

To find the best model using Machine Learning algorithms

Multiple Linear Regression:

R Square value : 0.9358680970046241

Support Vector Machine:

Hyper Tunning Parameter: Kernal and C

Kernel {'linear', 'poly', 'rbf', 'sigmoid', 'precomputed'} or callable, default='rbf'

SNo	C value	Linear	Rbf(Non Linear)	Poly	Sigmoid
1	1	-0.05569	-0.05741	-0.05710	-0.05720
1	10	-0.03964	-0.05681	-0.05366	-0.05472
2	100	0.106468	-0.05073	-0.01980	-0.03045
3	1000	0.780284	0.006768	0.266163	0.185068
4	2000	0.876772	0.067515	0.481002	0.397065
5	5000	0.900376	0.212428	0.793655	0.730656

Decision Tree:

Hyper Tunning Parameter: Criterion, Max Features, and Splitter.

SNo	Criterion	Max Features	Splitter	R value
1	Squared Error	Sqrt	Best	0.60455
2	Squared Error	Sqrt	Random	0.54226
3	Squared Error	Log2	Best	0.53367
4	Squared Error	Log2	Random	0.89991
5	Absolute Error	Sqrt	Best	0.55303
6	Absolute Error	Sqrt	Random	0.28734
7	Absolute Error	Log2	Best	-1.17374
8	Absolute Error	Log2	Random	0.66472
9	FriedMan	Sqrt	Best	0.78112
10	FriedMan	Sqrt	Random	-0.08781
11	FriedMan	Log2	Best	0.47015
12	FriedMan	Log2	Random	-0.10151

Random Forest:

Hyper Tunning Parameter: Criterion, Max Features and N_Estimators.

SNo	Criterion	Max Features	N_Estimators	R value
1	Squared Error	Sqrt	10	0.79616
2	Squared Error	Sqrt	100	0.83349
3	Squared Error	Log2	10	0.87145
4	Squared Error	Log2	100	0.81572
5	Absolute Error	Sqrt	10	0.70991
6	Absolute Error	Sqrt	100	0.83057
7	Absolute Error	Log2	10	0.79297
8	Absolute Error	Log2	100	0.85879
9	FriedMan	Sqrt	10	0.83474
10	FriedMan	Sqrt	100	0.81381
11	FriedMan	Log2	10	0.80523
12	FriedMan	Log2	100	0.77057