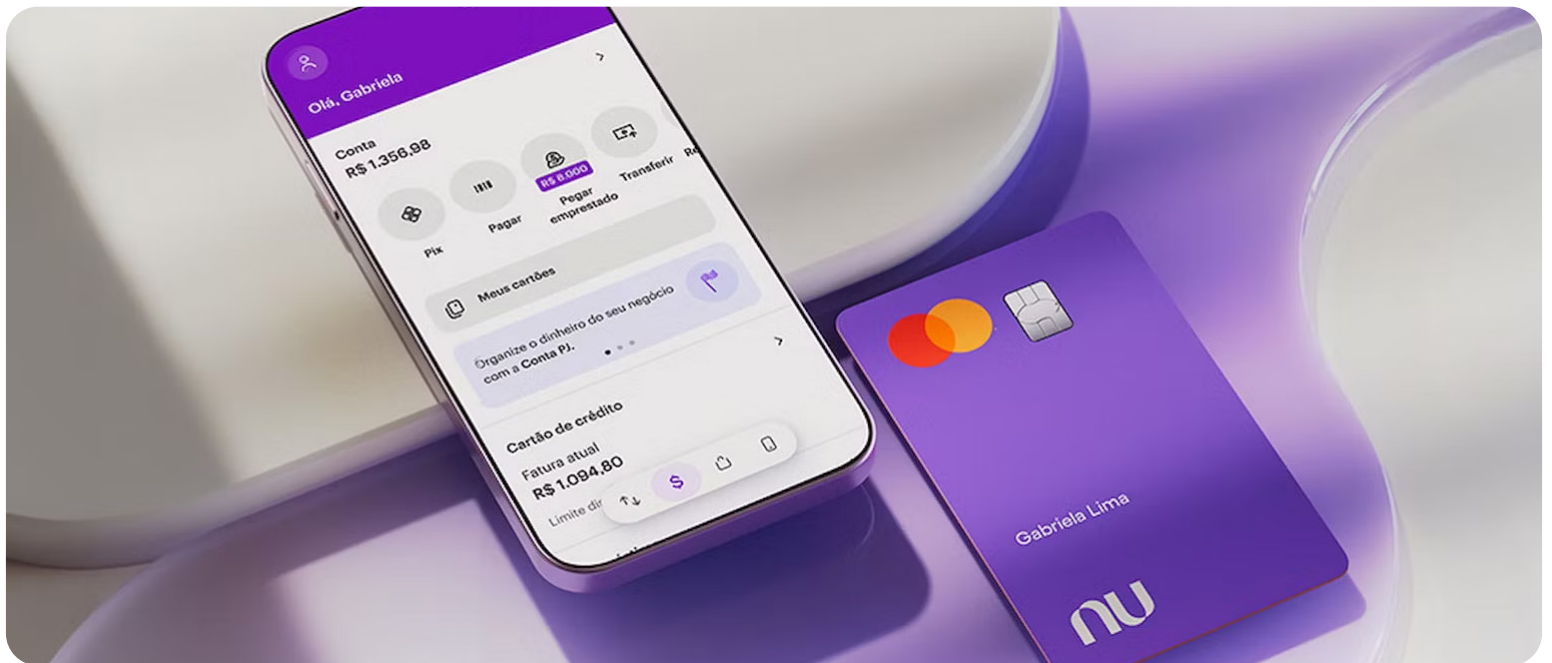


# Nubank Reduces Fraud Losses by Millions and Improves Detection Accuracy Using TigerGraph



## THE CHALLENGE →

Nubank faced over 9,000 monthly scam reports causing \$1.8M in losses. Legacy BigQuery infrastructure produced 60%+ false positives and only 28% recall, overwhelming investigators while missing critical fraud patterns across 65M+ accounts.

## THE SOLUTION →

TigerGraph enabled graph-native intelligence integration into ML pipelines, calculating 30 graph features including shortest paths to known mule accounts. This provided real-time relational insights across all 65M accounts through seamless TG Cloud integration.

## THE RESULTS +

Achieved millions in annual savings through improved model accuracy, reduced false positives, and faster investigation cycles. Enhanced operational efficiency without increasing headcount while scaling architecture to support continued growth and evolving risk requirements.



## Introduction:

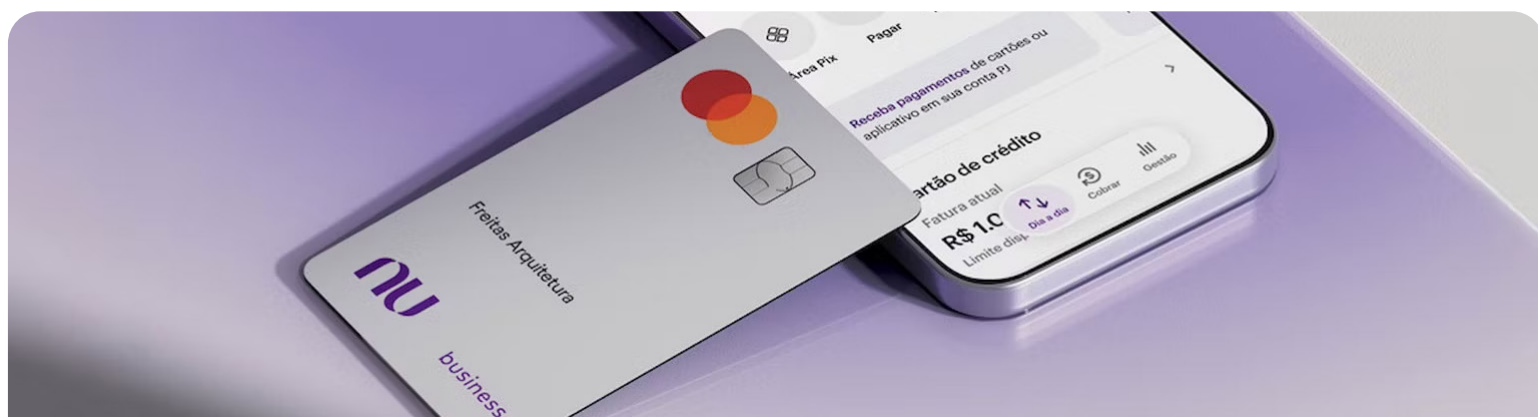
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Nubank is Latin America's largest digital neobank, serving millions of customers through its modern, mobile-first financial platform. Headquartered in São Paulo, Brazil, with engineering offices in Berlin, Buenos Aires, and Mexico City, Nubank went public on the NYSE with a \$45 billion IPO valuation. The company has established itself as a digital banking leader committed to innovation and operational excellence across global markets.

## The Challenge:

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Nubank's AML and fraud teams were drowning in an overwhelming surge of fraudulent activity that threatened both customer trust and financial stability. With over 9,000 scam reports flooding in monthly and approximately \$1.8 million in associated losses, their legacy infrastructure built primarily on Google BigQuery was failing to meet critical operational demands. The system's machine learning models achieved only 60% precision with a devastating 28% recall rate, meaning that not only were they generating excessive false positives that consumed valuable investigator time, but they were also missing the majority of actual fraud cases. This double failure created a perfect storm where legitimate customers faced unnecessary friction while criminals operated largely undetected across their 65 million account base, making scaling detection models increasingly impossible.





## The Solution:

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TigerGraph revolutionized Nubank's fraud detection capabilities by injecting graph-native intelligence directly into their existing machine learning pipeline through a sophisticated, scalable approach. The implementation team, comprising AML leadership, fraud analysts, engineering, and analytics professionals, leveraged TigerGraph Cloud to calculate 30 powerful graph-based features that captured the complex relational patterns inherent in financial fraud networks. These features included critical proximity measurements and shortest path calculations to known mule accounts, enabling the system to identify suspicious relationships and money flow patterns that traditional tabular data analysis completely missed. The seamless integration into Nubank's ML workflows meant they could maintain their existing operational processes while dramatically enhancing detection accuracy through real-time relational insights that scaled effortlessly across their entire 65 million account ecosystem.

## The Results:

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## Impact Summary:

### VALUE

Millions in annual cost avoidance from improved model features and reduced SLA timelines leading to faster case resolution

### SPEED

Real-time fraud signals derived from graph-based proximity and path analytics enabling immediate detection and response

### REDUCED RISK

Expanded transaction coverage and improved model coverage with network-based risk indicators providing comprehensive protection



## About TigerGraph

TigerGraph, the enterprise AI infrastructure and graph database leader, delivers massively parallel storage and computation that scales independently and without size limits, to meet the changing workloads and growing data volumes required for crucial business needs and AI adoption within companies. By providing visibility into the multidimensional data connections and relationships, TigerGraph has become a trusted partner to leading companies including JPMC, Mastercard, Microsoft, and Unilever successfully solving fraud detection, entity resolution, customer 360, supply chain management, and other problems. TigerGraph is headquartered in Silicon Valley, California.

[www.tigergraph.com](http://www.tigergraph.com)