r2_score comparison of Multi, SVM, Decision tree & Random forest

Dataset- 50_Startups.csv

1. Multiple linear regression:

r2_score = 0.93

2. Support vector machine:

S.no	Kernel	gamma	C	r2_score
1	linear	scale	0.1	0.93
2	linear	auto	0.1	0.93
3	linear	scale	0.07	0.94
4	linear	scale	0.05	0.93
5	rbf	scale	10	-0.05
6	rbf	scale	5000	0.5
7	rbf	auto	10000	-0.02
8	poly	scale	0.1	-0.05
9	poly	auto	0.1	-0.05
10	sigmoid	scale	0.1	-0.05
11	sigmoid	auto	1	-0.05

3. Decision Tree:

S.No	Criterion	Splitter	r2_score
1	Squared error	best	0.90
2	Squared error	random	0.84
3	Firedman_mse	best	0.92
4	Firedman_mse	random	0.85

5	Absolute error	best	0.95
6	Absolute error	random	0.83
7	poisson	best	0.91
8	poisson	random	0.92

4. Random Forest:

S.No	Criterion	N_estimators	Random_state	R_score
1	Squared_error	50	0	0.94
2	Squared_error	100	0	0.94
3	Squared_error	10	0	0.92
4	Absolute_error	50	0	0.94
5	Absolute_error	100	0	0.94
6	Absolute_error	10	0	0.92
7	Friedman_mse	50	0	0.93
8	Friedman_mse	100	0	0.94
9	Friedman_mse	10	0	0.92
10	Poisson	50	0	0.94
11	Poisson	100	0	0.94
12	Poisson	10	0	0.93