|  |  |  |
| --- | --- | --- |
| **Algorithm** | **Accuracy** | **Precision** |
| GaussianNB: | 0.88042203985932 | 0.5414364640883977 |
| MultinomialNB: | 0.9513481828839391 | 1.0 |
| BernoulliNB: | 0.9654161781946072 | 0.9781420765027322 |
| LogisticRegression: | 0.9419695193434936 | 0.8857142857142857 |
| SVC: | 0.9736225087924971 | 0.9655172413793104 |
| DecisionTreeClassifier: | 0.9337631887456037 | 0.8071065989847716 |
| KNeighborsClassifier: | 0.8921453692848769 | 1.0 |
| RandomForestClassifier: | 0.963071512309496 | 0.9942196531791907 |

# max\_feature = 3000

|  |  |  |
| --- | --- | --- |
| **Algorithm** | **Accuracy** | **Precision** |
| GaussianNB: | 0.8786635404454866 | 0.536986301369863 |
| MultinomialNB: | 0.9712778429073857 | 0.9894179894179894 |
| BernoulliNB: | 0.9736225087924971 | 0.9701492537313433 |
| LogisticRegression: | 0.9472450175849941 | 0.9044943820224719 |
| SVC: | 0.9794841735052755 | 0.9715639810426541 |
| DecisionTreeClassifier: | 0.9372801875732708 | 0.850828729281768 |
| KNeighborsClassifier: | 0.9015240328253223 | 1.0 |
| RandomForestClassifier: | 0.9706916764361079 | 0.9842105263157894 |

* Voting classifier: 0.9712778429073857, 1.0, estimators=[('knc', knc), ('mnb', mnb), ('rfc', rfc), ('svc', svc)], voting='soft'
* Voting classifier: 0.9660023446658851, 1.0, estimators=[('knc', knc), ('mnb', mnb), ('rfc', rfc), ('svc', svc)], voting='hard'
* Voting classifier: 0.9783118405627198, 1.0, estimators=[('knc', knc), ('mnb', mnb), ('rfc', rfc), ('svc', svc) , ('bnb', bnb)], voting='soft'
* Voting classifier: 0.9765533411488863, 1.0, estimators=[('knc', knc), ('mnb', mnb), ('rfc', rfc), ('svc', svc) , ('bnb', bnb)], voting='hard'
* Stackingclassifier: 0.9783118405627198, 1.0, estimators=[('knc', knc), ('mnb', mnb), ('rfc', rfc), ('svc', svc) , ('bnb', bnb)] , final\_estimator=RandomForestClassifier()

# Scaling X

|  |  |  |
| --- | --- | --- |
| **Algorithm** | **Accuracy** | **Precision** |
| GaussianNB: | 0.8774912075029309 | 0.5333333333333333 |
| MultinomialNB: | 0.9800703399765534 | 0.9672897196261683 |
| BernoulliNB: | 0.9736225087924971 | 0.9701492537313433 |
| LogisticRegression: | 0.9618991793669402 | 0.9470899470899471 |
| SVC: | 0.9724501758499414 | 0.9308755760368663 |
| DecisionTreeClassifier: | 0.9384525205158265 | 0.856353591160221 |
| KNeighborsClassifier: | 0.8997655334114889 | 1.0 |
| RandomForestClassifier: | 0.9706916764361079 | 0.9842105263157894 |