**Proposed System Results Using Eleven Features (feature[CycleNumber,** **LengthofLutealPhase, LengthofCycle, ….]target[EstimatedDayofOvulation]).**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SN** | **MODEL** | **MAE** | **MSE** | **RMSE** | **R-squared (R²) Score** |
| 1 | Decision Tree Regressor | 0.34426 | 1.67213 | 1.29311 | 0.87590 |
| 2 | Random Forest |  |  |  |  |
| 3 | Linear Regression |  |  |  |  |
| 4 | Huber Regression |  |  |  |  |
| 5 | Least Angle Regression |  |  |  |  |
| 6 | Lasso Regresion |  |  |  |  |
| 7 | Lasso Least Angle Regression |  |  |  |  |
| 8 | **\***Dummy Regressor |  |  |  |  |
| 9 | Ridge Regressor |  |  |  |  |
| 10 | K-Nearest Neighbour |  |  |  |  |
| 11 | Elastic Net |  |  |  |  |
| 12 | Orthogonal Matching Pursuit |  |  |  |  |
| 13 | LightGradient Boosting Matching |  |  |  |  |
| 14 | Bayesian Ridge |  |  |  |  |
| 15 | Passive Aggressive Regression |  |  |  |  |
| 16 | Catboost |  |  |  |  |
| 17 | Gradient boosting |  |  |  |  |
| 18 | Extra Tree Regresor |  |  |  |  |
| 19 | Xgb |  |  |  |  |

**Result for Decision Tree**

Mean Squared Error for Decision Tree Algorithm: 1.6721311475409837

Root Mean Squared Error for Decision Tree Algorithm: 1.2931091011747553

Mean Absolute Error for Decision Tree: 0.3442622950819672

R-squared for Decision Tree Algorithm: 0.8759031278514906

Mean Absolute Percentage Error for Decision Tree Algorithm: 0.02427595182493679

Explained Variance Score for Decision Tree Algorithm: 0.876307011114269

Median Absolute Error for Decision Tree Algorithm: 0.0