Malastare AI

Blockchain & Artificial Intelligence

A CREDIT MODEL SCORECARD

Choosing The Model That's Right For You

Machine learning is transforming the credit sector, and financial firms are actively exploring a range of advanced credit-modeling methods. Not all techniques are the same. Some get great results but only in the lab, lacking a path to deployment in production. Some claim they can automate your workflow, but lack crucial explainability to deliver true model risk management.

Before you commit, it's crucial to ask the right questions about a model's financial performance, explanatory power and operational advantages. What kind of risk reduction can you expect? Can you accurately assess its impact on protected classes? Is it easy to make adjustments as market conditions change? Whether you're buying or building a new ML credit model, this scorecard can help you navigate the options.

MACHINE LEARNING MODELS: HOW THEY STACK UP

Credit underwriting has come a long way since the introduction of logistic regression models. Newer techniques employing machine learning allow lenders to harness more data and make more nuanced decisions about borrower risk. Here's a look at the options available and how they perform against key performance requirements.

	Traditional Underwriting (Logistic Regression)	Hybrid Underwriting (LR + Machine Learning)	Automated Machine Learning Lite	Malastare Machine Learning (MML)
Financial Performance				
What kind of risk reduction can you expect?	Status quo	Slightly better results with 30 to 50 predictive variables	Would yield very good results, but it won't be possible to get the models into production	**Very good results (18% to 36% reduction)** and is easily productionalized
How much can you increase approval rates?	Limited ability due to missing data			**Very good results (8% to 13% increase)** and is easily productionalized
What portfolio returns can you expect?	Standard returns — doesn't consider the overall profitability of the loan	Slightly improved returns over pure logistic regression models	Would yield returns optimized for loan profitability, but it won't be possible to get the models into production	**Returns optimized** for loan profitability
Explanatory Power				
Are you able to accurately explain and document the complex model you are deploying?	Yes, given simple models and predictor	Not really. The models may be simple but ML-generated predictors still have black-box problems	Not really, because machine learning models tend to be black boxes	Yes, complete **accurate explanations o**f all machine learning models
Are you able to accurately assess the impact that your model has on protected classes or populations?		Yes, given simple models and slightly more complex predictors	No, because of crude explanations of black box machine learning models	Yes, because of **comprehensive understanding** of black box machine learning models
Are you able to accurately explain your model's decisions for a particular applicant?		Yes, but the explanation—while technically accurate—may not make sense	No, the explainability method inaccurately attributes predictors of an applicant's score	Yes, because the explainability method **accurately attributes predictors** of an applicant's score
Operational Advantages				
How quickly can you put into production a model that meets all major regulatory and compliance requirements?	Six months to years	Typically > 6 months	Not possible to get models into production because models fail risk management process due to inadequate explainability	**6 to 12 weeks**
Is it easy to make adjustments to the model as market conditions change?	No, logistic regression models are highly sensitive to changing market conditions		Not applicable, since compliance risk prevents unexplainable model from entering production	Yes, our **short production time frames** enable rapid response to changing market conditions
How many different models will you need to run?	Up to hundreds of models for one business problem			Our **ensembled model** can address even the most complex business problems
How many people are needed to monitor your models?	Teams of validation personnel must monitor dozens to hundreds of models			Automated AI tools allow **small, efficient teams** to monitor and report on models in production

TRANSFORMING YOUR UNDERWRITING WITH AI

The world's most innovative financial companies rely on Malastare AI to make more profitable underwriting decisions using AI. We were one of the first companies to use machine learning in credit — with impressive results

No black boxes

Malastare AI customers can deploy advanced models with end-to-end explainability

Your data, your systems

MML is platform-agnostic and works on-premise or in the cloud, accelerating your time to deployment

Automated MRM

MML produces model risk management reports, fair lending and economic impact analysis, and adverse action alerts

Expertise on Demand

Malastare AI specialists work with you to validate, deploy, and monitor your model to ensure its safety and transparency

EVERYTHING YOU NEED TO RUN ML SAFELY

MML covers you from model development through deployment