

To find following the machine learning regression using in

R2\_value

1. Multiple Linear Regression(r2\_value)  
=0.9358

2. Support Vector Machine

s.no	Hyper parameter	Linear (r2_value)	RBF (r2_value)	Poly (r2_value)	Sigmoid (r2_value)
1	C=10	-0.0396	-0.0568	-0.0536	-0.0547
2	C=100	0.1064	-0.0507	-0.0198	-0.0304
3	C=500	0.5928	-0.2432	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

The SVM Regression Use R2\_Value (Linear and Hyperparameter(c=3000)) =0.8956

## 1.Decision Tree

s.no	criterion	max_features	splitter	R2_value
1	mse	auto	best	0.840235
2	mse	auto	random	0.840060
3	mse	sqrt	best	0.625619
4	mse	sqrt	random	-0.342725
5	mse	log2	best	0.180800
6	mse	log2	random	0.467018
7	mae	auto	best	0.747947
8	mae	auto	random	0.873233
9	mae	sqrt	best	0.764688
10	mae	sqrt	random	0.164200
11	mae	log2	best	-0.102799
12	mae	log2	random	0.047280
13	Friedman_mse	auto	best	0.838694
14	Friedman_mse	auto	random	0.817707
15	Friedman_mse	sqrt	best	0.462427
16	Friedman_mse	sqrt	random	0.439689
17	Friedman_mse	log2	best	0.514785
18	Friedman_mse	log2	random	0.260347

The Decision Tree Regression Use  $r2\_Value = 0.873233$