**ASSIGNMENT-2 REPORT**

**DATA ANALYTICS FOR WELL-BEING**

**AKSHAY AGARWAL**

**(903000875)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CLASSIFIER** |  | **Accuracy** | **Precision** | **Recall** | **F1** |
| **Naïve Bayes** | **LIWC** | 0.897947328 | 0.899401198 | 0.891218354 | 0.895291079 |
| **(Multinomial)** | **Threshold 50** | 0.530880595 | 0.868131868 | 0.043098745 | 0.082120582 |
|  | **Threshold 100** | 0.541506176 | 0.845410628 | 0.04867872 | 0.092056812 |
|  | **Threshold 500** | 0.888431399 | 0.982155113 | 0.784109589 | 0.87202925 |
| **SVM** | **LIWC** | 0.913051898 | 0.911357341 | 0.910996835 | 0.911177052 |
|  | **Threshold 50** | 0.513082747 | 0.5 | 0.000545554 | 0.001089918 |
|  | **Threshold 100** | 0.52251295 | 0.5 | 0.000834492 | 0.001666204 |
|  | **Threshold 500** | 0.987913402 | 0.97643909 | 0.999178082 | 0.987677725 |
| **knn - 1** | **LIWC** | 0.897172734 | 0.898602794 | 0.890427215 | 0.894496324 |
|  | **Threshold 50** | 0.48877673 | 0.487573 | 0.979268958 | 0.651010971 |
|  | **Threshold 100** | 0.48293266 | 0.479667031 | 0.977746871 | 0.643596082 |
|  | **Threshold 500** | 0.954044362 | 0.976630121 | 0.92739726 | 0.951377178 |
| **knn - 10** | **LIWC** | 0.919635941 | 0.933169332 | 0.900316456 | 0.91644856 |
|  | **Threshold 50** | 0.489972108 | 0.488198589 | 0.98172395 | 0.65211089 |
|  | **Threshold 100** | 0.486120335 | 0.481212287 | 0.976077886 | 0.644622026 |
|  | **Threshold 500** | 0.990569797 | 0.983517968 | 0.997260274 | 0.99034145 |
| **knn - 100** | **LIWC** | 0.916150271 | 0.917830076 | 0.910205696 | 0.914001986 |
|  | **Threshold 50** | 0.535529287 | 0.796491228 | 0.061920349 | 0.114907618 |
|  | **Threshold 100** | 0.543764112 | 0.80075188 | 0.059248957 | 0.11033411 |
|  | **Threshold 500** | 0.98871032 | 0.980070024 | 0.996986301 | 0.988455792 |
| **knn - 1000** | **LIWC** | 0.909372579 | 0.906471981 | 0.908623418 | 0.907546424 |
|  | **Threshold 50** | 0.532341612 | 0.811158798 | 0.051554828 | 0.096947935 |
|  | **Threshold 100** | 0.541771816 | 0.808510638 | 0.052851182 | 0.09921671 |
|  | **Threshold 500** | 0.979545756 | 0.960242233 | 0.999178082 | 0.979323308 |

Discussion: