The goal of this dataset is to predict whether the customer will default or not in the credit payment (credit loan payment).

Unbalanced Dataset

Model	SplitSize	TrainAcc	TestAcc	Variance(train-test)	Precision	Recall	F1	Accuracy
LR	0.3	0.758	0.776	**-0.018**	0.68	**0.48**	0.56	0.78
LR	0.25	0.766	0.771	**-0.005**	0.65	**0.51**	0.57	0.77
LR	0.2	0.76	0.781	**-0.021**	0.66	**0.53**	0.59	0.78
DT1	0.3	0.832	0.752	**0.08**	0.58	**0.6**	0.59	0.75
DT2	0.3	0.753	0.718	**0.035**	0.53	**0.58**	0.55	0.72
DT1	0.25	0.835	0.694	**0.141**	0.48	**0.38**	0.43	0.69
DT2	0.25	0.752	0.678	**0.074**	0.43	**0.25**	0.31	0.68
DT1	0.2	0.852	0.714	**0.138**	0.52	**0.5**	0.51	0.71
DT2	0.2	0.759	0.714	**0.045**	0.52	**0.59**	0.55	0.71
RF1	0.3	0.736	0.704	**0.032**	0.51	**0.32**	0.39	0.7
RF2	0.3	0.793	0.741	**0.052**	0.88	**0.16**	0.27	0.74
RF3	0.3	0.714	0.69	**0.024**	0.47	**0.24**	0.32	0.69
RF4	0.3	0.782	0.728	**0.054**	0.72	**0.15**	0.25	0.73
RF1	0.25	0.736	0.678	**0.058**	0.45	**0.36**	0.4	0.68
RF2	0.25	0.775	0.739	**0.036**	0.76	**0.18**	0.29	0.74
RF3	0.25	0.726	0.592	**0.134**	0.32	**0.33**	0.32	0.59
RF4	0.25	0.766	0.743	**0.023**	0.92	**0.15**	0.26	0.74
RF1	0.2	0.739	0.719	**0.02**	0.53	**0.53**	0.53	0.72
RF2	0.2	0.782	0.745	**0.037**	0.79	**0.19**	0.31	0.74
RF3	0.2	0.725	0.679	**0.046**	0.46	**0.52**	0.49	0.68
RF4	0.2	0.782	0.74	**0.042**	0.73	**0.19**	0.3	0.74
XGB	0.3	0.961	0.752	**0.209**	0.61	**0.47**	0.53	0.75
XGB	0.25	0.958	0.767	**0.191**	0.62	**0.56**	0.59	0.77
XGB	0.2	0.958	0.745	**0.213**	0.58	**0.5**	0.54	0.74

Balanced Dataset

Model	SplitSize	TrainAcc	TestAcc	Variance(train-test)	Precision	Recall	F1	Accuracy
LR	0.3	0.758	0.702	**0.056**	0.72	**0.71**	0.72	0.7
LR	0.25	0.751	0.68	**0.071**	0.71	**0.68**	0.69	0.68
LR	0.2	0.75	0.695	**0.055**	0.72	**0.71**	0.71	0.69
DT1	0.3	0.861	0.714	**0.147**	0.82	**0.59**	0.69	0.71
DT2	0.3	0.785	0.697	**0.088**	0.74	**0.66**	0.7	0.7
DT1	0.25	0.87	0.747	**0.123**	0.8	**0.7**	0.75	0.75
DT2	0.25	0.776	0.724	**0.052**	0.73	**0.76**	0.75	0.72
DT1	0.2	0.876	0.727	**0.149**	0.78	**0.68**	0.73	0.73
DT2	0.2	0.771	0.731	**0.04**	0.73	**0.78**	0.75	0.73
RF1	0.3	0.759	0.671	**0.088**	0.7	**0.66**	0.68	0.67
RF2	0.3	0.845	0.738	**0.107**	0.76	**0.74**	0.75	0.74
RF3	0.3	0.751	0.68	**0.071**	0.73	**0.62**	0.67	0.68
RF4	0.3	0.844	0.748	**0.096**	0.75	**0.78**	0.76	0.75
RF1	0.25	0.766	0.709	**0.057**	0.75	**0.68**	0.71	0.71
RF2	0.25	0.849	0.75	**0.099**	0.76	**0.78**	0.77	0.75
RF3	0.25	0.75	0.695	**0.055**	0.74	**0.66**	0.7	0.69
RF4	0.25	0.842	0.753	**0.089**	0.76	**0.78**	0.77	0.75
RF1	0.2	0.773	0.68	**0.093**	0.75	**0.59**	0.66	0.68
RF2	0.2	0.837	0.775	**0.062**	0.77	**0.82**	0.79	0.77
RF3	0.2	0.764	0.687	**0.077**	0.77	**0.58**	0.66	0.69
RF4	0.2	0.837	0.756	**0.081**	0.75	**0.81**	0.78	0.76
XGB	0.3	0.977	0.814	**0.163**	0.83	**0.77**	0.8	0.8
XGB	0.25	0.964	0.805	**0.159**	0.84	**0.8**	0.82	0.81
XGB	0.2	0.967	0.8	**0.167**	0.83	**0.84**	0.83	0.82

The cell in green represents the final selected model.

The cell within the dark border has a close chance of being selected as the final model.

LR	Logistic Regression
DT	Decision Tree
RF	Random Forest
XGB	XGBoost

XGB

	Predicted False(0)	Predicted True(1)
Actual False (0)	103	26
Actual True (1)	29	117

The Model should have high Recall value because if a person is actually a default and model predicted him as not default then bank may suffer from finincial loss. So, the False negative is the most dangerous case for our model.