# Model Performance Metrics

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| Metrics | Logistic Regression | Decision Tree | Gaussian Naive Bayes | XGBoost | Random Forest | Gradient Boosting | Support Vector Machine (SVC) |
| F1 Score | 0.10126582278481013 | 0.4870848708487085 | 0.09681697612732096 | 0.7700534759358288 | 0.8433734939759037 | 0.17067833698030635 | 0.14601344860710855 |
| Accuracy | 0.9749762097769006 | 0.9975504881401333 | 0.9759983082508018 | 0.9992422373383146 | 0.9995418179254926 | 0.9866422302893596 | 0.9843336975293413 |
| Precision | 0.053691275167785234 | 0.36464088397790057 | 0.05148095909732017 | 0.7422680412371134 | 0.9210526315789473 | 0.09466019417475728 | 0.07991587802313355 |
| Recall | 0.8888888888888888 | 0.7333333333333333 | 0.8111111111111111 | 0.8 | 0.7777777777777778 | 0.8666666666666667 | 0.8444444444444444 |
| Log Loss | 0.11032918046598844 | 0.08828935644956995 | 0.5779914380172899 | 0.0038645919424632634 | 0.007712857045387531 | 0.05866151814043704 | 0.046673153739886696 |
| AUC | 0.9766996336565315 | 0.8656517697448931 | 0.9559076806614578 | 0.9729172550127083 | 0.958275871536603 | 0.9812623552668738 | 0.9388579026640309 |
| MCC | 0.21501859849845628 | 0.5160938711606503 | 0.200730430214501 | 0.7702161017880697 | 0.846169174068111 | 0.28391773258001546 | 0.25698692604468193 |
| Balanced Accuracy | 0.9320009256644388 | 0.8656517697448931 | 0.8936856741661175 | 0.899779370234397 | 0.8888359377451442 | 0.9267497411277417 | 0.9145001804261195 |
| Kappa | 0.09856933311019245 | 0.48599590787865643 | 0.0941149769014008 | 0.769674501951191 | 0.8431457016022273 | 0.16829993640066765 | 0.14353158225119456 |
| Specificity | 0.9751129624399887 | 0.9979702061564529 | 0.976260237221124 | 0.9995587404687941 | 0.9998940977125106 | 0.9868328155888167 | 0.9845559164077944 |
| F2 Score | 0.21621621621621623 | 0.609981515711645 | 0.20528683914510687 | 0.787746170678337 | 0.8027522935779816 | 0.3293918918918919 | 0.2898550724637681 |
| Training Time (seconds) | 6.525672500021756 | 102.80899849999696 | 0.6451614999677986 | 10.332288200035691 | 637.6621017999714 | 1699.0204636000562 | 22948.700561500038 |