# 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 % |