Titanic Survival Prediction: Model Comparison

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train.csv 59.8KB

Data Preview (First 5 Rows)

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Ca
0	1	0	3	Braund, Mr. Owen Harris	male	22	1	0	A/5 21171	7.25	No
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Thayer)	female	38	1	0	PC 17599	71.2833	C8
2	3	1	3	Heikkinen, Miss. Laina	female	26	0	0	STON/O2. 3101282	7.925	No
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35	1	0	113803	53.1	C1
4	5	0	3	Allen, Mr. William Henry	male	35	0	0	373450	8.05	No

Setting up PyCaret environment...

Comparing Machine Learning Models...

Model Comparison Results

	Model	Accuracy	AUC	Recall	Prec.	F1	Kappa	MCC	TT (Sec)
lr	Logistic Regression	0.7944	0.8543	0.7114	0.7455	0.7231	0.5607	0.5655	0.236
et	Extra Trees Classifier	0.7897	0.8207	0.7194	0.729	0.7234	0.5538	0.5545	0.036
ridge	Ridge Classifier	0.7896	0.853	0.6946	0.7418	0.7145	0.5488	0.5519	0.015
lda	Linear Discriminant Analysis	0.7896	0.8528	0.6946	0.7418	0.7145	0.5488	0.5519	0.015
nb	Naive Bayes	0.7784	0.8168	0.7321	0.708	0.7148	0.5344	0.5401	0.015
dt	Decision Tree Classifier	0.7561	0.741	0.6989	0.6771	0.6862	0.487	0.4888	0.015
qda	Quadratic Discriminant Analysis	0.7274	0.8141	0.6696	0.7125	0.6301	0.432	0.4609	0.015
knn	K Neighbors Classifier	0.679	0.7255	0.5527	0.5925	0.5667	0.3138	0.3178	0.128
svm	SVM - Linear Kernel	0.66	0.7242	0.5995	0.4943	0.5063	0.2886	0.3099	0.015
dummy	Dummy Classifier	0.6164	0.5	0	0	0	0	0	0.015

Best Model

```
LGBMClassifier(boosting_type='gbdt', class_weight=None, colsample_bytree=1.0,
               importance_type='split', learning_rate=0.1, max_depth=-1,
               min_child_samples=20, min_child_weight=0.001, min_split_gain=0.0,
               n_estimators=100, n_jobs=-1, num_leaves=31, objective=None,
               random_state=123, reg_alpha=0.0, reg_lambda=0.0, subsample=1.0,
               subsample_for_bin=200000, subsample_freq=0)
```