Is Ensemble Learning emerging to be the new gold standard for classification problems

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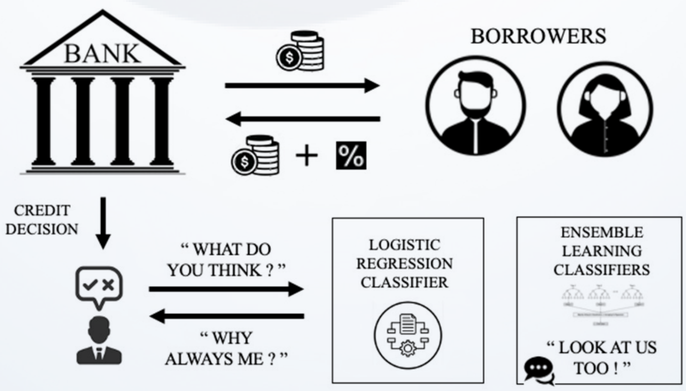
Abstract

Over the years, consumer banks have developed several novel products to boost their revenue, however lending continues to remain their single largest income stream. The biggest risk facing the lending business is the risk of default i.e., if the borrower willingly or unwillingly fails to fulfil the obligations of the loan. Thereby, these retail banks heavily rely upon credit scoring models to be able to make critical lending decisions in a time efficient manner, and constantly strive towards improving the performance of their reigning models.

To be able to anticipate if a potential borrower would default or not, is a classification problem. For several decades, albeit its limitations in addressing complex non-linear relationships, logistic regression has maintained its status as an industry gold standard to solve classification problems and continues its footing even today in credit scoring. The major cause to this effect is the organizational resistance to divert from already established industry standards and accept advanced ensembled machine learning algorithms. With ensemble methods usually engaging a large number of models, business leaders at consumer banks often perceive that wider expertise is essential to handle such classifiers and therefore refrain from adopting them.

Comparative benchmarking studies could be the solution, highlighting the business interests to a sufficient degree, in accepting a wider range of classification algorithms for credit scoring. The current discussion is a litmus test for ensemble learning methods, and is pivoted on a benchmark study comparing the predictive performance of logistic regression with advanced ensembled classifiers such as Random Forest and XGBoost, coupled with a strong business use case.



Biography

Sriram has close to a decade of risk management experience primarily in Banking & Financial Services sector, covering various dimensions of risk management landscape, with particular expertise in analytics and statistical modeling.

He is currently the Head of Risk Analytics in Risk Management Group at Boubyan Bank, wherein he manages all regulatory and internal analytical & modeling needs at a group level, in addition to retail portfolio risk management.

Before joining Boubyan, he worked with consulting firms – KPMG, Aptivaa and Ardent Advisory, wherein he assisted several top tier banks and Investment banks on various risk management engagements in US, India, Sri Lanka, Mauritius and extensively in the Middle East region.