

Random

Model	Train MAE	Test MAE	Train RMSE	Test RMSE	MAPE (%)	Median AE	Train R²	Test R²	Max Error
XGBoost (Default)	3.47	5.09	4.57	6.71	18.32	3.99	0.834	0.6444	36.53
XGBoost (Optimize)	4.25	5.49	5.59	7.17	20.14	4.32	0.7514	0.5948	34.4
Random Forest (Default)	1.91	5.12	2.58	6.85	18.56	3.85	0.9472	0.6301	30.19
Random Forest (Optimize)	5.13	6.08	6.63	7.82	22.27	4.91	0.6512	0.5169	34.07
LightGBM (Default)	5.24	5.8	6.72	7.45	21.26	4.74	0.6413	0.5616	37.11
LightGBM (Optimize)	3.76	5.01	4.93	6.6	18.29	3.89	0.8068	0.6558	35.11
CatBoost (Default)	4.27	5.16	5.55	6.75	18.72	4.08	0.7552	0.6404	38.72
CatBoost (Optimize)	3.3	4.65	4.34	6.16	16.91	3.6	0.8503	0.7003	36.49