

Dataset = 50_Startups.csv

Method 1: Multiple Linear Regression

R-SCORE VALUE= 0.93586

Method 2 : Support Vector Machine Regression

Using Hypertuning Parameter

S.no	Hypertuning Parameter	Kernel=linear R2-value	Kernel=rbf R2-value	Kernel=poly R-2value	Kernel=sigmoid R2-value
1	Default C=1.0	-0.05569	-0.0574	-0.05710	-0.05720
2	C=10	-0.0396	- 0.0568	-0.05366	-0.05471
3	C=100	0.10646	-0.05072	-0.0198	-0.03045
4	C=1000	0.7802	0.00676	0.26616	0.18506
5	C=10000	0.92399	0.37189	0.8129	0.8535
6	C=100000	0.93012	0.70856	0.4002	-0.8433

Best R2-Score Value = Kernel='Linear' , C=100000, R2 –Value = 0.93

Method 3: Decision Tree Regression

S.No	<i>criterion</i>	<i>splitter</i>	<i>max_features</i>	R2_Score value
1. 1	<i>squared_error</i>	<i>best</i>	<i>None</i>	0.92714
2. 2		random	None	0.921929
3.		Best	Sqrt	0.86532
4.		Random	sqrt	0.68783
5.		best	Log2	0.46712
6.		Random	Log2	0.70393
7.	<i>friedman_mse</i>	Best	None	0.90892
8.		Random	None	0.8847580
9.		Best	Sqrt	0.42498
10.		Random	sqrt	0.48827
11.		Best	Log2	0.33513
12.		Random	Log2	-0.15869
13.	<i>absolute_error</i>	Best	None	0.954159
14.		Random	None	0.82642
15.		Best	Sqrt	0.8824834
16.		Random	Sqrt	0.542352
17.		Best	Log2	-0.44432
18.		Random	Log2	0.74759

19.	<i>poisson</i>	Best	None	0.91447
20.		Random	None	0.672449
21.		Best	Sqrt	0.58253
22.		Random	Sqrt	0.77965
23.		Best	Log2	0.67822
24.		Random	Log2	0.20715

Best Method for Decision Tree Regressor is its default position

R2-Value = 0.94404