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Course :AI

Topic : Machine Learning Regression

To find the following the machine learning regression method using in r2 Value

1.MULIPLE LINEAR REGRESSION:

R^2value=0.9358680970046241

2.SUPPORT VECTOR MACHINE :

S.NO	HYPER PARAMETER	LINEAR (r value)	RBF(non linear)(r value)	POLY (r value)	SIGMOD (r value)
1	C=10	-0.03964494678192798	-0.05680759285862336	-0.05366720512712608	-0.05471958332940319
2	C=100	0.10646819600577351	-0.05072602278128757	-0.019802139315272305	-0.03045351486430925
3	C=500	0.5928977271145746	-0.024323348197438532	0.11468480742657639	-0.03045351486430925
4	C=1000	0.7802839882154126	0.0067683444800727965	0.26616370931646915	0.18506861974160804
5	c=2000	0.8767721687716039	0.06751554270553017	0.4810028155606567	0.39706528684272135
6	C=3000	0.8956744694334916	0.12322756620227582	0.6370064223754034	0.5913630209426106

$R^{2\ Value=}$0.8956744694334916

3.**Decision tree**

Sno	CRITERION	MAX FEATURES	SPLITTER	R VALUE
1	Friedman_mse	none	best	0.9273950230630971
2	Friedman_mse	none	random	0.7998118439543401
3	Friedman_mse	sqrt	best	0.9257754276890482
4	Friedman_mse	sqrt	random	0.4917695428550063
5	Friedman_mse	Log2	best	0.40897231875300233
6	Friedman_mse	Log2	random	0.08744098887450535
7	Squared_error	none	best	0.9009386747781134
8	Squared_error	none	random	0.9235836230840148
9	Squared_error	sqrt	best	0.7031223183887176
10	Squared_error	sqrt	random	0.6859723338454835
11	Squared_error	Log2	best	0.5481744032843123
12	Squared_error	Log2	random	0.8350170088555551
13	*absolute_error*	none	best	0.9337160065981798
14	*absolute_error*	none	random	0.8292161566402854
15	*absolute_error*	sqrt	best	0.5206120721712157

16	***absolute_error***	**sqrt**	**random**	0.6838822794802573
17	***absolute_error***	**Log2**	**best**	0.4023843454048437
18	***absolute_error***	**Log2**	**random**	0.7350761448965257
19	**poission**	**none**	**best**	0.9430650019984365
20	**poission**	**none**	**random**	0.8104999840877802
21	**poission**	**sqrt**	**best**	-0.9730974498453977
22	**poission**	**sqrt**	**random**	0.3118241964880881
23	**poission**	**Log2**	**best**	0.22607433186715942
24	**poission**	**Log2**	**random**	-0.022024668595250096

R^2 value=0.9430650019984365