Machine Learing MultipleLinear

R2_ EVALUATION
0.789479

friedman_mse & random Parameter given Best Model

Machine Learing Support Vector Machine

KERNEL	C	R2_ EVALUATION
rbf	1(default)	-0.088427
rbf(stand)	1(default)	-0.08338
Linear	1(default)	-0.0101026
Linear	50	0.609336
Linear	2000	0.744041
poly	1(default)	-0.0756996
poly	1000	0.856648
poly	**2000**	**0.860557**
sigmoid	1(default)	-0.075429
sigmoid	500	0.4446061

1) PROBLEM STATEMENT

Predict the Insurance Charges

2) Total Number of column and rows

Five Input Column and One Output Column & 1338 Rows

3)mention any pre-processing methord any string to number

Sex and Smoke Column are changed from Categorical to Numerical

4) Good Model based on R2 Evalution

Random Forest

SVM_KERNEL=POLY & C= 2000 GIVEN R2 EVALUATION 0.860

RANDOM FOREST _CRITERION=SQUARED_ERROR & N_ESTIMATORS GIVEN R2 EVALUATION 0.855

BOTH EVALUTION LOOK LIKE SAME , I CHOSHEN RANDOM FOREST GIVEN ALL EVALUTION MORE THAN 0.82 ,

IN SVM POLY ONLY GIVE THE BEST RESULT

Decision Tree Regression

CRITERION	SPLITTER	R2_ EVALUATION
poisson	random	0.69758
poisson	best	0.664678
absolute_error	**random**	**0.737917**
absolute_error	best	0.657855
squared_error	random	0.735833
squared_error	best	0.692943
friedman_mse	random	0.717243
friedman_mse	best	0.70015

Random Forest Regression

CRITERION	n_estimators	random_state	R2_ EVALUATION
squared_error	50	0	0.849882
squared_error	**5000**	**0**	**0.855465**
absolute_error	50	0	0.852902
absolute_error	5000	0	0.855435
friedman_mse	50	0	0.849997
friedman_mse	5000	0	0.855104
poisson	50	0	0.827954
poisson	5000	0	0.836376