|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **To find the following the Machine Learning Regression method using in r2 value** | | | | | |
| **1. MULTIPLE LINEAR REGRESSION (R2 value)** | | | | | |
| **2. SUPPORT VECTOR MACHINE:** | | | | | |
| **SL.No** | **HYPER PARAMETER** | **LINEAR( R VALUE)** | **RBF (NON LINEAR) (R VALUE)** | **POLY (R VALUE)** | **SIGMOND (R VALUE)** |
| 1 | C10 | -0.03964 | -0.057418 | -0.053667 | 0.054719 |
| 2 | C100 | 0.10646 | -0.0507 | -0.019802 | -0.03045 |
| 3 | C500 | 0.59289 | -0.024323 | 0.11468 | 0.07057 |
| 4 | C1000 | 0.78028 | 0.00676 | 0.26616 | 0.18506 |
| 5 | C2000 | 0.87677 | 0.06751 | 0.481 | 0.39706 |
| 6 | C3000 | 0.89567 | 0.12322 | 0.637 | 0.59136 |
|  |  |  |  |  |  |
| **The SVM regression use R2 value =0.89567(Hyper Parameter=C3000, Linear)** | | | | | |
|  |  |  |  |  |  |
| **3. DECISION TREE** | | | | |  |
| **SL.No** | **CRITERION** | **SPLITTER** | **MAX FEATURE** | **R VALUE** |  |
| 1 | Mse | best | auto | 0.91254 |  |
| 2 | Mse | random | auto | 0.21461 |  |
| 3 | Mse | best | sqrt | 0.10041 |  |
| 4 | Mse | random | sqrt | 0.47009 |  |
| 5 | Mse | best | Log2 | 0.9312 |  |
| 6 | Mse | random | Log2 | 0.93012 |  |
| 7 | Mae | best | auto | 0.95073 |  |
| 8 | Mae | random | auto | 0.74139 |  |
| 9 | Mae | best | sqrt | 0.50193 |  |
| 10 | Mae | random | sqrt | 0.70513 |  |
| 11 | Mae | best | Log2 | 0.1917 |  |
| 12 | Mae | random | Log2 | 0.6575 |  |
| 13 | Friedman\_mse | best | Auto | 0.92397 |  |
| 14 | Friedman\_mse | random | Auto | 0.85784 |  |
| 15 | Friedman\_mse | best | sqrt | 0.60356 |  |
| 16 | Friedman\_mse | random | sqrt | 0.48029 |  |
| 17 | Friedman\_mse | best | Log2 | 0.92853 |  |
| 18 | Friedman\_mse | random | Log2 | 0.49385 |  |
|  |  |  |  |  |  |
| **The Decision Tree Regression use R2 value=0.93012(Criterion='Friedman', Splitter='random', max feature='log2'** | | | | |  |