410 0.998410 1.000000 1.000000

Pos Pred Value 0.833333 0.857143 1.000000 1.000000

Neg Pred Value 0.998410 1.000000 0.998413 0.998413

Prevalence 0.009449 0.009449 0.009449 0.009449

Detection Rate 0.007874 0.009449 0.007874 0.007874

Detection Prevalence 0.009449 0.011024 0.007874 0.007874

Balanced Accuracy 0.915872 0.999205 0.916667 0.916667

Class: 1\_216\_1 Class: 1\_216\_2 Class: 1\_217\_1 Class: 1\_218\_1

Sensitivity 0.666667 0.600000 1.000000 0.666667

Specificity 1.000000 1.000000 0.990506 1.000000

Pos Pred Value 1.000000 1.000000 0.333333 1.000000

Neg Pred Value 0.998420 0.996835 1.000000 0.998420

Prevalence 0.004724 0.007874 0.004724 0.004724

Detection Rate 0.003150 0.004724 0.004724 0.003150

Detection Prevalence 0.003150 0.004724 0.014173 0.003150

Balanced Accuracy 0.833333 0.800000 0.995253 0.833333

Class: 1\_218\_2 Class: 1\_219\_1 Class: 1\_220\_1 Class: 1\_221\_2

Sensitivity 0.833333 0.000000 1.000000 0.666667

Specificity 1.000000 1.000000 1.000000 1.000000

Pos Pred Value 1.000000 NaN 1.000000 1.000000

Neg Pred Value 0.998413 0.995276 1.000000 0.996830

Prevalence 0.009449 0.004724 0.004724 0.009449

Detection Rate 0.007874 0.000000 0.004724 0.006299

Detection Prevalence 0.007874 0.000000 0.004724 0.006299

Balanced Accuracy 0.916667 0.500000 1.000000 0.833333

Class: 1\_223\_2 Class: 1\_224\_1 Class: 1\_224\_2 Class: 1\_225\_1

Sensitivity 0.833333 1.000000 0.89474 1.000000

Specificity 0.995231 0.998418 0.99188 1.000000

Pos Pred Value 0.625000 0.750000 0.77273 1.000000

Neg Pred Value 0.998405 1.000000 0.99674 1.000000

Prevalence 0.009449 0.004724 0.02992 0.004724

Detection Rate 0.007874 0.004724 0.02677 0.004724

Detection Prevalence 0.012598 0.006299 0.03465 0.004724

Balanced Accuracy 0.914282 0.999209 0.94331 1.000000

## 

## KNN

Confusion Matrix and Statistics

Reference

Prediction 1\_101\_2 1\_102\_2 1\_103\_2 1\_104\_2 1\_105\_1 1\_105\_2 1\_106\_2 1\_107\_1 1\_107\_2

1\_101\_2 5 2 2 0 3 1 0 0 0

1\_102\_2 1 1 0 1 3 0 0 0 0

1\_103\_2 0 2 6 0 1 0 0 0 0

1\_104\_2 0 0 0 3 3 1 0 0 0

1\_105\_1 0 1 0 1 2 0 0 0 0

1\_105\_2 2 1 0 0 0 5 2 0 0

1\_106\_2 0 0 0 0 0 0 7 0 2

1\_107\_1 0 0 0 0 0 0 0 4 3

1\_107\_2 0 0 0 1 0 0 0 2 2

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_108\_1 1\_108\_2 1\_109\_1 1\_109\_2 1\_110\_1 1\_110\_2 1\_111\_1 1\_111\_2 1\_112\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 4 0 1 0 0 0 0 0 0

1\_108\_2 0 5 0 0 0 0 0 0 0

Reference

Prediction 1\_112\_2 1\_113\_2 1\_114\_1 1\_114\_2 1\_115\_1 1\_115\_2 1\_116\_2 1\_117\_2 1\_118\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 1 0 0

1\_106\_2 0 0 0 0 0 5 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 2

1\_107\_2 0 0 0 0 1 0 1 1 1

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_119\_2 1\_120\_2 1\_121\_2 1\_122\_2 1\_123\_2 1\_124\_1 1\_124\_2 1\_125\_1 1\_125\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_126\_2 1\_127\_2 1\_128\_1 1\_128\_2 1\_129\_1 1\_129\_2 1\_130\_1 1\_130\_2 1\_131\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_131\_2 1\_132\_2 1\_133\_1 1\_133\_2 1\_134\_1 1\_134\_2 1\_135\_1 1\_135\_2 1\_136\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_136\_2 1\_137\_2 1\_140\_1 1\_140\_2 1\_141\_2 1\_143\_1 1\_143\_2 1\_201\_2 1\_202\_2

1\_101\_2 0 0 0 1 0 0 2 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 1 1 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 1 0 0 0

1\_105\_2 0 0 1 0 0 0 1 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 1 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_203\_1 1\_203\_2 1\_204\_1 1\_204\_2 1\_205\_2 1\_206\_1 1\_206\_2 1\_207\_2 1\_209\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_212\_2 1\_214\_1 1\_214\_2 1\_215\_2 1\_216\_1 1\_216\_2 1\_217\_1 1\_218\_1 1\_218\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_219\_1 1\_220\_1 1\_221\_2 1\_223\_2 1\_224\_1 1\_224\_2 1\_225\_1

1\_101\_2 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0

[ reached getOption("max.print") -- omitted 77 rows ]

Overall Statistics

Accuracy : 0.6236

95% CI : (0.5846, 0.6614)

No Information Rate : 0.0299

P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.6184

Mcnemar's Test P-Value : NA

Statistics by Class:

Class: 1\_101\_2 Class: 1\_102\_2 Class: 1\_103\_2 Class: 1\_104\_2

Sensitivity 0.416667 0.111111 0.666667 0.500000

Specificity 0.982343 0.992013 0.992013 0.993641

Pos Pred Value 0.312500 0.166667 0.545455 0.428571

Neg Pred Value 0.988691 0.987281 0.995192 0.995223

Prevalence 0.018898 0.014173 0.014173 0.009449

Detection Rate 0.007874 0.001575 0.009449 0.004724

Detection Prevalence 0.025197 0.009449 0.017323 0.011024

Balanced Accuracy 0.699505 0.551562 0.829340 0.746820

Class: 1\_105\_1 Class: 1\_105\_2 Class: 1\_106\_2 Class: 1\_107\_1

Sensitivity 0.166667 0.625000 0.58333 0.666667

Specificity 0.995185 0.987241 0.98876 0.990461

Pos Pred Value 0.400000 0.384615 0.50000 0.400000

Neg Pred Value 0.984127 0.995177 0.99195 0.996800

Prevalence 0.018898 0.012598 0.01890 0.009449

Detection Rate 0.003150 0.007874 0.01102 0.006299

Detection Prevalence 0.007874 0.020472 0.02205 0.015748

Balanced Accuracy 0.580926 0.806120 0.78605 0.828564

Class: 1\_107\_2 Class: 1\_108\_1 Class: 1\_108\_2 Class: 1\_109\_1

Sensitivity 0.22222 0.800000 0.625000 0.000000

Specificity 0.98882 0.998413 1.000000 0.996835

Pos Pred Value 0.22222 0.800000 1.000000 0.000000

Neg Pred Value 0.98882 0.998413 0.995238 0.995261

Prevalence 0.01417 0.007874 0.012598 0.004724

Detection Rate 0.00315 0.006299 0.007874 0.000000

Detection Prevalence 0.01417 0.007874 0.007874 0.003150

Balanced Accuracy 0.60552 0.899206 0.812500 0.498418

Class: 1\_109\_2 Class: 1\_110\_1 Class: 1\_110\_2 Class: 1\_111\_1

Sensitivity 0.142857 1.000000 0.70000 0.800000

Specificity 0.993631 0.998418 0.97600 1.000000

Pos Pred Value 0.200000 0.750000 0.31818 1.000000

Neg Pred Value 0.990476 1.000000 0.99511 0.998415

Prevalence 0.011024 0.004724 0.01575 0.007874

Detection Rate 0.001575 0.004724 0.01102 0.006299

Detection Prevalence 0.007874 0.006299 0.03465 0.006299

Balanced Accuracy 0.568244 0.999209 0.83800 0.900000

Class: 1\_111\_2 Class: 1\_112\_1 Class: 1\_112\_2 Class: 1\_113\_2

Sensitivity 0.500000 0.77778 0.750000 0.72727

Specificity 0.998410 1.00000 0.995215 0.99519

Pos Pred Value 0.750000 1.00000 0.666667 0.72727

Neg Pred Value 0.995246 0.99682 0.996805 0.99519

Prevalence 0.009449 0.01417 0.012598 0.01732

Detection Rate 0.004724 0.01102 0.009449 0.01260

Detection Prevalence 0.006299 0.01102 0.014173 0.01732

Balanced Accuracy 0.749205 0.88889 0.872608 0.86123

Class: 1\_114\_1 Class: 1\_114\_2 Class: 1\_115\_1 Class: 1\_115\_2

Sensitivity 1.000000 0.545455 0.666667 0.22222

Specificity 1.000000 1.000000 0.993641 0.99201

Pos Pred Value 1.000000 1.000000 0.500000 0.28571

Neg Pred Value 1.000000 0.992051 0.996810 0.98885

Prevalence 0.007874 0.017323 0.009449 0.01417

Detection Rate 0.007874 0.009449 0.006299 0.00315

Detection Prevalence 0.007874 0.009449 0.012598 0.01102

Balanced Accuracy 1.000000 0.772727 0.830154 0.60712

Class: 1\_116\_2 Class: 1\_117\_2 Class: 1\_118\_2 Class: 1\_119\_2

Sensitivity 0.666667 0.555556 0.333333 0.63636

Specificity 0.992013 0.996805 1.000000 0.99679

Pos Pred Value 0.545455 0.714286 1.000000 0.77778

Neg Pred Value 0.995192 0.993631 0.990506 0.99361

Prevalence 0.014173 0.014173 0.014173 0.01732

Detection Rate 0.009449 0.007874 0.004724 0.01102

Detection Prevalence 0.017323 0.011024 0.004724 0.01417

Balanced Accuracy 0.829340 0.776180 0.666667 0.81658

Class: 1\_120\_2 Class: 1\_121\_2 Class: 1\_122\_2 Class: 1\_123\_2

Sensitivity 0.375000 0.625000 0.87500 0.375000

Specificity 0.998405 0.993620 0.99362 0.993620

Pos Pred Value 0.750000 0.555556 0.63636 0.428571

Neg Pred Value 0.992076 0.995208 0.99840 0.992038

Prevalence 0.012598 0.012598 0.01260 0.012598

Detection Rate 0.004724 0.007874 0.01102 0.004724

Detection Prevalence 0.006299 0.014173 0.01732 0.011024

Balanced Accuracy 0.686703 0.809310 0.93431 0.684310

Class: 1\_124\_1 Class: 1\_124\_2 Class: 1\_125\_1 Class: 1\_125\_2

Sensitivity 0.333333 0.625000 0.750000 0.625000

Specificity 1.000000 0.995215 0.998415 1.000000

Pos Pred Value 1.000000 0.625000 0.750000 1.000000

Neg Pred Value 0.996845 0.995215 0.998415 0.995238

Prevalence 0.004724 0.012598 0.006299 0.012598

Detection Rate 0.001575 0.007874 0.004724 0.007874

Detection Prevalence 0.001575 0.012598 0.006299 0.007874

Balanced Accuracy 0.666667 0.810108 0.874208 0.812500

Class: 1\_126\_2 Class: 1\_127\_2 Class: 1\_128\_1 Class: 1\_128\_2

Sensitivity 0.76923 0.545455 0.87500 0.625000

Specificity 0.99035 0.982372 0.99681 0.993620

Pos Pred Value 0.62500 0.352941 0.77778 0.555556

Neg Pred Value 0.99515 0.991909 0.99840 0.995208

Prevalence 0.02047 0.017323 0.01260 0.012598

Detection Rate 0.01575 0.009449 0.01102 0.007874

Detection Prevalence 0.02520 0.026772 0.01417 0.014173

Balanced Accuracy 0.87979 0.763913 0.93591 0.809310

Class: 1\_129\_1 Class: 1\_129\_2 Class: 1\_130\_1 Class: 1\_130\_2

Sensitivity 0.400000 0.63636 0.000000 0.72727

Specificity 0.998413 0.98558 0.998420 0.99359

Pos Pred Value 0.666667 0.43750 0.000000 0.66667

Neg Pred Value 0.995253 0.99354 0.996845 0.99518

Prevalence 0.007874 0.01732 0.003150 0.01732

Detection Rate 0.003150 0.01102 0.000000 0.01260

Detection Prevalence 0.004724 0.02520 0.001575 0.01890

Balanced Accuracy 0.699206 0.81097 0.499210 0.86043

Class: 1\_131\_1 Class: 1\_131\_2 Class: 1\_132\_2 Class: 1\_133\_1

Sensitivity 1.000000 0.454545 0.63636 0.750000

Specificity 1.000000 0.996795 0.99199 0.993620

Pos Pred Value 1.000000 0.714286 0.58333 0.600000

Neg Pred Value 1.000000 0.990446 0.99358 0.996800

Prevalence 0.004724 0.017323 0.01732 0.012598

Detection Rate 0.004724 0.007874 0.01102 0.009449

Detection Prevalence 0.004724 0.011024 0.01890 0.015748

Balanced Accuracy 1.000000 0.725670 0.81418 0.871810

Class: 1\_133\_2 Class: 1\_134\_1 Class: 1\_134\_2 Class: 1\_135\_1

Sensitivity 0.428571 0.833333 1.00000 0.750000

Specificity 1.000000 0.992051 0.99199 1.000000

Pos Pred Value 1.000000 0.500000 0.68750 1.000000

Neg Pred Value 0.993671 0.998400 1.00000 0.996820

Prevalence 0.011024 0.009449 0.01732 0.012598

Detection Rate 0.004724 0.007874 0.01732 0.009449

Detection Prevalence 0.004724 0.015748 0.02520 0.009449

Balanced Accuracy 0.714286 0.912692 0.99599 0.875000

Class: 1\_135\_2 Class: 1\_136\_1 Class: 1\_136\_2 Class: 1\_137\_2

Sensitivity 0.750000 0.714286 0.400000 0.666667

Specificity 1.000000 1.000000 1.000000 0.996805

Pos Pred Value 1.000000 1.000000 1.000000 0.750000

Neg Pred Value 0.996820 0.996825 0.995261 0.995215

Prevalence 0.012598 0.011024 0.007874 0.014173

Detection Rate 0.009449 0.007874 0.003150 0.009449

Detection Prevalence 0.009449 0.007874 0.003150 0.012598

Balanced Accuracy 0.875000 0.857143 0.700000 0.831736

Class: 1\_140\_1 Class: 1\_140\_2 Class: 1\_141\_2 Class: 1\_143\_1

Sensitivity 0.750000 0.72727 0.454545 0.444444

Specificity 0.995215 0.98878 0.998397 0.993610

Pos Pred Value 0.666667 0.53333 0.833333 0.500000

Neg Pred Value 0.996805 0.99516 0.990461 0.992026

Prevalence 0.012598 0.01732 0.017323 0.014173

Detection Rate 0.009449 0.01260 0.007874 0.006299

Detection Prevalence 0.014173 0.02362 0.009449 0.012598

Balanced Accuracy 0.872608 0.85803 0.726471 0.719027

Class: 1\_143\_2 Class: 1\_201\_2 Class: 1\_202\_2 Class: 1\_203\_1

Sensitivity 0.222222 0.833333 0.666667 1.000000

Specificity 0.993610 0.998410 1.000000 0.998418

Pos Pred Value 0.333333 0.833333 1.000000 0.750000

Neg Pred Value 0.988871 0.998410 0.996830 1.000000

Prevalence 0.014173 0.009449 0.009449 0.004724

Detection Rate 0.003150 0.007874 0.006299 0.004724

Detection Prevalence 0.009449 0.009449 0.006299 0.006299

Balanced Accuracy 0.607916 0.915872 0.833333 0.999209

Class: 1\_203\_2 Class: 1\_204\_1 Class: 1\_204\_2 Class: 1\_205\_2

Sensitivity 0.666667 0.666667 0.666667 0.333333

Specificity 1.000000 1.000000 1.000000 0.998418

Pos Pred Value 1.000000 1.000000 1.000000 0.500000

Neg Pred Value 0.996830 0.998420 0.996830 0.996840

Prevalence 0.009449 0.004724 0.009449 0.004724

Detection Rate 0.006299 0.003150 0.006299 0.001575

Detection Prevalence 0.006299 0.003150 0.006299 0.003150

Balanced Accuracy 0.833333 0.833333 0.833333 0.665876

Class: 1\_206\_1 Class: 1\_206\_2 Class: 1\_207\_2 Class: 1\_209\_2

Sensitivity 1.000000 0.833333 0.500000 1.000000

Specificity 0.998410 0.998410 1.000000 0.996830

Pos Pred Value 0.857143 0.833333 1.000000 0.666667

Neg Pred Value 1.000000 0.998410 0.995253 1.000000

Prevalence 0.009449 0.009449 0.009449 0.006299

Detection Rate 0.009449 0.007874 0.004724 0.006299

Detection Prevalence 0.011024 0.009449 0.004724 0.009449

Balanced Accuracy 0.999205 0.915872 0.750000 0.998415

Class: 1\_212\_2 Class: 1\_214\_1 Class: 1\_214\_2 Class: 1\_215\_2

Sensitivity 0.666667 0.666667 0.833333 0.500000

Specificity 0.998410 0.993641 0.993641 0.993641

Pos Pred Value 0.800000 0.500000 0.555556 0.428571

Neg Pred Value 0.996825 0.996810 0.998403 0.995223

Prevalence 0.009449 0.009449 0.009449 0.009449

Detection Rate 0.006299 0.006299 0.007874 0.004724

Detection Prevalence 0.007874 0.012598 0.014173 0.011024

Balanced Accuracy 0.832538 0.830154 0.913487 0.746820

Class: 1\_216\_1 Class: 1\_216\_2 Class: 1\_217\_1 Class: 1\_218\_1

Sensitivity 1.000000 0.800000 1.000000 0.666667

Specificity 0.992089 1.000000 1.000000 1.000000

Pos Pred Value 0.375000 1.000000 1.000000 1.000000

Neg Pred Value 1.000000 0.998415 1.000000 0.998420

Prevalence 0.004724 0.007874 0.004724 0.004724

Detection Rate 0.004724 0.006299 0.004724 0.003150

Detection Prevalence 0.012598 0.006299 0.004724 0.003150

Balanced Accuracy 0.996044 0.900000 1.000000 0.833333

Class: 1\_218\_2 Class: 1\_219\_1 Class: 1\_220\_1 Class: 1\_221\_2

Sensitivity 1.000000 0.000000 0.666667 0.833333

Specificity 1.000000 1.000000 1.000000 0.998410

Pos Pred Value 1.000000 NaN 1.000000 0.833333

Neg Pred Value 1.000000 0.995276 0.998420 0.998410

Prevalence 0.009449 0.004724 0.004724 0.009449

Detection Rate 0.009449 0.000000 0.003150 0.007874

Detection Prevalence 0.009449 0.000000 0.003150 0.009449

Balanced Accuracy 1.000000 0.500000 0.833333 0.915872

Class: 1\_223\_2 Class: 1\_224\_1 Class: 1\_224\_2 Class: 1\_225\_1

Sensitivity 0.500000 1.000000 0.89474 1.000000

Specificity 0.996820 0.998418 0.98701 0.998418

Pos Pred Value 0.600000 0.750000 0.68000 0.750000

Neg Pred Value 0.995238 1.000000 0.99672 1.000000

Prevalence 0.009449 0.004724 0.02992 0.004724

Detection Rate 0.004724 0.004724 0.02677 0.004724

Detection Prevalence 0.007874 0.006299 0.03937 0.006299

Balanced Accuracy 0.748410 0.999209 0.94087 0.999209

## 

## Random Forest

Confusion Matrix and Statistics

Reference

Prediction 1\_101\_2 1\_102\_2 1\_103\_2 1\_104\_2 1\_105\_1 1\_105\_2 1\_106\_2 1\_107\_1 1\_107\_2

1\_101\_2 10 3 1 0 0 1 0 0 0

1\_102\_2 0 2 0 0 0 0 0 0 0

1\_103\_2 1 3 8 0 0 0 1 0 0

1\_104\_2 0 0 0 3 2 0 0 0 0

1\_105\_1 0 0 0 3 9 0 0 0 0

1\_105\_2 0 0 0 0 0 7 0 0 0

1\_106\_2 0 1 0 0 0 0 10 0 0

1\_107\_1 0 0 0 0 0 0 0 6 2

1\_107\_2 0 0 0 0 0 0 0 0 7

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_108\_1 1\_108\_2 1\_109\_1 1\_109\_2 1\_110\_1 1\_110\_2 1\_111\_1 1\_111\_2 1\_112\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 5 0 2 0 0 0 0 0 0

1\_108\_2 0 5 0 0 0 0 0 0 0

Reference

Prediction 1\_112\_2 1\_113\_2 1\_114\_1 1\_114\_2 1\_115\_1 1\_115\_2 1\_116\_2 1\_117\_2 1\_118\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 1 0 0 0

1\_105\_2 0 0 0 0 0 0 1 0 0

1\_106\_2 0 0 0 0 1 1 2 0 0

1\_107\_1 0 0 0 0 0 0 0 0 1

1\_107\_2 0 0 0 0 0 0 0 1 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_119\_2 1\_120\_2 1\_121\_2 1\_122\_2 1\_123\_2 1\_124\_1 1\_124\_2 1\_125\_1 1\_125\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 1 0 0 0 0 0 0 0 0

Reference

Prediction 1\_126\_2 1\_127\_2 1\_128\_1 1\_128\_2 1\_129\_1 1\_129\_2 1\_130\_1 1\_130\_2 1\_131\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_131\_2 1\_132\_2 1\_133\_1 1\_133\_2 1\_134\_1 1\_134\_2 1\_135\_1 1\_135\_2 1\_136\_1

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_136\_2 1\_137\_2 1\_140\_1 1\_140\_2 1\_141\_2 1\_143\_1 1\_143\_2 1\_201\_2 1\_202\_2

1\_101\_2 0 0 0 0 0 1 1 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 1 0 0 0 0

Reference

Prediction 1\_203\_1 1\_203\_2 1\_204\_1 1\_204\_2 1\_205\_2 1\_206\_1 1\_206\_2 1\_207\_2 1\_209\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_212\_2 1\_214\_1 1\_214\_2 1\_215\_2 1\_216\_1 1\_216\_2 1\_217\_1 1\_218\_1 1\_218\_2

1\_101\_2 0 0 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0 0 0

Reference

Prediction 1\_219\_1 1\_220\_1 1\_221\_2 1\_223\_2 1\_224\_1 1\_224\_2 1\_225\_1

1\_101\_2 0 0 0 0 0 0 0

1\_102\_2 0 0 0 0 0 0 0

1\_103\_2 0 0 0 0 0 0 0

1\_104\_2 0 0 0 0 0 0 0

1\_105\_1 0 0 0 0 0 0 0

1\_105\_2 0 0 0 0 0 0 0

1\_106\_2 0 0 0 0 0 0 0

1\_107\_1 0 0 0 0 0 0 0

1\_107\_2 0 0 0 0 0 0 0

1\_108\_1 0 0 0 0 0 0 0

1\_108\_2 0 0 0 0 0 0 0

[ reached getOption("max.print") -- omitted 77 rows ]

Overall Statistics

Accuracy : 0.8504

95% CI : (0.8202, 0.8772)

No Information Rate : 0.0299

P-Value [Acc > NIR] : < 2.2e-16

Kappa : 0.8483

Mcnemar's Test P-Value : NA

Statistics by Class:

Class: 1\_101\_2 Class: 1\_102\_2 Class: 1\_103\_2 Class: 1\_104\_2

Sensitivity 0.83333 0.22222 0.88889 0.500000

Specificity 0.98876 1.00000 0.99201 0.996820

Pos Pred Value 0.58824 1.00000 0.61538 0.600000

Neg Pred Value 0.99676 0.98894 0.99839 0.995238

Prevalence 0.01890 0.01417 0.01417 0.009449

Detection Rate 0.01575 0.00315 0.01260 0.004724

Detection Prevalence 0.02677 0.00315 0.02047 0.007874

Balanced Accuracy 0.91105 0.61111 0.94045 0.748410

Class: 1\_105\_1 Class: 1\_105\_2 Class: 1\_106\_2 Class: 1\_107\_1

Sensitivity 0.75000 0.87500 0.83333 1.000000

Specificity 0.99358 0.99841 0.99197 0.995231

Pos Pred Value 0.69231 0.87500 0.66667 0.666667

Neg Pred Value 0.99518 0.99841 0.99677 1.000000

Prevalence 0.01890 0.01260 0.01890 0.009449

Detection Rate 0.01417 0.01102 0.01575 0.009449

Detection Prevalence 0.02047 0.01260 0.02362 0.014173

Balanced Accuracy 0.87179 0.93670 0.91265 0.997615

Class: 1\_107\_2 Class: 1\_108\_1 Class: 1\_108\_2 Class: 1\_109\_1

Sensitivity 0.77778 1.000000 0.625000 0.000000

Specificity 0.99840 0.996825 0.996810 1.000000

Pos Pred Value 0.87500 0.714286 0.714286 NaN

Neg Pred Value 0.99681 1.000000 0.995223 0.995276

Prevalence 0.01417 0.007874 0.012598 0.004724

Detection Rate 0.01102 0.007874 0.007874 0.000000

Detection Prevalence 0.01260 0.011024 0.011024 0.000000

Balanced Accuracy 0.88809 0.998413 0.810905 0.500000

Class: 1\_109\_2 Class: 1\_110\_1 Class: 1\_110\_2 Class: 1\_111\_1

Sensitivity 0.428571 0.666667 0.90000 1.000000

Specificity 0.998408 1.000000 0.98880 0.998413

Pos Pred Value 0.750000 1.000000 0.56250 0.833333

Neg Pred Value 0.993661 0.998420 0.99838 1.000000

Prevalence 0.011024 0.004724 0.01575 0.007874

Detection Rate 0.004724 0.003150 0.01417 0.007874

Detection Prevalence 0.006299 0.003150 0.02520 0.009449

Balanced Accuracy 0.713490 0.833333 0.94440 0.999206

Class: 1\_111\_2 Class: 1\_112\_1 Class: 1\_112\_2 Class: 1\_113\_2

Sensitivity 0.833333 0.77778 1.0000 0.90909

Specificity 1.000000 0.99840 1.0000 0.99679

Pos Pred Value 1.000000 0.87500 1.0000 0.83333

Neg Pred Value 0.998413 0.99681 1.0000 0.99839

Prevalence 0.009449 0.01417 0.0126 0.01732

Detection Rate 0.007874 0.01102 0.0126 0.01575

Detection Prevalence 0.007874 0.01260 0.0126 0.01890

Balanced Accuracy 0.916667 0.88809 1.0000 0.95294

Class: 1\_114\_1 Class: 1\_114\_2 Class: 1\_115\_1 Class: 1\_115\_2

Sensitivity 1.000000 0.90909 0.666667 0.77778

Specificity 1.000000 1.00000 0.998410 0.99681

Pos Pred Value 1.000000 1.00000 0.800000 0.77778

Neg Pred Value 1.000000 0.99840 0.996825 0.99681

Prevalence 0.007874 0.01732 0.009449 0.01417

Detection Rate 0.007874 0.01575 0.006299 0.01102

Detection Prevalence 0.007874 0.01575 0.007874 0.01417

Balanced Accuracy 1.000000 0.95455 0.832538 0.88729

Class: 1\_116\_2 Class: 1\_117\_2 Class: 1\_118\_2 Class: 1\_119\_2

Sensitivity 0.555556 0.88889 0.88889 0.63636

Specificity 1.000000 1.00000 1.00000 0.99359

Pos Pred Value 1.000000 1.00000 1.00000 0.63636

Neg Pred Value 0.993651 0.99841 0.99841 0.99359

Prevalence 0.014173 0.01417 0.01417 0.01732

Detection Rate 0.007874 0.01260 0.01260 0.01102

Detection Prevalence 0.007874 0.01260 0.01260 0.01732

Balanced Accuracy 0.777778 0.94444 0.94444 0.81498

Class: 1\_120\_2 Class: 1\_121\_2 Class: 1\_122\_2 Class: 1\_123\_2

Sensitivity 0.625000 1.00000 0.87500 1.00000

Specificity 0.996810 0.99681 0.99841 0.99841

Pos Pred Value 0.714286 0.80000 0.87500 0.88889

Neg Pred Value 0.995223 1.00000 0.99841 1.00000

Prevalence 0.012598 0.01260 0.01260 0.01260

Detection Rate 0.007874 0.01260 0.01102 0.01260

Detection Prevalence 0.011024 0.01575 0.01260 0.01417

Balanced Accuracy 0.810905 0.99841 0.93670 0.99920

Class: 1\_124\_1 Class: 1\_124\_2 Class: 1\_125\_1 Class: 1\_125\_2

Sensitivity 0.666667 0.87500 0.750000 0.87500

Specificity 1.000000 0.99841 0.998415 1.00000

Pos Pred Value 1.000000 0.87500 0.750000 1.00000

Neg Pred Value 0.998420 0.99841 0.998415 0.99841

Prevalence 0.004724 0.01260 0.006299 0.01260

Detection Rate 0.003150 0.01102 0.004724 0.01102

Detection Prevalence 0.003150 0.01260 0.006299 0.01102

Balanced Accuracy 0.833333 0.93670 0.874208 0.93750

Class: 1\_126\_2 Class: 1\_127\_2 Class: 1\_128\_1 Class: 1\_128\_2

Sensitivity 0.92308 0.90909 0.87500 0.750000

Specificity 0.99839 0.99679 0.99362 0.998405

Pos Pred Value 0.92308 0.83333 0.63636 0.857143

Neg Pred Value 0.99839 0.99839 0.99840 0.996815

Prevalence 0.02047 0.01732 0.01260 0.012598

Detection Rate 0.01890 0.01575 0.01102 0.009449

Detection Prevalence 0.02047 0.01890 0.01732 0.011024

Balanced Accuracy 0.96073 0.95294 0.93431 0.874203

Class: 1\_129\_1 Class: 1\_129\_2 Class: 1\_130\_1 Class: 1\_130\_2

Sensitivity 0.800000 0.81818 1.00000 0.81818

Specificity 1.000000 1.00000 1.00000 0.99359

Pos Pred Value 1.000000 1.00000 1.00000 0.69231

Neg Pred Value 0.998415 0.99681 1.00000 0.99678

Prevalence 0.007874 0.01732 0.00315 0.01732

Detection Rate 0.006299 0.01417 0.00315 0.01417

Detection Prevalence 0.006299 0.01417 0.00315 0.02047

Balanced Accuracy 0.900000 0.90909 1.00000 0.90589

Class: 1\_131\_1 Class: 1\_131\_2 Class: 1\_132\_2 Class: 1\_133\_1

Sensitivity 1.000000 0.72727 1.00000 0.87500

Specificity 1.000000 1.00000 0.99840 1.00000

Pos Pred Value 1.000000 1.00000 0.91667 1.00000

Neg Pred Value 1.000000 0.99522 1.00000 0.99841

Prevalence 0.004724 0.01732 0.01732 0.01260

Detection Rate 0.004724 0.01260 0.01732 0.01102

Detection Prevalence 0.004724 0.01260 0.01890 0.01102

Balanced Accuracy 1.000000 0.86364 0.99920 0.93750

Class: 1\_133\_2 Class: 1\_134\_1 Class: 1\_134\_2 Class: 1\_135\_1

Sensitivity 1.00000 0.666667 0.90909 0.87500

Specificity 0.99522 0.998410 1.00000 1.00000

Pos Pred Value 0.70000 0.800000 1.00000 1.00000

Neg Pred Value 1.00000 0.996825 0.99840 0.99841

Prevalence 0.01102 0.009449 0.01732 0.01260

Detection Rate 0.01102 0.006299 0.01575 0.01102

Detection Prevalence 0.01575 0.007874 0.01575 0.01102

Balanced Accuracy 0.99761 0.832538 0.95455 0.93750

Class: 1\_135\_2 Class: 1\_136\_1 Class: 1\_136\_2 Class: 1\_137\_2

Sensitivity 0.87500 1.00000 0.800000 0.77778

Specificity 1.00000 0.99522 0.995238 0.99840

Pos Pred Value 1.00000 0.70000 0.571429 0.87500

Neg Pred Value 0.99841 1.00000 0.998408 0.99681

Prevalence 0.01260 0.01102 0.007874 0.01417

Detection Rate 0.01102 0.01102 0.006299 0.01102

Detection Prevalence 0.01102 0.01575 0.011024 0.01260

Balanced Accuracy 0.93750 0.99761 0.897619 0.88809

Class: 1\_140\_1 Class: 1\_140\_2 Class: 1\_141\_2 Class: 1\_143\_1

Sensitivity 0.87500 1.00000 0.81818 0.88889

Specificity 1.00000 0.99519 1.00000 0.99840

Pos Pred Value 1.00000 0.78571 1.00000 0.88889

Neg Pred Value 0.99841 1.00000 0.99681 0.99840

Prevalence 0.01260 0.01732 0.01732 0.01417

Detection Rate 0.01102 0.01732 0.01417 0.01260

Detection Prevalence 0.01102 0.02205 0.01417 0.01417

Balanced Accuracy 0.93750 0.99760 0.90909 0.94365

Class: 1\_143\_2 Class: 1\_201\_2 Class: 1\_202\_2 Class: 1\_203\_1

Sensitivity 0.77778 1.000000 1.000000 1.000000

Specificity 0.99840 1.000000 1.000000 1.000000

Pos Pred Value 0.87500 1.000000 1.000000 1.000000

Neg Pred Value 0.99681 1.000000 1.000000 1.000000

Prevalence 0.01417 0.009449 0.009449 0.004724

Detection Rate 0.01102 0.009449 0.009449 0.004724

Detection Prevalence 0.01260 0.009449 0.009449 0.004724

Balanced Accuracy 0.88809 1.000000 1.000000 1.000000

Class: 1\_203\_2 Class: 1\_204\_1 Class: 1\_204\_2 Class: 1\_205\_2

Sensitivity 1.000000 1.000000 1.000000 1.000000

Specificity 1.000000 1.000000 0.998410 1.000000

Pos Pred Value 1.000000 1.000000 0.857143 1.000000

Neg Pred Value 1.000000 1.000000 1.000000 1.000000

Prevalence 0.009449 0.004724 0.009449 0.004724

Detection Rate 0.009449 0.004724 0.009449 0.004724

Detection Prevalence 0.009449 0.004724 0.011024 0.004724

Balanced Accuracy 1.000000 1.000000 0.999205 1.000000

Class: 1\_206\_1 Class: 1\_206\_2 Class: 1\_207\_2 Class: 1\_209\_2

Sensitivity 1.000000 0.833333 1.000000 1.000000

Specificity 1.000000 1.000000 1.000000 1.000000

Pos Pred Value 1.000000 1.000000 1.000000 1.000000

Neg Pred Value 1.000000 0.998413 1.000000 1.000000

Prevalence 0.009449 0.009449 0.009449 0.006299

Detection Rate 0.009449 0.007874 0.009449 0.006299

Detection Prevalence 0.009449 0.007874 0.009449 0.006299

Balanced Accuracy 1.000000 0.916667 1.000000 1.000000

Class: 1\_212\_2 Class: 1\_214\_1 Class: 1\_214\_2 Class: 1\_215\_2

Sensitivity 1.000000 1.000000 1.000000 0.833333

Specificity 1.000000 1.000000 0.998410 1.000000

Pos Pred Value 1.000000 1.000000 0.857143 1.000000

Neg Pred Value 1.000000 1.000000 1.000000 0.998413

Prevalence 0.009449 0.009449 0.009449 0.009449

Detection Rate 0.009449 0.009449 0.009449 0.007874

Detection Prevalence 0.009449 0.009449 0.011024 0.007874

Balanced Accuracy 1.000000 1.000000 0.999205 0.916667

Class: 1\_216\_1 Class: 1\_216\_2 Class: 1\_217\_1 Class: 1\_218\_1

Sensitivity 0.666667 0.800000 1.000000 1.000000

Specificity 1.000000 1.000000 1.000000 0.998418

Pos Pred Value 1.000000 1.000000 1.000000 0.750000

Neg Pred Value 0.998420 0.998415 1.000000 1.000000

Prevalence 0.004724 0.007874 0.004724 0.004724

Detection Rate 0.003150 0.006299 0.004724 0.004724

Detection Prevalence 0.003150 0.006299 0.004724 0.006299

Balanced Accuracy 0.833333 0.900000 1.000000 0.999209

Class: 1\_218\_2 Class: 1\_219\_1 Class: 1\_220\_1 Class: 1\_221\_2

Sensitivity 0.833333 1.000000 1.000000 0.833333

Specificity 1.000000 1.000000 1.000000 1.000000

Pos Pred Value 1.000000 1.000000 1.000000 1.000000

Neg Pred Value 0.998413 1.000000 1.000000 0.998413

Prevalence 0.009449 0.004724 0.004724 0.009449

Detection Rate 0.007874 0.004724 0.004724 0.007874

Detection Prevalence 0.007874 0.004724 0.004724 0.007874

Balanced Accuracy 0.916667 1.000000 1.000000 0.916667

Class: 1\_223\_2 Class: 1\_224\_1 Class: 1\_224\_2 Class: 1\_225\_1

Sensitivity 1.000000 1.000000 0.94737 1.000000

Specificity 0.998410 1.000000 0.99513 1.000000

Pos Pred Value 0.857143 1.000000 0.85714 1.000000

Neg Pred Value 1.000000 1.000000 0.99837 1.000000

Prevalence 0.009449 0.004724 0.02992 0.004724

Detection Rate 0.009449 0.004724 0.02835 0.004724

Detection Prevalence 0.011024 0.004724 0.03307 0.004724

Balanced Accuracy 0.999205 1.000000 0.97125 1.000000