**Linear regression R2-** 0.710092

**Decision tree**

|  |  |  |  |
| --- | --- | --- | --- |
| **CRITERION** | **SPLITTER** | **MAX\_FEATURES** | **R2** |
| Squared\_error | best | sqrt | **0.71037** |
| Squared\_error | best | Log2 | **0.73169** |
| Squared\_error | best | none | **0.74331** |
| Squared\_error | random | sqrt | **0.69161** |
| Squared\_error | random | Log2 | **0.66053** |
| Squared\_error | random | none | **0.70806** |
| Friedman\_mse | best | sqrt | **0.76690** |
| Friedman\_mse | best | Log2 | **0.66909** |
| Friedman\_mse | best | none | **0.7368** |
| Friedman\_mse | random | sqrt | **0.72863** |
| Friedman\_mse | random | Log2 | **0.6929** |
| Friedman\_mse | random | none | **0.72821** |
| absolute\_error | best | sqrt | **0.74262** |
| absolute\_error | best | Log2 | **0.70580** |
| absolute\_error | best | none | **0.69486** |
| absolute\_error | random | sqrt | **0.76065** |
| Absolute\_error | random | Log2 | **0.76359** |
| Absolute\_error | random | none | **0.7100** |
| Poission | best | sqrt | **0.79869** |
| Poission | best | Log2 | **0.72112** |
| Poission | best | none | **0.763549** |
| poission | random | sqrt | **0.68285** |
| poission | random | Log2 | **0.68080** |
| poission | random | none | **0.72698** |
|  |  |  |  |

**SUPPORT VECTOR MACHINE**

SVM accuracy value for Hyperparameter,Linear,rbf,Poly,Sigmoid

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hyper Parameter | Linear | (Non – Linear) RBF | Poly | Sigmoid |
| C10 | -7.1613 | -412.124 | -19.3429 | -48891.4 |
| C100 | -0.2253 | -15.0466 | -12.7505 | -466.76 |
| C500 | 0.04073 | -11.8860 | -11.6839 | -15.4132 |
| C1000 | 0.34098 | -11.4903 | -10.5717 | -3.1464 |
| C1500 | 0.66161 | -11.155 | -9.6539 | -1.5095 |
| C2000 | 0.73598 | -10.8952 | -8.7319 | -0.9582 |
| C3000 | 0.73758 | -10.4738 | -7.0677 | -0.5291 |

Random Forest

|  |  |  |  |
| --- | --- | --- | --- |
| Max\_Feature | n\_estimators | criterion | R2 score |
| squared\_error | 50 | log2 | 0.8375 |
| squared\_error | 100 | log2 | 0.8529 |
| squared\_error | 50 | Sqrt | 0.85138 |
| squared\_error | 100 | sqrt | 0.85025 |
| squared\_error | 50 | auto | 0.8535 |
| squared\_error | 100 | auto | 0.85048 |
| absolute\_error | 50 | log2 | 0.84858 |
| absolute\_error | 100 | log2 | 0.85006 |
| absolute\_error | 50 | Sqrt | 0.83527 |
| absolute\_error | 100 | sqrt | 0.84895 |
| absolute\_error | 50 | auto | 0.84946 |
| absolute\_error | 100 | auto | 0.84464 |
| poission | 50 | log2 | 0.84559 |
| poission | 100 | log2 | 0.84559 |
| poission | 50 | Sqrt | 0.84077 |
| poission | 100 | sqrt | 0.84862 |
| poission | 50 | auto | 0.85039 |
| poission | 100 | auto | 0.84909 |
| friedman\_mse | 50 | log2 | 0.84943 |
| friedman\_mse | 100 | log2 | 0.85025 |
| friedman\_mse | 50 | Sqrt | 0.85089 |
| friedman\_mse | 100 | sqrt | 0.84781 |
| friedman\_mse | 50 | auto | 0.84488 |
| friedman\_mse | 100 | auto | 0.84765 |