In our paper, we implemented Naïve Bayes, Random Forest, SVM, and kNN using Python and Scikit-Learn. Table 3 lists the key parameters and experimental parameters considered for the work in the Scikit-Learn library of these models.

**Table 3: Parameters and Experimental parameters of machine learning models**

|  |  |  |
| --- | --- | --- |
| **Model** | **Parameters** | **Experimental parameters** |
| Naïve Bayes | var\_smoothing: 1e-9 | -- |
| Random Forest | n\_estimators: 50,criterion: "gini",max\_depth: None,max\_features: sqrt(n\_features),bootstrap: True, | n\_estimators: 100,50,20,10,5max\_depth:5,10,20, None (Expand node until all leaves are pure) |
| SVM | penalty: "l2",kernel: "linear"loss: "squared\_hinge",Tolerance stopping standard: 1e-4,Penalty parameter for error items: 0.5,max\_iter: 1000 | kernel: "linear","rbf"Tolerance stopping standard: 1e-3,1e-4Penalty parameter for error items: 0.1,0.2,0.5,0.8,1.0, |
| KNN | n\_neighbors: 7,leaf\_size: 30,p: 2,metric: "minkowski", | n\_neighbors: 3,4,5,6,7,8,9,10 |