Training data: Testing data=0.8:0.2.

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| --- | --- | --- | --- |
| **No.** | **Estimator** | **Hyperparameter** | **Score(train/test)** |
| 1 | Linear Regression | N/A | RMSE:4.39/5.82  R2Score:0.75/0.70 |
| 2 | Ridge Regression | alpha:10.0 | RMSE:4.39/5.80  R2Score:0.75/0.70 |
| 3 | Lasso | alpha:0.0001 | RMSE:4.39/5.82  R2Score:0.75/0.70 |
| 4 | Elastic Regression | alpha:0.01 | RMSE:4.39/5.82  R2Score:0.75/0.70 |
| 5 | KNN | 'pca\_\_n\_components': 11, 'regression\_\_leaf\_size': 20, 'regression\_\_metric': 'manhattan', 'regression\_\_n\_neighbors': 4, 'regression\_\_weights': 'distance' | RMSE:0.00/4.09  R2Score:1.00 /0.85 |
| 6 | DT | 'criterion': 'mse', 'max\_features': 7, 'min\_samples\_leaf': 1, 'splitter': 'best' | RMSE: 0.00/3.83  R2Score: 1.00/0.87 |
| 7 | DT\_CCP | 'ccp\_alpha': 0.167, 'criterion': 'mse', 'max\_features': 10, 'min\_samples\_leaf': 1, 'splitter':  'best' | RMSE:2.38/5.19  R2Score:0.93/0.76 |
| 8 | BAGGING | 'base\_estimator': DecisionTreeRegressor(), 'bootstrap\_features': False, 'max\_features': 9, 'max\_samples': 1.0, 'n\_estimators': 100 | RMSE:1.32/4.25  R2Score:0.98/0.84 |
| 9 | Random Forrest | 'max\_features': 'sqrt', 'max\_samples': 0.8, 'n\_estimators': 90 | RMSE:1.53/4.34  R2Score:0.97/0.83 |
| 10 | GBDT | 'learning\_rate': 0.1, 'max\_depth': 3, 'n\_estimators': 220 | RMSE:0.82/3.19  R2Score:0.99/0.91 |
| 11 | Stacking |  | RMSE:0.75/3.17  R2Score:0.99/0.91 |
| 12 | SVR | 'regression\_\_C': 30, 'regression\_\_gamma': 0.03 | RMSE: 3.12/4.54  R2Score: 0.87/0.82 |