Regression R2 value

1. Multiple Linear regressions R2 score value is **0.889**
2. Support Vector machine kernel parameters with hyper tuning parameter

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Tuning value C** | **Linear R2 score** | **Poly**  **R2 score** | **rbf[default]**  **R2score** | **Sigmoid**  **R2 score** |
| 1 | 10 | 0.0018 | -0.004 | -0.005 | -0.005 |
| 2 | 100 | 0.069 | 0.003 | -0.001 | 0.007 |
| 3 | 500 | 0.300 | 0.041 | 0.017 | 0.057 |
| 4 | 1000 | 0.535 | 0.088 | 0.039 | 0.116 |
| 5 | 2000 | 0.758 | 0.169 | 0.079 | 0.207 |
| 6 | 3000 | 0.846 | 0.237 | 0.116 | 0.302 |

Support Vector machine high R2 score value is 0.84 with supporting parameter C =3000

3. Decision Tree parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **criterion** | **max\_features** | **splitter** | **R value** |
| 1. | Squared\_error | sqrt | best | 0.787 |
| 2 | Squared\_error | Log2 | best | 0.474 |
| 3 | Squared\_error | sqrt | Random | 0.055 |
| 4 | Squared\_error | Log2 | Random | 0.366 |
| 5 | Friedman\_mse | sqrt | best | 0.887 |
| 6 | Friedman\_mse | Log2 | best | 0.749 |
| 7 | Friedman\_mse | sqrt | Random | 0.373 |
| 8 | Friedman\_mse | Log2 | Random | 0.326 |
| 9 | Absolute\_error | sqrt | best | 0.405 |
| 10 | Absolute\_error | Log2 | best | 0.649 |
| 11 | Absolute\_error | sqrt | Random | 0.869 |
| 12 | Absolute\_error | Log2 | Random | 0.221 |
| 13 | Poisson | sqrt | best | -0.001 |
| 14 | Poisson | Log2 | best | 0.127 |
| 15 | Poisson | sqrt | Random | -0.246 |
| 16 | Poisson | Log2 | Random | 0.685 |

Decission tree using Friedman\_mse high r2 score value is 0.887 with supporting parameter

splitter=best and max\_features=sqrt