To fine following the machine learning regression method using in R2 Value

1.Multible Linear Regression

R2 value = 0.9358

2.Support Vector Machine

S.NO	Hyper Parameter	Linear (r2value)	RBF (Non Linear) (r2value)	Poly (r 2 value)	Sigmoid (r2value)
1	C=10	-0.0396	-0.0568	-0.0536	-0.0547
2	C=100	0.1064	-0.0507	-0.0198	-0.0304
3	C=500	0.5928	-0.0243	0.1146	0.0705
4	C=1000	0.7802	0.0067	0.2661	0.1850
5	C=2000	0.8767	0.0675	0.4810	0.3970
6	C=3000	0.8956	0.1232	0.6370	0.5913

The SVM Regression use R2 Value (Linear and Hyper Parameter C=3000) = 0.8956

3.Decision tree

S.NO	Criterion	Splitter	Max features	R2 value
1	Mse	auto	best	0.9040
2	Mse	auto	random	0.8036
3	Mse	sqrt	best	0.7736
4	Mse	sqrt	random	0.0691
5	Mse	Log2	best	0.6429
6	Mse	Log2	random	0.3227
7	Mae	auto	best	0.9580
8	Mae	auto	random	0.9197
9	Mae	sqrt	best	0.7718
10	Mae	sqrt	random	0.7631
11	Mae	Log2	best	0.6316
12	Mae	Log2	random	0.5726
13	Friedman_mse	auto	best	0.9374
14	Friedman_mse	auto	random	0.8779
15	Friedman_mse	sqrt	best	0.6098
16	Friedman_mse	sqrt	random	0.4998
17	Friedman_mse	Log2	best	0.4712
18	Friedman_mse	Log2	random	0.4592

The Decision Tree Regression use R2 Value (Mae, auto, best) = 0.9580

4.Random Forest

S.NO	criterion	max_features	n_estimators	R_value
1	Mse	auto	10	0.9252
2	Mse	auto	100	0.9460
3	Mse	sqrt	10	0.5191
4	Mse	sqrt	100	0.7591
5	Mse	Log2	10	0.5191
6	Mse	Log2	100	0.7591
7	Mae	auto	10	0.9281
8	Mae	auto	100	0.9459
9	Mae	sqrt	10	0.7210
10	Mae	sqrt	100	0.7857
11	Mae	Log2	10	0.7210
12	Mae	Log2	100	0.7857
13	Friedman_mse	auto	10	0.9206
14	Friedman_mse	auto	100	0.9412
15	Friedman_mse	sqrt	10	0.5272

16	Friedman_mse	sqrt	100	0.7608
17	Friedman_mse	Log2	10	0.5272
18	Friedman_mse	Log2	100	0.7608
19	Poisson	auto	10	0.9304
20	Poisson	auto	100	0.9413
21	Poisson	sqrt	10	0.7520
22	Poisson	sqrt	100	0.7717
23	Poisson	Log2	10	0.7520
24	Poisson	Log2	100	0.7717

The Random Forest Regression use R2 Value (Mse, auto, n_estimators=100) = 0.9460