

The background of the slide is an aerial photograph of a city street, likely Times Square in New York City, showing a dense crowd of people. The image is overlaid with a semi-transparent red filter and a white grid pattern. In the bottom-left corner, there are two overlapping semi-transparent red circles of different sizes.

GBG

Machine Learning

Predictive analytics and deep learning
to detect complex financial frauds

Overview

Bad actors around the world are constantly exploring new methods to devise complex financial crimes, leveraging new technologies including AI (artificial intelligence). This becomes a challenge for organisations to keep up with conventional fraud detection systems, resulting in an increase in false positives, false negatives, undetected frauds, that leads to escalating financial losses.

With Machine Learning, a layer of intelligence added to the onboarding and transaction monitoring solutions on GBG Digital Risk Management and Intelligence Platform, supplementing existing rule-based systems, to enhance fraud detection accuracy, hence reducing false positives and improving operational efficiency.

GBG Machine Learning offers a choice of leading-edge algorithms for generating high performing models, by analysing and learning past data on fraudulent actions and behaviours.

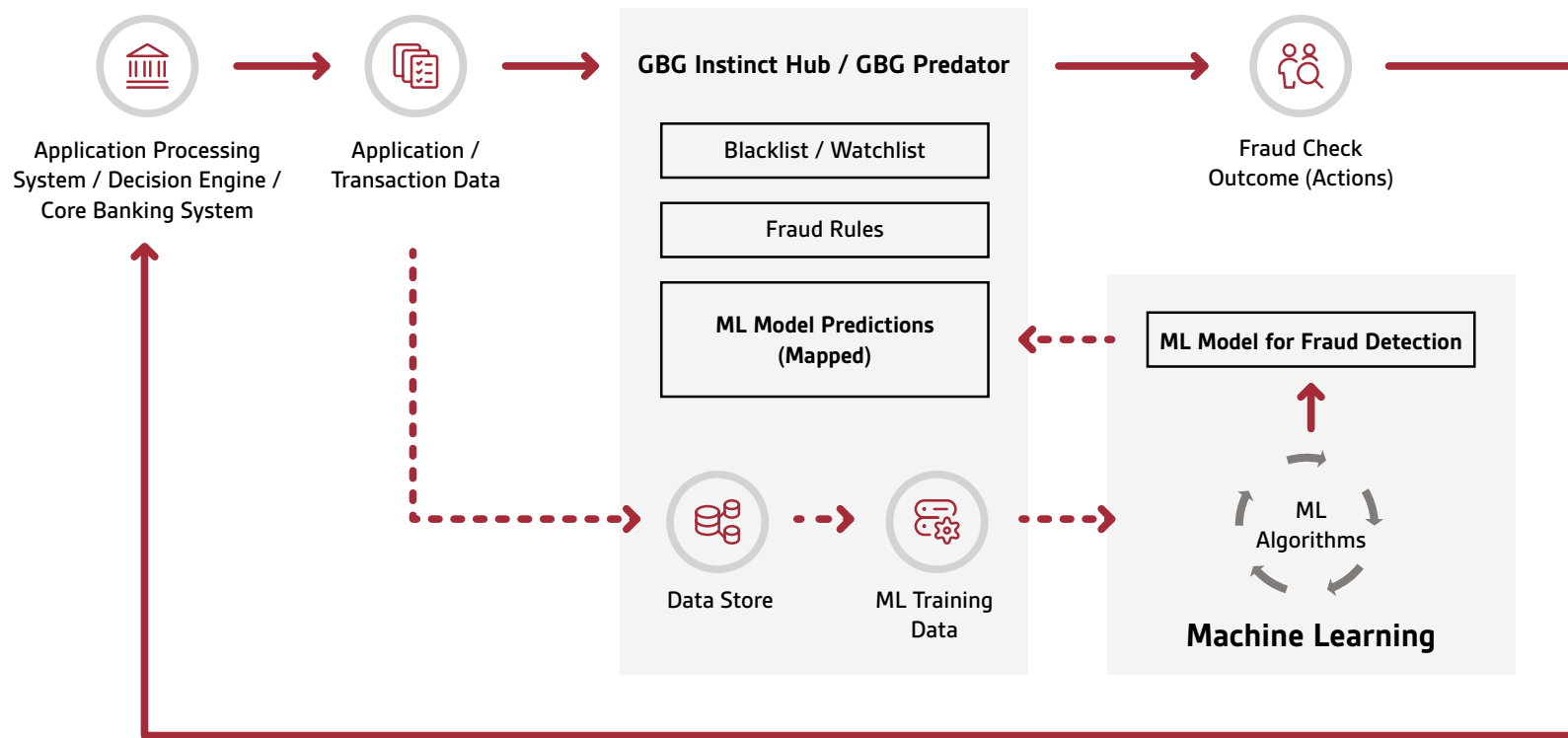
Data with known actions and outcomes are further used to automate continuous training and updating of the models for detecting evolving fraudulent behavioural patterns. New detection parameters identified from the analysis can also be used to improve detection rules for more accurate risk assessment.

The model development process is open and transparent, giving users view to the modelling parameters and features, for fine-tuning performance as well as reporting to meet regulatory requirements.



Why Machine Learning on GBG Digital Risk Management and Intelligence Platform:

- Enhance fraud detection capability and customer experience
- Simplify Machine Learning and model deployment for fraud detection
- Stay on top of evolving fraud patterns with automated model update
- Optimise performance and operational efficiency
- Harness the benefit of GBG domain expertise in digital fraud risk management
- Support model governance and regulatory requirements



Key Benefit

Enhance fraud detection capability and customer experience

- Capture complex frauds by supplementing fraud detection rules with predictive models.
- Improve detection accuracy and reduce false positives based on outcomes of known fraud, missed fraud and high-risk behaviours.
- Speed up and enable a frictionless customer experience.
- Augment fraud detection model performance by leveraging additional attributes from external data sources and capabilities. *

* Applicable for GBG Instinct Hub with Orchestration capability.



Use Case

Prevent fraud with improved detection accuracy

Challenges

- Third-party fraud is becoming more difficult to detect.
- A growing number of fraud victims due to:
 - Data breaches
 - Account takeover
 - Online scams
 - Malware attacks
- As bad actors become savvy with fraud detection thresholds and triggers, they are capable of orchestrating complex fraud that goes undetected.

How Machine Learning Can Help

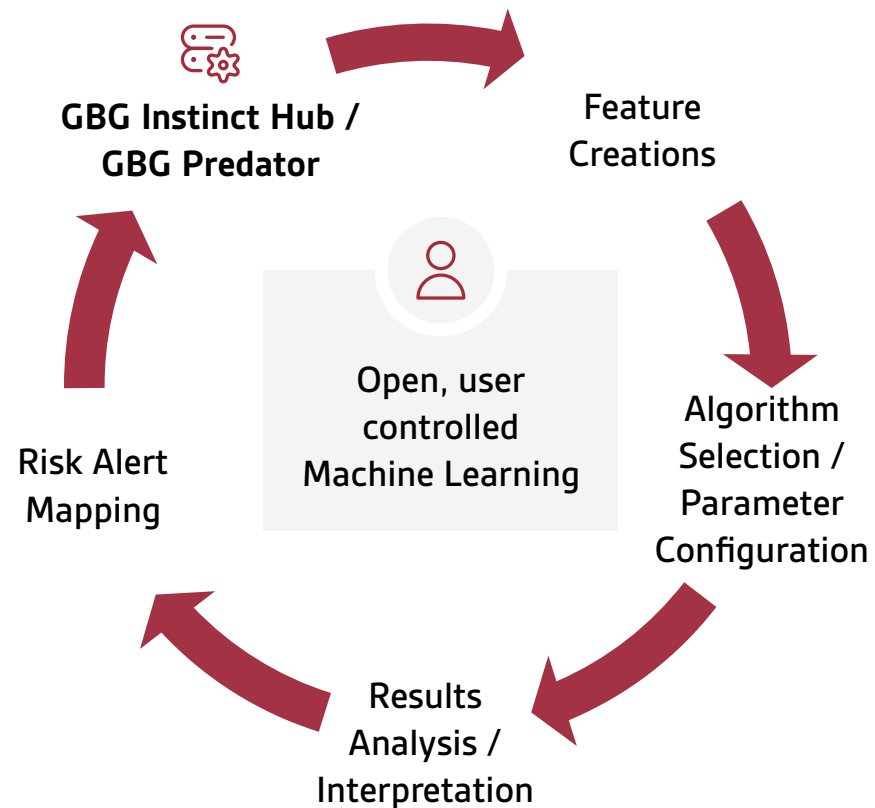
- Utilise predictive models to identify new fraud patterns and indicators across new and existing applications/transactions.
- Increase detection accuracy by applying indicators of new fraud patterns to existing fraud detection rules, and supplement with predictive models.



Key Benefit

Simplify Machine Learning and model deployment for fraud detection

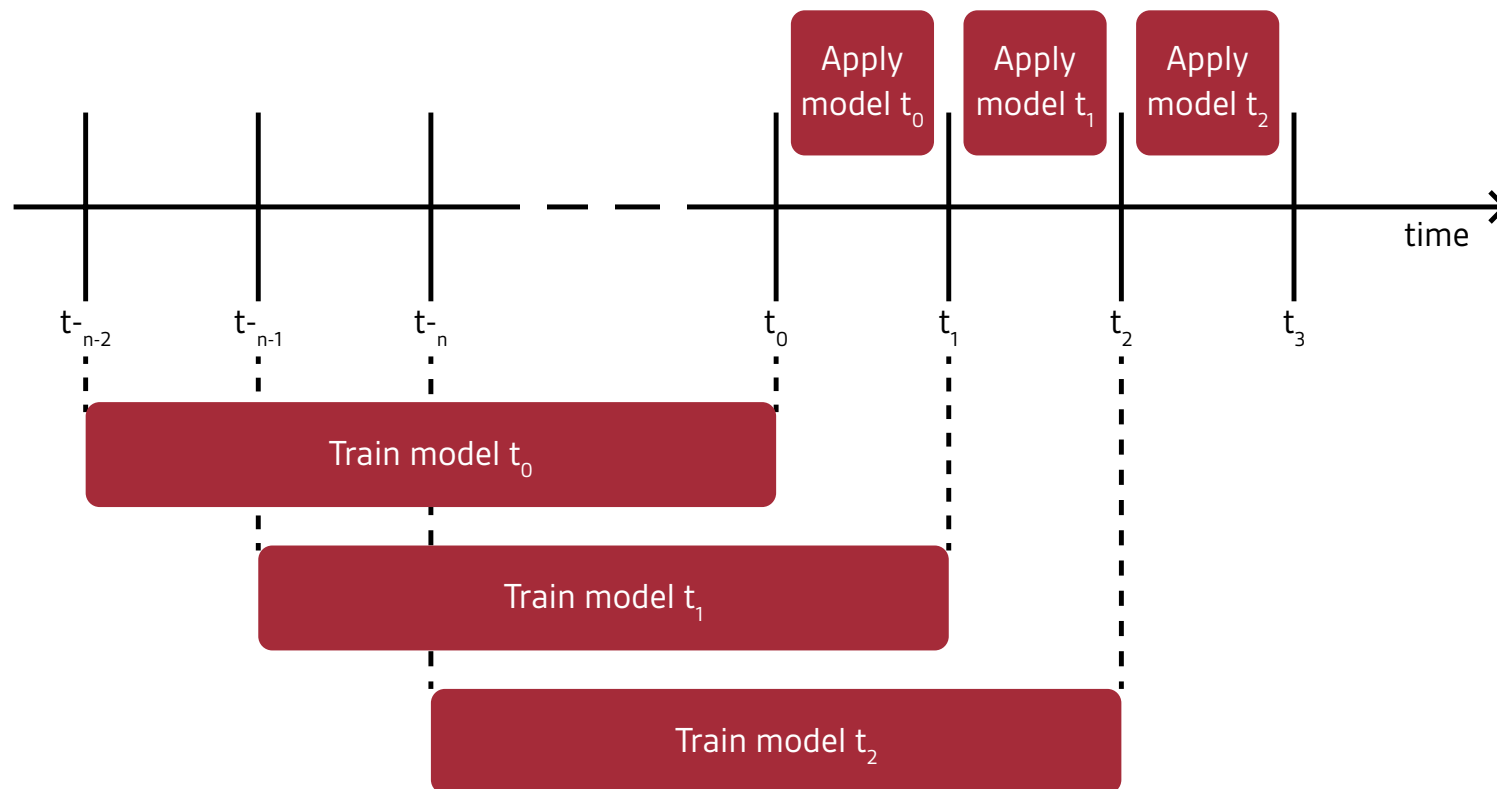
- Choose from leading-edge Machine Learning algorithms proven for fraud detection performance, such as neural networks, random forest and gradient boosting machines.
- Build and train models using past and available data in common file formats, such as CSV.
- Easy-to-use Machine Learning user studio designed for both fraud managers and data scientists.
- Models can be instantly deployed to production.



Key Benefit

Stay on top of evolving fraud patterns with automated model update

- Automate model training and update with rolling window scheduler.
- Enable adaptive model training with data from new fraud pattern and investigation outcome.
- Improve model performance and mitigate deterioration risk with continual and autonomous training.



Key Benefit

Optimise performance and operational efficiency

- Open, user-controlled design enables building, training and throttling of score threshold.
- Balance detection accuracy and alert trigger according to fraud investigation resource.
- Train, test and compare multiple models using different algorithms and modelling approaches.
- Fine-tune performance of detection models and rules using analytics.



Use Case

Improve fraud detection rate without increasing investigation resource

Challenges

- With rule-based detection system, a high number of fraud alerts means that the rules are effective in detecting frauds.
- High number of fraud alerts also correlates to higher number of potential false positives requiring manual review.
- An increase in manual review requirement results in additional workload for the fraud investigation team.

How Machine Learning Can Help

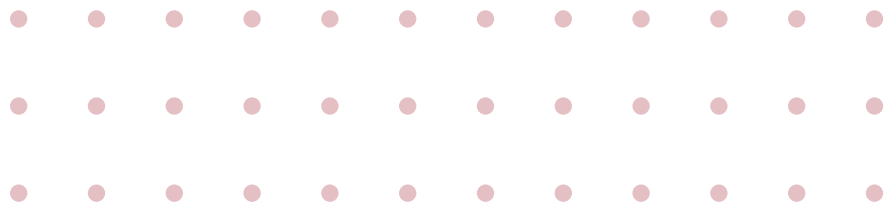
- Improve detection precision between confirmed frauds and high fraud potential cases.
- Adjust alert trigger and score threshold based on available capacity.
- Optimize investigation resource by balancing alert review workload.

Key Benefit

Harness the benefit of GBG domain expertise in digital fraud risk management

- Armed with decades of deep industry knowledge, strong local insights and operational best practise experience.
- Specialised in developing models effective for detecting financial crimes.
- Get better solution and outcome with market relevant insights.





Use Case

Uncover suspicious cases by geographical regions

Challenges

- Fraudulent behaviours are getting surreptitious and can be overlooked as nondescript behaviours or attributes.
- Different geographical regions exhibit different fraudulent behavioural tendencies.

How Machine Learning Can Help

- New fraudulent behavioural patterns are identified by fraud detection models.
- Coupled with local insights from GBG fraud specialists, undetected cases are identified based on geographical characteristics.

Key Benefit

Support model governance and regulatory requirements

- Open model development process provides a transparent view of the modelling parameters and contributing features associated with specified fraud score.
- Keep log of past testing, results and changes for audit.
- Raw and sample data before and after model training available for validation.





About GBG

GBG is a global technology specialist in fraud, location and identity data intelligence with offices in 18 locations worldwide.

For over 30 years, GBG has been accessing and verifying identities, to the standards set by financial regulators, of more than 4.4 billion people worldwide or 57% of the world's population. GBG has a network of over 270+ global partnerships and access to 510+ datasets to provide data with accuracy and integrity.

In the fraud category, GBG manages end-to-end fraud and compliance needs across a range of industries including financial services (international, regional and local banks, auto finance companies, P2P lending, mutual companies, and credit unions), government services, retail, betting and wagering. Some of our customers include 90% of top tier banks in Malaysia, BNP Paribas Personal Finance in Spain, regional banks like HSBC, and major wagering players like Tabcorp.

For more information about GBG Instinct Hub

E: contact@gbgplc.com

W: www.gbgplc.com/apac

GBG Offices Worldwide

APAC: Beijing, Canberra, Jakarta, Kuala Lumpur, Melbourne, Shanghai, Shenzhen, Singapore, Sydney

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