**Random Tree Regression**

**Finding the Best model by using Hyper Tuning Parameters**

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| --- | --- | --- | --- | --- |
| **S.no** | **Criterion** | **n\_estimators** | **max\_features** | R\_score |
| 1 | **squared\_error** | 50 | **None** | 0.9401935247161504 |
| 2 | **squared\_error** | 100 | **None** | 0.9459097460494243 |
| 3 | **squared\_error** | 50 | **Sqrt** | 0.7222351871476136 |
| 4 | **squared\_error** | 100 | **Sqrt** | 0.7857483352154211 |
| 5 | **squared\_error** | 50 | **log2** | 0.7222351871476136 |
| 6 | **squared\_error** | 100 | **log2** | 0.7857483352154211 |
| 7 | **friedman\_mse** | 50 | **None** | 0.9388957628188894 |
| 8 | **friedman\_mse** | 100 | **None** | 0.9412701965688807 |
| 9 | **friedman\_mse** | 50 | **Sqrt** | 0.6889182130535486 |
| 10 | **friedman\_mse** | 100 | **Sqrt** | 0.7608592212109025 |
| 11 | **friedman\_mse** | 50 | **log2** | 0.6889182130535486 |
| 12 | **friedman\_mse** | 100 | **log2** | 0.7608592212109025 |
| 13 | **absolute\_error** | 50 | **None** | 0.9401935247161504 |
| 14 | **absolute\_error** | 100 | **None** | 0.9459097460494243 |
| 15 | **absolute\_error** | 50 | **sqrt** | 0.7222351871476136 |
| 16 | **absolute\_error** | 100 | **sqrt** | 0.7857483352154211 |
| 17 | **absolute\_error** | 50 | **log2** | 0.7222351871476136 |
| 18 | **absolute\_error** | 100 | **log2** | 0.7857483352154211 |
| 19 | **Poisson** | 50 | **None** | 0.9463549705311108 |
| 20 | **Poisson** | 100 | **None** | 0.9413889418631131 |
| 21 | **Poisson** | 50 | **sqrt** | 0.720862466757838 |
| 22 | **Poisson** | 100 | **sqrt** | 0.7717642068103981 |
| 23 | **Poisson** | 50 | **log2** | 0.720862466757838 |
| 24 | **Poisson** | 100 | **log2** | 0.7717642068103981 |

**The Best model in Random Forest Regression is Criterion = Poisson, n\_estimators =50, max\_features=none**

**R\_score value is**  0.9463549705311108