**Supplementary Table 7. Parameters for ML**

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| --- | --- |
| Algorithm | Parameters |
| AdaBoost | 'algorithm': 'SAMME.R''base\_estimator': None'learning\_rate': 1.0'n\_estimators': 50'random\_state': 0 |
| GBDT | 'ccp\_alpha': 0.0'criterion': 'friedman\_mse''init': None'learning\_rate': 0.1'loss': 'deviance''max\_depth': 3'max\_features': None'max\_leaf\_nodes': None'min\_impurity\_decrease': 0.0'min\_impurity\_split': None'min\_samples\_leaf': 1'min\_samples\_split': 2'min\_weight\_fraction\_leaf': 0.0'n\_estimators': 100'n\_iter\_no\_change': None'presort': 'deprecated''random\_state': 0'subsample': 1.0'tol': 0.0001'validation\_fraction': 0.1'verbose': 0'warm\_start': False |
| Xgboost | 'base\_score': 0.5'booster': 'gbtree''colsample\_bylevel': 1'colsample\_bynode': 1'colsample\_bytree': 1'gamma': 0'learning\_rate': 0.1'max\_delta\_step': 0'max\_depth': 3'min\_child\_weight': 1'missing': None'n\_estimators': 100'n\_jobs': 1'nthread': None'objective': 'binary:logistic''random\_state': 0'reg\_alpha': 0'reg\_lambda': 1'scale\_pos\_weight': 1'seed': None'silent': 0'subsample': 1'verbosity': 1'eval\_metric': 'auc' |