

Find the machine learning regression using r2 value

1. Multiple linear regression (r2 value=0.935)
2. Support vector machine :

S.NO	C Parameter	Linear (r value)	Poly (r value)	Rbf (r value)	Sigmoid (r value)
1		0.8950	-0.0571	-0.0574	-0.0572
2	C=0.01	0.933	-0.0574	-0.0574	-0.05748
3	C=10	-2.43	-0.0536	-0.0568	-0.0547
4	C=100	-357.0	-0.0198	-0.0507	-0.0304
5	C=1000	-36014	0.2661	0.0067	0.1856

The svm Regression use r2 value. (C Parameter linear c=0.01=0.933)

3. Decision Tree Regression

S.NO	Criterion	Splitter	Max_features	r2 Value
1	Squared_error	best	sqrt	0.4534
2	Squared_error	best	log2	-0.612
3	Squared_error	random	sqrt	0.653
4	Squared_error	random	log2	0.493
5	Friedman_mse	best	sqrt	0.354
6	Friedman_mse	best	log2	0.762
7	Friedman_mse	random	sqrt	0.401
8	Friedman_mse	random	log2	0.601
9	Absolute_error	best	sqrt	0.716
10	Absolute_error	best	log2	0.777
11	Absolute_error	random	sqrt	0.402
12	Absolute_error	random	log2	0.751
13	Poisson	best	sqrt	0.758
14	Poisson	best	log2	0.862
15	Poisson	random	sqrt	0.652
16	Poisson	random	log2	0.337
17	Squared_error	best		0.916
18	Squared_error	random		0.893
19	Friedman_mse	best		0.907
20	Friedman_mse	random		0.908
21	Absolute_error	Best		0.961
22	Absolute_error	random		0.878
23	Poisson	Best		0.923
24	Poisson	Random		0.933

The Decision Tree Regression r^2 (Absolute _error,best=0.961)

4. RandomForest Regression

S.NO	Criterion	N_ estimators	Max _features	r2 Value
1	Squared _error	10		0.9252
2	Squared _error	50		0.9446
3	Squared _error	100		0.9460
4	Friedman _mse	10		0.9206
5	Friedman _mse	50		0.9388
6	Friedman _mse	100		0.9412
7	Absolute _error	10		0.9281
8	Absolute _error	50		0.9401
9	Absolute _error	100		0.9459
10	Poisson	10		0.9304
11	Poisson	50		0.963
12	Poisson	100		0.9413
13	Squared _error	10	sqrt	0.8218
14	Squared _error	50	sqrt	0.8383
15	Squared _error	100	sqrt	0.775
16	Squared _error	10	Log2	0.8735
17	Squared _error	50	Log2	0.8075
18	Squared _error	100	Log2	0.7457
19	Absolute _error	10	sqrt	0.7248
20	Absolute _error	50	sqrt	0.7714
21	Absolute _error	100	sqrt	0.7898
22	Absolute _error	10	Log2	0.5914
23	Absolute _error	50	Log2	0.7492
24	Absolute _error	100	Log2	0.8289
25	Friedman _mse	10	sqrt	0.7560
26	Friedman _mse	50	sqrt	0.7756
27	Friedman _mse	100	sqrt	0.8166
28	Friedman _mse	10	Log2	0.7595
29	Friedman _mse	50	Log2	0.7860
30	Friedman _mse	100	Log2	0.8222
31	Poisson	10	sqrt	0.7335
32	Poisson	50	sqrt	0.7360
33	Poisson	100	sqrt	0.6974
34	Poisson	10	Log2	0.7651
35	Poisson	50	Log2	0.7920
36	Poisson	100	Log2	0.7661

The Random Forest Regression r^2 value (Squared _error, n _estimators=100) = 0.9460