Finding value of k

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Value Of K | Hybrid NB | Hybrid LR | Hybrid KNN | Hybrid DT |
| 3 | 61.08% | 73.02% | 62.38% | 61.75% |
| **5** | 68.65% | **82.41%** | 70.80% | **67.02%** |
| 7 | **69.47%** | 69.28% | 60.61% | 59.69% |
| 9 | 63.06% | 70.12% | **73.32%** | 63.71% |
| 11 | 54.10% | 63.87% | 56.44% | 54.82% |

Taking value of k=5, normal vs hybrid

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. Of Iteration | HYBRID  NB | NORMAL  NB | **HYBRID**  **LR** | NORMAL  LR | HYBRID  KNN | NORMAL  KNN | HYBRID  DT | NORMAL DT |
| 1 | |  | | --- | | 82.07% | | 68.1% | 83.54% | 79.52% | 7368% | 67.24% | 73.2% | 63.79% |
| 2 | 71.58% | 68.1% | 81.44% | 79.52% | 72.32% | 67.24% | 65.67% | 60.34% |
| 3 | 68.16% | 68.1% | 81.44% | 79.52% | 72.73% | 67.24% | 70.02% | 64.65% |
| 4 | 70.98% | 68..1% | 83.54% | 79.52% | 72.73% | 67.24% | 71.11% | 65.51% |
| 5 | 71.58% | 68.1% | 83.54% | 79.52% | 73.68% | 67.24% | 71.86% | 62.93% |
| 6 | 71.58% | 68.1% | 80.94% | 79.52% | 73.32% | 67.24% | 74.12% | 63.79% |
| 7 | 73.83% | 68.1% | 0.83.54% | 79.52% | 73.68% | 67.24% | 70.79% | 62.93% |
| 8 | 72.07% | 68.1% | 81.44% | 79.52% | 72.73% | 67.24% | 68.7% | 62.06% |
| 9 | 70.87% | 68.1% | 81.44% | 79.52% | 72.73% | 67.24% | 7061% | 61.2% |
| 10 | 71.58% | 68.1% | 81.58% | 79.52% | 73.68% | 67.24% | 6941% | 63.79% |
| Average | **71.43**% | **68.1**% | **82.25**% | **79.52**% | **73.13**% | **0.67.24**% | **7055**% | **63.1**% |

Result for HYBRID LR with k=5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MODEL | ACCURECY  SCORE | PRECISION  SCORE | RECALL  SCORE | F1 SCORE | CONFUSION  MATRIX |
| Naïve  Bayes | 65.76% | 80.66% | 49.79% | 58.94% | [[46 6]  [39 25]] |
| Logistic  Regression | 83.71% | 87.42% | 72.74% | 78.32% | [[54 11]  [ 9 42]] |
| K Nearest  Neighbours | 72.02% | 71.96% | 66.03% | 68.47% | [[36 18]  [20 42]] |
| Decision  Tree | 66.80% | 68.63% | 69.01% | 68.24% | [[29 22]  [25 40]] |