ML -ALGORITHMS & R2_score

- **MULTILINEARREGRESSION(r2_value) =** 0.8752655285748308

- **SUPPORT VECTORE MACHINE**

S.NO	HYPER PARAMETER	LINEAR (r value)	RBF (NON LINEAR)	POLY (r value)	SIGMOID (r value)
1	C10	0.0396	0.0568	0.0536	0.0547
2	C100	0.1064	0.0507	0.0198	0.0304
3	C500	0.5928	0.0243	0.1146	0.0705
4	C1000	0.7802	0.0067	0.2661	0.1850
5	C2000	0.8767	0.0675	0.4810	0.3970
6	C3000	0.8956	0.1232	0.6370	0.5913

The SVM Reression use R2 value(linear and hyperparameter(c3000) =0.8956

- **DECISION TREE**

S.NO	CRITERION	MAX FEATURES	SPLITTER	R VALUE
1	FRIEDMAN_MSE	AUTO	BEST	0.9079
2	FRIEDMAN_MSE	AUTO	RANDOM	0.8520
3	FRIEDMAN_MSE	SQRT	BEST	0.6872
4	FRIEDMAN_MSE	SQRT	RANDOM	0.6270
5	FRIEDMAN_MSE	LOG2	BEST	0.5046
6	FRIEDMAN_MSE	LOG2	RANDOM	0.1455
7	MSE	AUTO	BEST	0.9234
8	MSE	AUTO	RANDOM	0.4062
9	MSE	SQRT	BEST	0.4923
10	MSE	SQRT	RANDOM	0.6675
11	MSE	LOG2	BEST	0.7558
12	MSE	LOG2	RANDOM	0.0407
13	MAE	AUTO	BEST	0.9355
14	MAE	AUTO	RANDOM	0.8557
15	MAE	SQRT	BEST	0.6750
16	MAE	SQRT	RANDOM	0.182
17	MAE	LOG2	BEST	0.8257
18	MAE	LOG2	RANDOM	0.4514

The decision tree Regression use R2_value(MAE AUTO BEST) 0.9355

- **RANDOM FOREST**

S.NO	CRITERION	MAXFEATURES	N_ESTIMATORS	R VALUE
1	MSE	AUTO	10	0.9252
2	MSE	AUTO	100	0.9460
3	MSE	SQRT	10	0.5191
4	MSE	SQRT	100	0.7591
5	MSE	LOG2	10	0.5191
6	MSE	LOG2	100	0.7591
7	MAE	AUTO	10	0.9281
8	MAE	AUTO	100	0.9459
9	MAE	SQRT	10	0.7210
10	MAE	SQRT	100	0.7857
11	MAE	LOG2	10	0.7210
12	MAE	LOG2	100	0.7857

The random forest Regression use R2_value(MSE AUTO 100) 0.9460