Machine Learning Regression

Multiple Linear Regression:

R^2 Value= 0.9358

Support Vector Machine:

R^2 Value= 0.9239 (linear, C=10000)

S.No	Hyper Parameter	Linear (r_score)	Rbf-non linear(r_score)	Poly (r_score)	Sigmoid (r_score)
1	C=10	-0.0396	-0.056	-0.0536	-0.054
2	C=100	0.1064	-0.050	-0.0198	-0.0304
3	C=500	0.5928	-0.024	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
7	C=5000	0.9003	0.2124	0.7936	0.7306
8	C=10000	0.9239	0.3757	0.8129	0.8535

Decision Tree:

R^2 Value= 0.9311 (poisson, log2, random)

S.No	Criterion	Max features	Splitter	R_score
1	Squared_error	sqrt	best	-2.078
2	Squared_error	sqrt	random	0.7866
3	Squared_error	log2	best	0.5364
4	Squared_error	log2	random	0.0549
5	Friedman_msc	sqrt	best	0.3933
6	Friedman_msc	sqrt	random	0.7636
7	Friedman_msc	log2	best	0.6107
8	Friedman_msc	log2	random	-0.170
9	Absolute_error	sqrt	best	0.7564
10	Absolute_error	sqrt	random	0.7874
11	Absolute_error	log2	best	0.8738
12	Absolute_error	log2	random	0.7261
13	Poisson	sqrt	best	0.6023
14	Poisson	sqrt	random	0.4972
15	Poisson	log2	best	0.5745
16	Poisson	log2	random	0.9311