

Hyper turning Parameter

for ML Algorithm

Dataset = 50_Startup

1. Multiple Linear Regression - R^2 value = 0.935

2. Support Vector Machine

C-Support Vector Classification.

C: float, default=1.0

Kernel: {'linear', 'poly', 'rbf', 'sigmoid', 'precomputed'} or callable, default='rbf'

S. No	Hyper parameter 'c'	Linear R^2 value	rbf R^2 value	Poly R^2 value	Sigmoid R^2 value
1	10	-9774	-0.057	-7.853	-0.052
2	100	-7624	-0.057	-7.853	-0.018
3	1000	-2028	-0.059	-7.372	-0.322
4	2000	-2795	-0.055	-2.446	-1.729
5	3000	-2381	-0.050	-4.164	-3.489

Here R^2 value is not upto mark.

This model is **Not Good** for this data.

3. Decision Tree

S. No	Criterion	Splitter	R^2 value
1			0.916
2	squared_error	best	0.882
3	squared_error	random	0.845
4	friedman_mse	best	0.926
5	friedman_mse	random	0.904
6	absolute_error	best	0.935
7	absolute_error	random	0.934
8	poisson	best	0.942
9	poisson	random	0.879

Here R^2 value is upto mark.

This model **DecisionTreeRegressor(poisson, best)** is **Good** for this data.