

Comparison Table of all Models

Rank	Model	Accuracy (%)	Model Type	Strength	Weakness	Remarks
1	XGBoost	97.90	Boosting (Ensemble)	Handles complex patterns, very robust	Needs a little tuning	Best overall performer
2	Lasso Regression	95.85	Linear + Regularization	Feature selection	Linear constraints	High accuracy + simpler model
3	Extra Trees Regressor	95.38	Ensemble (Tree-based)	Fast + low variance	Noise sensitive	Very stable prediction
4	Ridge Regressor	94.00	Linear + Regularization	Handles multicollinearity	Linear assumption	Reliable baseline model
5	Gradient Boosting	93.45	Boosting	Strong predictive power	Slow training	Strong but slower
6	LightGBM	91.00	Boosting	Very fast + scalable	Parameter sensitive	Good balance
7	Decision Tree	89.28	Tree-based	Easy interpretability	Overfitting prone	Good but unstable
8	Random Forest	88.78	Ensemble (Bagging)	Reduces overfitting	Less accurate than boosting	Good practical mode
9	CatBoost	88.26	Boosting	Handles categorically good	Heavy computation	Moderate performance

10	KNN	87.60	Distance-based	Simple + intuitive	Scaling sensitive	Decent but limited
11	MLP (Neural Net)	86.28	Deep Learning	Can detect nonlinear patterns	Data hungry + tuning heavy	Acceptable but not optimal
12	AdaBoost	70.00	Boosting	Simple boosting idea	Weak learner sensitive	Underperforming
13	SVR	8.20	Kernel-based	Works well on small datasets	Scaling + tuning critical	Model failure
Special Case	Linear Regression	100.00	Linear	Perfect fit	Highly suspicious	Possible data leakage / overfitting