

Find The Following Machine Learning Regression Method using r2 value

1. Multiple Linear Regression (R2 value):

r2=0.93

2. Support Vector Machine:

S.no	Hyper parameter	Linear (r2 value)	RbF(non-linear) (r2 value)	Sigmoid (r2 value)	Poly (r2 value)
1	C=1.0	0.8753	-0.12541	-0.125814	-0.11540
2	C=100	-74.975	-0.107626	-0.12884	0.4143
3	C=10.50	0.17361	-0.12191	-0.12610	-0.05497
4	C=50	-17.23592	-0.11454	-0.12731	0.15547
5	C=500.50	0.78222 C=1.30	-0.0077	-0.141270	0.64344
6	C=1000	--5.29680 C=30	0.04095	-0.15710	0.667156

The SVMRegression use linear and hyper parameter c=1.0

(r2 value)=0.8753.

3.Decision Tree :

S.no	Criterion	Max Features	Splitter	R2 Value
1	squared_error	auto	best	0.89539
2	squared_error	sqrt	best	0.38075
3	squared_error	log2	best	-0.07895
4	squared_error	auto	random	-0.07895
5	squared_error	sqrt	random	0.60562
6	squared_error	log2	random	0.40984
7	<i>friedman_mse</i>	auto	best	0.888891
8	<i>friedman_mse</i>	sqrt	best	0.94144
9	<i>friedman_mse</i>	log2	best	0.86739
10	<i>friedman_mse</i>	auto	random	0.78918
11	<i>friedman_mse</i>	sqrt	random	0.290249
12	<i>friedman_mse</i>	log2	random	0.7953
13	<i>absolute_error</i>	Auto	best	0.93717
14	<i>absolute_error</i>	sqrt	best	0.81108
15	<i>absolute_error</i>	log2	best	-0.37118
16	<i>absolute_error</i>	Auto	Random	0.94140
17	<i>absolute_error</i>	Sqrt	Random	0.62488
18	<i>absolute_error</i>	Log2	Random	-0.13941
19	<i>poisson</i>	Auto	best	0.6871
20	<i>poisson</i>	Sqrt	Best	0.60934
21	<i>poisson</i>	Log2	Best	0.21271
22	<i>Poisson</i>	Auto	Random	0.7196

23	<i>Poisson</i>	Sqrt	Random	-0.6582
24	<i>poisson</i>	Auto	Random	-0.2389

.In this decision tree regression use friedman_mse hyper parameter under max feature is sqrt and splitter is best model (r2value)= 0.94144