feedzai

Overview
Feedzai's machine learning and big data enabled fraud prevention platform helped a Top 10 US Retail Bank significantly improve its new customer account opening process.

The Challenge
The Retail Bank required a risk assessment engine that could sift through new account applications and approve new customers with little to no friction. Before Feedzai, most applications were reviewed manually and many good customers were turned away. In fact, over half of new applications were denied due to the Bank's inability to assess risk efficiently!

The Results
- 70% increase in new application approvals
- Greatly reduced manual verification overhead by cutting false positives by 10x
- Radically improved online account opening customer experience
- Zero increase in fraud losses despite increase in approved applicants
- New data streams now integrate within weeks, not months.

Supercharging Online Account Opening For A Top 10 US Retail Bank

HOW FEEDZAI HELPS ENGINEER BANKING FOR THE BRANCHLESS WORLD

THE CHALLENGE

When a Top 10 US Retail Bank decided to offer its core checking account via an online sign up process, it found their fraud and risk screening was rejecting more than half the applicants, losing precious business to competitors.

While the process had been successful in the bank's thousands of physical branches, it proved too slow for the digital world. Online customers expect a seamless account opening experience, and this is doubly true of the bank's target market, Millennials, who will not spend more than a few minutes on their application or tolerate any lag in the process.

As the bank was taking the lead in developing a frictionless digital banking experience through its app, online presence and a move from a branch-heavy to a thin-branch model, it needed the best tools in its arsenal to differentiate itself in a crowded market.

This is precisely why the bank came to Feedzai with the following challenges:

- **Could we put customer data into context?**
  The bank had already made significant strides in creating an internal 'data lake'. This allowed it to place enterprise-wide data in one place and to overcome data silos. However, it was still difficult to stitch varied data sources together because the data often lacked semantic consistency. The bank

therefore needed to put this data into context to generate complete 360 degree behavioral profiles of its customers.

- **Could we help them make real-time risk decisions?**

  The bank's old account opening process and legacy systems did not scale to an online world. They were too lengthy, requiring numerous safety checks and unable to meet the standard for processing online applications because their architecture could not handle streaming big data or integrating different data types together. The bank therefore required a risk-assessment engine that could seamlessly sift through new account applications and only allow the good customers in: in short, an engine that could work in real time with a high rate of accuracy.

- **Could we ensure operational effectiveness?**

  The bank had to ensure it did not turn back legitimate customers and did not overburden its operational staff. This meant only truly risky applications could go into manual review and that risk factors had to be clear for easy decision-making. Since legacy fraud systems generate higher 'false positives' or risk-scores with unclear 'black box' codes - which make it very hard for human analysts to understand the underlying risk factors - the bank needed a solution with a high degree of accuracy and transparent explanations of underlying risk.

- **Could our solution improve with time?**

  Finally, it was also important that Feedzai's solution went above and beyond simple rule-based decision-making, utilizing the full potential of machine learning to continuously improve the accuracy of its decision over time based on risky application patterns.

THE SOLUTION

We deployed Feedzai at the core of the bank's technology stack, with all data and system components residing completely within its own data centers. This allowed our system to become the central decision-engine driving the bank's online customer onboarding process.

As shown in Fig. 1 below, Feedzai works right within the online customer onboarding flow to verify identity, check eligibility and assess fraud risk in real time. If existing information is not available or satisfactory, Feedzai triggers customer-specific follow up questions during the online application process itself, enabling a frictionless experience for the customer.

Identity Check _Is the applicant really who she says she is?_	Eligibility Check _Does she comply with prerequisites to open on account?_	Fraud Risk _Does she pose any fraud risk?_
• Feedzai checks identity history (KYC) and federal government watch list flags (OFAC) in real-time and triggers additional questions during the account opening flow. • Feedzai also integrates easily with external identity verification data sources if required to reduce online friction.	• Feedzai then checks for credit activity and bank account red flags (FCRA) across other financial institutions in real time. • If checks fail then case is flagged for manual review.	• Finally, Feedzai checks for fraud risk by looking up Information such as IP address, email authenticity, location proximity to home address, as well as online click-stream activity to determine anomalous behavior. • Suspicious applications are flagged for human review.

This is made possible by Feedzai's integrated fraud detection platform that works using machine learning models running at big data scale.

Fig. 2 shows how Feedzai makes a risk assessment in real time. Powered by application, network and third party data, it creates a real-time profile for each customer and applies a combination of machine learning models and manually configured rules to produce a risk assessment per applicant at each stage in the application process. Risk assessments above specified thresholds either trigger automated escalations, such as 'out of wallet' questions or manual review processes. Finally, real time operational dashboards allow fraud and risk teams to monitor the end-to-end performance of the customer's onboarding process.

Figure 2. Feedzai's Integrated Risk Decisioning Platform
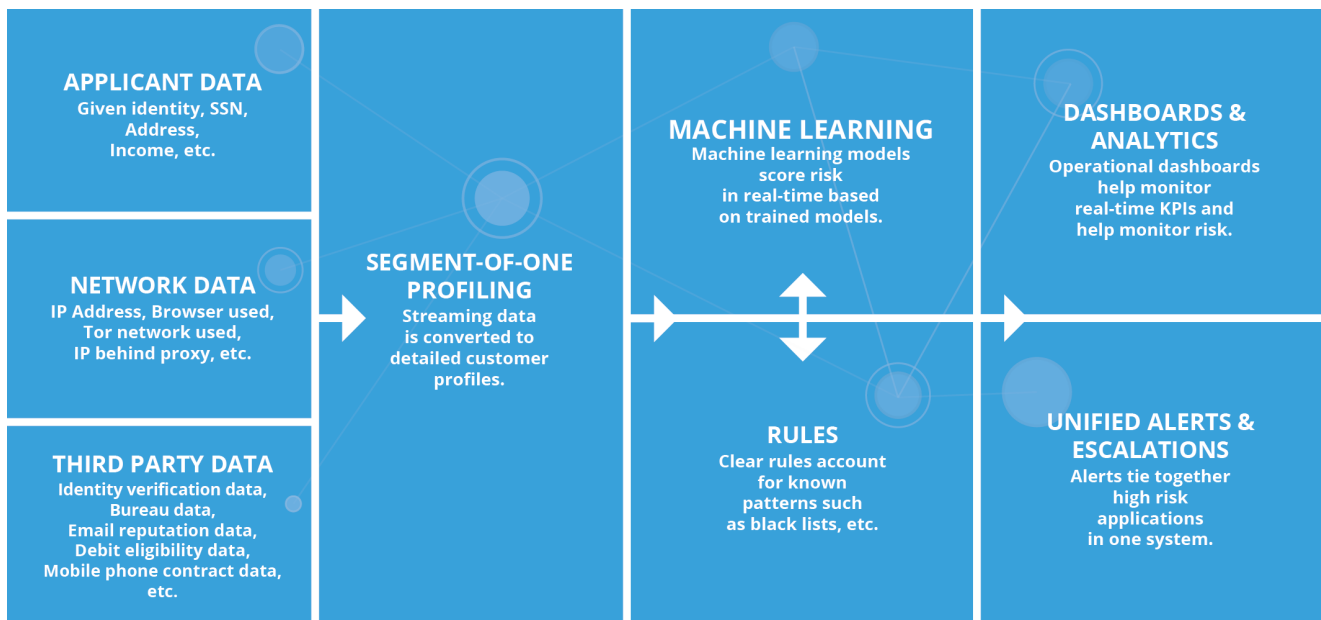
Additionally, Feedzai also makes use of the following distinctive features:

1. **Omnidata Integration:** A data-agnostic platform designed to easily integrate additional data streams to allow scalability when new data is considered a factor in the onboarding decision.

2. **Whitebox Risk Explanations:** While many machine-learning tools offer black box solutions without explanations, Feedzai provides full transparency into risk factors, enabling ease of decision-making and compliance.

3. **Agile Machine Learning:** Since both customer behavior and fraud patterns evolve over time, traditional systems sometimes fail due to their inability to reconcile newer patterns or attack vectors. Feedzai's agile machine learning allows it to put new risk models into production within weeks.

THE RESULTS

Feedzai enabled the bank to measure applicant trustworthiness in real time, with virtually zero friction. The benefits of the deployment include:

A 70% Increase In Application Approvals:
The bank can now onboard significantly more customers.

Reduced Manual Overhead:
Thanks to 10x less false positives than with the former process.

Improved Customer Experience:
The bank improved its online customer experience by simply triggering more questions online without a discernible difference in the experience for customers with varied risk profiles.

Zero Increase In Fraud Loss:
Fraud losses remain the same, even with the huge increase in approvals. If the former manual checking process remained, losses would have increased by 400%.

Seamless Data Integration:
The bank is now able to integrate new data streams for use in its risk models within weeks, a process that used to take months with other solutions.

Summary
As a result of Feedzai's machine learning and unified risk-decisioning engine, the Retail Bank now has a significant competitive advantage, an increase in top line, reduced risk exposure, and retains its status as one of the Top 10 Retail Banks in the US.

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