TigerGraph

A Quantum Leap in Fraud Detection

Four tier 1 U.S. banks use TigerGraph to improve fraud detection rates 20% or more just by introducing graph features into their existing detection systems

Fraud is a board-level concern for banks around the world. Despite spending $2 billion on fraud detection software each year, fraudulent activity still costs banks over $50 billion annually in a rising trend that doesn't appear likely to change.

Simply put, fraud detection software doesn't stop enough fraud, and it's leading to massive losses that the banks find difficult or impossible to recover. It's time for banking institutions to take a different approach to fraud detection and use the wealth of transactional and customer data they store in a different and more effective manner.

Some of the world's biggest banks are breathing new life into their fraud detection programs with TigerGraph.

Machine Learning's Limit

Machine learning transformed fraud detection over the last decade, but it's reached an accuracy limit that's become hard to overcome. Continually tuning your machine learning algorithm will not improve your results much if you don't improve the data that you feed into it.

Look at it this way. Data is comprised of data points (facts) and relationships between those data points. If you only feed your algorithm the data points and not the relationships, you're throwing away half the information. Those relationships are the key to enriching your understanding of transactions and the people making them - and the key to finding fraud before the damage is done.

Fraud Detection Boosted by Graph Analytics and TigerGraph

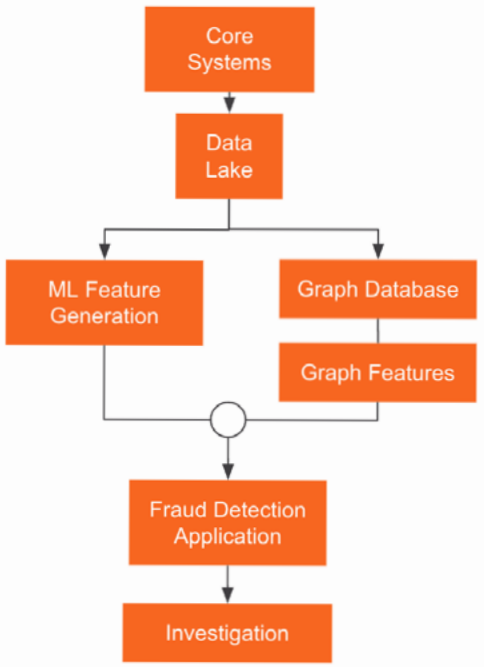
Fraud detection works by connecting accounts that have been designed by the fraudsters to look unconnected. Explicitly modelling the relationships between those accounts represents a huge boost to your fraud detection efforts.

Fraud teams can use TigerGraph to turn the network of relationships in their data into contextual graph features that can easily be piped directly into their existing fraud detection application, alongside their existing features, with minimal system integration.

The algorithms to do this are available out of the box and include:

- **Community Detection.** An account that is in a community with suspicious accounts is more likely to be involved in fraud.
- **Degrees of Separation.** The closer an account is to an account suspected of fraud, the more likely it is itself committing fraud.
- **Centrality.** An account at the nexus of an abnormally high number of capital flows is more likely to be fraudulent.

BANKING FRAUD DETECTION WORKFLOW WITH GRAPH



Proven Value for Big Banks

Several global tier 1 banks have already augmented their existing fraud detection applications with TigerGraph.

- One bank reported a 20% increase in synthetic identity fraud detection using TigerGraph
- Another bank claimed TigerGraph was by far the best technology ROI from its technology investments that year, a return of $100 million
- J.P. Morgan Chase awarded TigerGraph its coveted Hall of Innovation Award for 2021.

TigerGraph is the only scalable platform for graph analytics and machine learning on connected data. These banks used TigerGraph because no other platform can run the algorithms for graph features at the scale they need. While each bank's implementation is confidential, they all took advantage of our open source library of similar graph algorithms tailored to fraud detection to get started quickly.

Are you concerned about fraud losses that could measure $1 million a week or more? Start your journey toward more effective fraud detection with TigerGraph by visiting www.tigergraph.com/solutions/fraud-detection.

"The speed and scalability of TigerGraph enable us to identify complex relationships from our rich data sets which helps us protect the more than 60 million households we serve in the U.S."

Gill Haus, Chief Information Officer for Consumer & Community Banking at JPMorgan Chase

TigerGraph capped off a successful 2021 by being inducted into JPMorgan Chase's Hall of Innovation thanks to its fraud detection work with the bank.

About TigerGraph

TigerGraph is the only scalable graph database for the enterprise. TigerGraph's proven technology connects data silos for deeper, wider and operational analytics at scale. Four out of the top five global banks use TigerGraph for real-time fraud detection. Over 50 million patients receive care path recommendations to assist them on their wellness journey. 300 million consumers receive personalized offers with recommendation engines powered by TigerGraph. The energy infrastructure for 1 billion people is optimized by TigerGraph for reducing power outages. TigerGraph's proven technology supports applications such as fraud detection, customer 360, MDM, IoT, AI, and machine learning.

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