# RandomForest

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.No | N Estimators | Criterion | Input Feature | R^2 Score |
| 1 | 100 | Friedman MSE | log | 0.7605921 |
| 2 | 50 | Friedman MSE | log | 0.68216522 |
| 3 | 100 | Friedman MSE | sqrt | 0.684921 |
| 4 | 50 | Friedman MSE | sqrt | 0.69516846 |
| 5 | 100 | Squared Error | log | 0.7620322 |
| 6 | 50 | Squared Error | log | 0.7914555 |
| 7 | 100 | Squared Error | sqrt | 0.69325612 |
| 8 | 50 | Squared Error | sqrt | 0.6902193 |
| 9 | 100 | Absolute Error | log | 0.7591465 |
| 10 | 50 | Absolute Error | log | 0.771046 |
| 11 | 100 | Absolute Error | sqrt | 0.769023 |
| 12 | 50 | Absolute Error | sqrt | 0.7701462 |
| 13 | 100 | Poisson | log | 0.94133 |
| 14 | 50 | Poisson | log | 0.943587 |
| 15 | 100 | Poisson | sqrt | 0.94539 |
| 16 | 50 | Poisson | sqrt | 0.9401693 |
| 17 | 100 | Absolute Error | none | 0.9401693 |
| 18 | 50 | Absolute Error | none | 0.9401693 |
| 19 | 100 | Squared Error | none | 0.9460643 |
| 20 | 50 | Squared Error | none | 0.946336 |
| 21 | 100 | Friedman MSE | none | 0.941207 |
| 22 | 50 | Friedman MSE | none | 0.943854 |

# Support vector machine

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Hyperparameter** | **Linear** | **Non-Linear RBF** | **Poly** | **Sigmoid** |  |
| C=10 | 2.43721 | -0.0558 | 6.02531 | -0.05761 |  |
| C=100 | -35.7079 | -0.03633 | 6.45866 | -0.05878 |  |
| C=500 |  | 0.050582 | 6.62073 | -0.06067 |  |
| C=1000 | -36014 | 0.1606 | 6.640325 | -0.07071 |  |
| C=1500 |  | 0.236118 | 6.628 | -0.0777 |  |
| C=2000 |  | 0.288354 | 6.6474 | -0.0845 |  |
| C=2500 |  | 0.334722 | 6.691686 | -0.08182 |  |
| C=3000 |  | 0.395141 | 6.69169 | -0.08922 |  |
|  |  |  |  |  |  |

# Decision Tree

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Splitter** | **Max-Feature** | **R2-Score** |  |
| Poisson | Best | Sqrt | -0.23012 |  |
| Poisson | Random | Log2 | 0.853384 |  |
| Poisson | Best | Log2 | 0.433671 |  |
| Poisson | Random | Sqrt | -2.82797 |  |
| Absolute Error | Random | Sqrt | 0.38192 |  |
| Absolute Error | random | Log2 | 0.782725 |  |
| Absolute Error | Best | Log2 | 0.984386 |  |
| Absolute Error | best | Sqrt | 0.865554 |  |
| Friedman MSE | Best | Sqrt | 0.658809 |  |
| Friedman MSE | Random | Log2 | 0.629189 |  |
| Friedman MSE | Best | Sqrt | 0.853287 |  |
| Friedman MSE | Random | Log2 | 0.819284 |  |
| Squared Error | Best | Sqrt | 0.620176 |  |
| Squared Error | best | Log2 | 0.579666 |  |
| Squared Error | Random | Sqrt | 0.834413 |  |
| Squared Error | random | Log2 | 0.606727 |  |