

To find the following the Machine learning regression method using in r2 value

1. Multiple Linear Regression  $R^2$  value : 0.765

2. Support Vector Machine :

SINO	HYPER PARAMETER	LINEAR	RBF	POLY	SIGMOID
1	C10	0.43	0.048	0.027	0.0193
2	C100	0.61	0.029	0.604	0.505
3	C500	0.68	0.639	0.815	0.463
4	C1000	0.75	0.791	0.85	0.184
5	C2000	0.761	0.81	0.857	-0.5786
6	C3000	0.762	0.86	0.857	-2.0119

SVM Regression  $R^2$  value (C-3000,rbf)=0.86

3. Decision Tree :

SINO	CRITERION	MAX FEATURES	SPLITTER	R VALVE
1	Mse	auto	best	0.709
2	Mse	auto	random	0.698
3	Mse	sqrt	best	0.722
4	Mse	sqrt	random	0.697
5	Mse	log2	best	0.699
6	Mse	log2	random	0.606
7	Mae	auto	best	0.667
8	Mae	auto	random	0.717
9	Mae	sqrt	best	0.771
10	Mae	sqrt	random	0.65
11	Mae	log2	best	0.721
12	Mae	log2	random	0.729
13	Friedman_mse	auto	best	0.681
14	Friedman_mse	auto	random	0.698
15	Friedman_mse	sqrt	best	0.704
16	Friedman_mse	sqrt	random	0.662
17	Friedman_mse	log2	best	0.66
18	Friedman_mse	log2	random	0.739

The Decision Tree Regression  $R^2$  value (Mae, sqrt, best )=0.771

4. Random Forest :

SINO	CRITERION	MAX FEATURES	N_ESTIMATORS	R VALVE
1	mse	auto	10	0.852
2	mse	auto	100	0.86
3	mse	sqrt	10	0.847
4	mse	sqrt	100	0.872
5	mse	log2	10	0.847
6	mse	log2	100	0.847
7	mae	auto	10	0.846
8	mae	auto	100	0.859
9	mae	sqrt	10	0.865
10	mae	sqrt	100	0.875
11	mae	log2	10	0.875
12	mae	log2	100	0.875

The Random Forest Regression  $R^2$  value(mae,sqrt,100)=0.875