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| --- | --- | --- | --- |
| Model | Parameter Design | Accuracy | F1-score(weighted) |
| Multinomial Logistic Regression | solver='newton-cg'  test\_size=0.2 | Train set=0.75  Test set=0.74 | Test set=0.74 |
| Random Forest | Default parameters | Train set=0.99  Test set=0.81 | Test set=0.81 |
| Random Forest | Num\_estimators=100  Min\_samples\_split=20  Min\_samples\_leaf=2 | Train set=0.89  Test set=0.81 | Test set=0.81 |
| XGBoost | Default parameters | Train set=0.95  Test size=0.81 | Test set=0.81 |
| XGBoost | Max depth=4  Learning rate=0.5 | Train set=0.91  Test set=0.8 | Test set=0.81 |
| XGBoost | Max depth=3  Learning rate=0.5  Feature selection applied | Train set=0.83  Test set=0.78 | Test set=0.81 |