|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Feature Sets | | | | | |
| Classifiers | Evaluation Metrics | TF-IDF | Unigram | Bigram | Trigram | Bigram+  TF-IDF | Trigram+  TF-IDF |
| Naïve Bayes | Accuracy | 0.611 | 0.600 | 0.626 | 0.761 | 0.616 | 0.764 |
| Precision | 0.551 | 0.54 | 0.562 | 0.857 | 0.559 | 0.859 |
| Recall | 0.843 | 0.868 | 0.857 | 0.579 | 0.800 | 0.586 |
| F1 score | 0.667 | 0.667 | 0.679 | 0.691 | 0.658 | 0.696 |
| SVM | Accuracy | **0.797** | 0.766 | 0.783 | 0.748 | 0.778 | 0.740 |
| Precision | 0.818 | 0.750 | 0.870 | 0.957 | 0.896 | 0.936 |
| Recall | 0.721 | 0.739 | 0.621 | 0.475 | 0.586 | 0.468 |
| F1 score | 0.767 | 0.745 | 0.725 | 0.635 | 0.708 | 0.624 |
| KNN | Accuracy | 0.694 | 0.764 | 0.707 | 0.468 | 0.595 | 0.390 |
| Precision | 0.943 | 0.834 | 0.875 | 0.447 | 0.766 | 0.372 |
| Recall | 0.357 | 0.611 | 0.425 | 0.650 | 0.175 | 0.468 |
| F1 score | 0.518 | 0.705 | 0.572 | 0.530 | 0.285 | 0.415 |
| Random Forest | Accuracy | 0.781 | 0.748 | 0.776 | 0.733 | 0.755 | 0.722 |
| Precision | 0.805 | 0.757 | 0.896 | 0.961 | 0.866 | 0.944 |
| Recall | 0.693 | 0.668 | 0.582 | 0.439 | 0.554 | 0.421 |
| F1 score | 0.745 | 0.710 | 0.706 | 0.603 | 0.675 | 0.583 |
| Decision Tree | Accuracy | 0.730 | 0.736 | 0.759 | 0.728 | 0.759 | 0.731 |
| Precision | 0.693 | 0.714 | 0.807 | 0.881 | 0.796 | 0.882 |
| Recall | 0.743 | 0.714 | 0.629 | 0.475 | 0.643 | 0.482 |
| F1 score | 0.717 | 0.714 | 0.707 | 0.617 | 0.711 | 0.624 |

Table1: Result table for Train Test ratio 80:20