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| **Model** | **Model Hyper-parameters** |
| 1-Logistic Regression | Regularization type :lasso (L1) ,strength C=1 |
| 2-Logistic Regression Ridge | Regularization type :Ridge (L2) ,strength C=1 |
| 3-Neural Network | Number of hidden neurons =100,activation=ReLu, solver=SGD, regularization,α=0.0001,number of iterations=1000,replicable training |
| 4-SVM | SVM TYPE=SVM ,Cost(C)=1,Regression loss epsilon (Ꜫ)=0.1,Kernel=RBF, g:auto,numerical tolerance=0.001,iteration limit=100 |
| 5-kNN | Number of neighbors =5,metric=Euclidean, weight=uniform |
| 6-Random Forest | Number of trees=10,do not split subsets smaller than= 5 |
| 7-Naive Bayes | Default |
| 8-SGD | Classification loss function =Hinge, regularization method=Ridge(L2), learning rate=constant, initial learning rate=0.01, number of iterations=1000, Tolerance (stopping criterion)=0.001 |
| 9-Tree | Induce binary tree, min number of instances in leaves =2, do not split subsets smaller than= 5,limit the maximal tree depth=100,stop when majority reaches=95% |
| 10-AdaBoost | Base estimator=tree, number of estimators=50, learning rate=1, classification algorithm=SAMME, regression loss function=exponential |
| 11-CN2 rule inducer | Rule ordering=ordered , covering algorithm=exclusive , rule search: evaluation measure=Entropy , Beam width=5,Rule Filtering  Minimum rule coverage=1,maximum rule length=5 |

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| **TRAINING: Sampling type:** Stratified 10-fold Cross validation **Target class:** Average over classes | | | | | | | | |
| Model | Test time [s] | Area Under Curve | Accuracy | F Measure | Precision | Recall | LogLoss | Specificity |
| Tree |  |  |  |  |  |  |  |  |
| SGD |  |  |  |  |  |  |  |  |
| Neural Network |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| SVM |  |  |  |  |  |  |  |  |
| kNN |  |  |  |  |  |  |  |  |