**TO FIND THE r\_SCORE VALUE USING DIFFERENT ALGORITHMS IN ML(REGRESSION)**

**1.MULTIPLE LINEAR REGRESSION (r\_score Value) = 0.93586809**

**2.SUPPORT VECTOR MACHINE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.NO** | **HYPER PARAMETER** | **LINEAR**  **(r\_score value)** | **RBF(NL)**  **(r\_score value)** | **POLY (r\_score value)** | **SIGMOID**  **(r\_score value)** |
| **1** | **C10** | **-0.0396449** | **-0.05680759** | **-0.05366720** | **-0.0547195** |
| **2** | **C100** | **-0.0396449** | **-0.05072602** | **-0.019802139** | **-0.0304535** |
| **3** | **C500** | **0.59289772** | **-0.02432334** | **0.114684807** | **0.0705721** |
| **4** | **C1000** | **0.78028398** | **0.00676834** | **0.266163709** | **0.1850686** |
| **5** | **C2000** | **0.87677216** | **0.06751554** | **0.481002815** | **0.3970652** |
| **6** | **C3000** | **0.89567446** | **0.12322756** | **0.637006422** | **0.5913630** |

**r\_score value using SVM (C=3000, Linear) is 0.89567446**

**3.DECISION TREE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **CRITERION** | **SPLITTER** | **MAX FEATURES** | **r\_SCORE VALUE** |
| **1** | **squared\_error** | **best** | **sqrt** | **0.49488634** |
| **2** | **squared\_error** | **random** | **sqrt** | **0.90355152** |
| **3** | **squared\_error** | **best** | **log2** | **0.83738787** |
| **4** | **squared\_error** | **random** | **log2** | **0.73350584** |
| **5** | **squared\_error** | **best** | **None** | **0.93262195** |
| **6** | **squared\_error** | **random** | **None** | **0.68286989** |
| **7** | **friedman\_mse** | **best** | **sqrt** | **0.57973262** |
| **8** | **friedman\_mse** | **random** | **sqrt** | **0.81095067** |
| **9** | **friedman\_mse** | **best** | **log2** | **0.53416156** |
| **10** | **friedman\_mse** | **random** | **log2** | **0.55254505** |
| **11** | **friedman\_mse** | **best** | **None** | **0.91060633** |
| **12** | **friedman\_mse** | **random** | **None** | **0.85355112** |
| **13** | **absolute\_error** | **best** | **sqrt** | **0.65103520** |
| **14** | **absolute\_error** | **random** | **sqrt** | **0.41565743** |
| **15** | **absolute\_error** | **best** | **log2** | **0.66067134** |
| **16** | **absolute\_error** | **random** | **log2** | **0.55395062** |
| **17** | **absolute\_error** | **best** | **None** | **0.94351369** |
| **18** | **absolute\_error** | **random** | **None** | **0.88245904** |
| **19** | **poisson** | **best** | **sqrt** | **-0.1171562** |
| **20** | **poisson** | **random** | **sqrt** | **0.43283089** |
| **21** | **poisson** | **best** | **log2** | **0.09285569** |
| **22** | **poisson** | **random** | **log2** | **0.73259558** |
| **23** | **poisson** | **best** | **None** | **0.91513571** |
| **24** | **poisson** | **random** | **None** | **0.88982038** |

**r\_score value using decision tree (absolute\_error, best) is 0.94351369**