**To Find following the machine learning regression method using r2 value**

1. MULTIPLE LINEAR REGRESSION (R2 VALUE= 0.935
2. SUPPORT VECTOR MACHINE:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.NO** | **HYPER**  **PARAMETER** | **LINEAR**  **(r value)** | **RBF (NON LINEAR)**  **(r value)** | **POLY**  **(r value)** | **SIGNOID (r value)** |
| 1 | No changes | 0.895 | -0.0574 | -0.057 | -0.057 |
| 2 | C=0.01 | 0.9335 | -0.057 | -0.057 | -0.057 |
| 3 | C=0.001 | 0.9330 | -0.57 | -0.057 | -0.057 |
| 4 | C=0.001 | 0.9337 | -0.030 | 0.465 | -0.058 |
| 5 | C=500 | -3547.07 | 0.0500 | 0.6207 | -0.0640 |
| 6 | C=1000 | -3654.0 | 0.1606 | 0.6403 | -0.0707 |
| 7 | C=2000 | -3769.0 | 0.288 | 0.6717 | -0.0845 |

The SVM Regression use R2 value (Linear(c=0.001) = 0.9335

3.DECISION TREE:

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **CRITERION** | **SPLITTER** | **R VALUE** |
| 1 | Squared\_error | best | 0.915 |
| 2 | Squared\_error | random | 0.888 |
| 3 | friedman\_mse | random | 0.928 |
| 4 | friedman\_mse | best | 0.903 |
| 5 | Absolute\_error | best | 0.9408 |
| 6 | Absolute\_error | random | 0.9493 |
| 7 | poisson | random | 0.9091 |
| 8 | poisson | best | 0.9325 |