

Telco Dataset

Decision Tree:

Performance Measure	Training	Test
Accuracy	94.63968761093362 %	73.88218594748048 %
True Positive Rate (sensitivity, recall, hit rate)	0.9388440860215054	0.5669291338582677
True Negative Rate (Specificity)	0.9491075735648818	0.8025291828793775
Positive predictive value(precision)	0.8687810945273632	0.5155131264916468
False discovery rate	0.13121890547263682	0.48448687350835323
F1 Score	0.9024547803617571	0.54

Adaboost version:

Number of boosting rounds	Training	Test
5	79.09123180688677 %	79.4180269694819 %
10	79.3574724884629 %	79.4180269694819 %
15	79.94320198793042 %	79.55997161107167 %
20	79.87220447284345 %	80.41163946061036 %

Adult Dataset

Decision Tree:

Performance Measure	Training	Test
Accuracy	90.13850925954362 %	82.78361280019655 %
True Positive Rate (sensitivity, recall, hit rate)	0.7736258130340518	0.608684347373895
True Negative Rate (Specificity)	0.9419093851132686	0.8956172094893446
Positive predictive value(precision)	0.8085843774993335	0.6433086012640835
False discovery rate	0.1914156225006665	0.3566913987359165
F1 Score	0.7907188946099198	0.6255177020708083

Adaboost version:

Number of boosting rounds	Training	Test
5	82.00608089432143 %	82.17554204287207 %
10	83.94705322318111 %	84.06117560346415 %
15	84.39851355916588 %	84.50340888151834 %
20	84.82540462516508 %	84.97635280388182 %

Credit Card Dataset (Sampled)

Decision Tree:

Performance Measure	Training	Test
Accuracy	99.72549258829989 %	99.24371797999511 %
True Positive Rate (sensitivity, recall, hit rate)	0.8975	0.8043478260869565
True Negative Rate (Specificity)	0.9997498905771275	0.9967556775642625
Positive predictive value(precision)	0.9889807162534435	0.8505747126436781
False discovery rate	0.011019283746556474	0.14942528735632185
F1 Score	0.9410222804718218	0.8268156424581006

Adaboost version:

Number of boosting rounds	Training	Test
5	99.34118221191972 %	99.34130275676995 %
10	99.34118221191972 %	99.34130275676995 %
15	99.36558287073751 %	99.36569895096366 %
20	99.36558287073751 %	99.36569895096366 %

Credit Card Dataset (Full)

Decision Tree:

Performance Measure	Training	Test
Accuracy	99.96839956988304 %	99.92099996488887 %
True Positive Rate (sensitivity, recall, hit rate)	0.8513189448441247	0.7066666666666667
True Negative Rate (Specificity)	0.9999560300402764	0.9995956897006346
Positive predictive value(precision)	0.9726027397260274	0.6973684210526315
False discovery rate	0.0273972602739726	0.3026315789473684
F1 Score	0.9079283887468031	0.7019867549668874

Adaboost version:

Number of boosting rounds	Training	Test
5	99.85472580043451 %	99.8771110564938 %
10	99.85472580043451 %	99.8771110564938 %
15	99.87140380521846 %	99.89993328885924 %
20	99.87886501788496 %	99.89993328885924 %