



Meet the Next-Generation AML Solution

**TRANSPARENCY, EFFICIENCY AND
VISUAL INTELLIGENCE IN ONE PLATFORM**



DATAVISOR

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Introduction

Money laundering is a huge socioeconomic risk — to businesses, the customers you serve, and the global population at large. When criminals try to wash their dirty money, they're also transferring economic power from governments and citizens to themselves. Their activities damage the economy because they promote corruption and crime, affect exchange rates, and create unpredictable changes in money demand and spending. All of the above can slow economic progress.

[**According to Deloitte**](#), it's estimated that the amount of money laundered annually is equal to 2-5% of the world's GDP, or roughly between \$800 billion to \$2 trillion USD. Other sources believe this estimate is too low, as the true cost of money laundering activities often accompany other surreptitious crimes like smuggling, embezzlement, bribery, and fraud.

[**Finbold's Bank Fines 2020 Report**](#) reveals that bank fines related to money laundering, violation of Know Your Customer regulations, and data privacy violations amounted to a whopping \$14.21 billion in 2020. Even though the average value of enforcement actions against financial institutions for AML-related compliance breaches was 35% lower than in 2019, the sheer volume of fines levied to financial institutions increased to 759 from 97 from the same period in the prior year, according to [**data from Fenargo**](#).

Because money laundering activities have such a broad ripple effect on local and global economies, every business plays a role in identifying AML fraud and helps ensure "regular" customers are not knowingly or unknowingly supporting financial crimes.

However, playing that role comes with some significant challenges, especially for financial institutions, because they often operate on the front lines of anti-money laundering efforts.



Key AML Challenges for Financial Institutions Today

The sheer scope of money laundering and other financial crimes continues to grow at an alarming rate. As 2020 ushered in a global pandemic, organized crime networks exploited the opportunities inherent in the changing financial landscape in the ensuing months to boost their money laundering activities and their profits as well. The result has been an uptick in mule activity, identity theft, and application fraud, a trifecta of trouble for financial institutions.

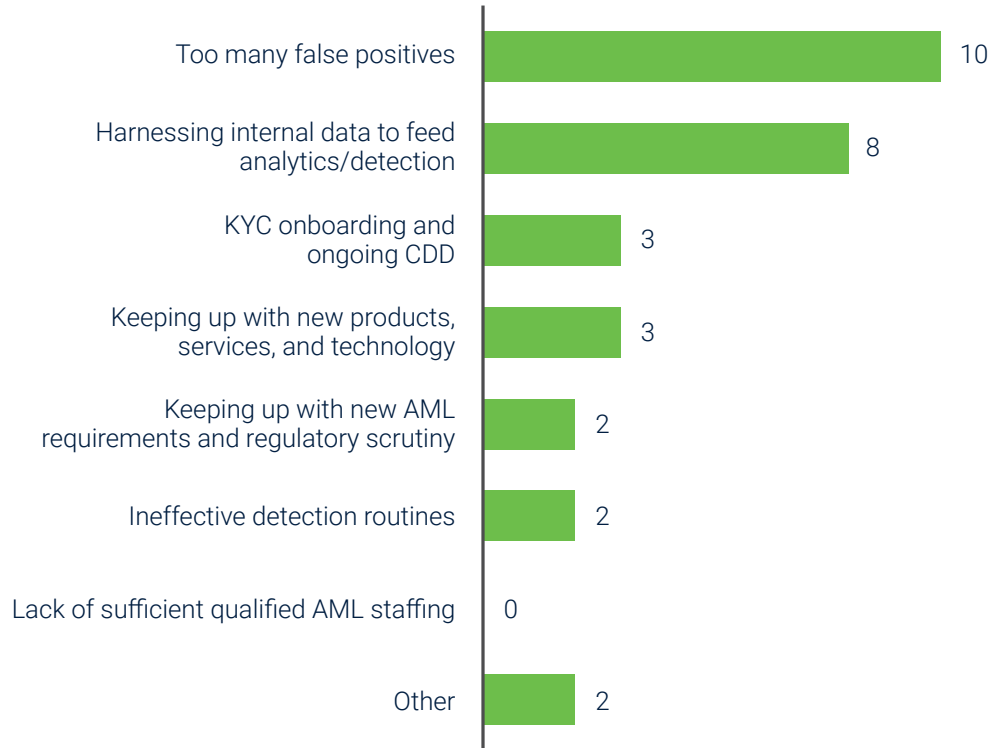
Against this backdrop of added complexity, financial institutions are also struggling with older problems such as a dependence on manual processes and rules-based AML monitoring systems that simply cannot accurately review and assess AML risks in real time, leading to a high rate of false positive alerts .

This inability to harness internal data effectively cripples AML compliance, undermines organizational confidence in the data, and leads to significant inefficiencies in AML strategies.



Figure 1: Top AML Pain Points

Q: What are the current top two pain points in your firm's AML operation (n=15)



Source: Aite Group survey of 22 financial crime professionals, September 2020

DataVisor's AML solution is purpose-built to combat the many intricacies of money laundering, and do so with a high level of accuracy and confidence. The platform enables organizations to harness their data to feed detection effectively and reduce the number of false positive alerts in the process. Using linkage analysis, the solution boosts operational efficiency by triaging and prioritizing cases appropriately. DataVisor's AML solution also adapts to new products, services, and technologies as your organization grows and scales.

Here's a deeper dive into how the platform is helping companies improve their money laundering detection and prevention efforts.



A Closer Look at DataVisor's AML Detection Platform

Effective anti-money laundering detection takes multiple steps to ensure accuracy and detection uplift. DataVisor has developed its AML detection platform to achieve success across multiple detection functions:

DataVisor's AML Detection Platform

Know Your Customer

DataVisor integrates with internal and external sanctions lists to enhance your customer identification procedures and ensure no blacklisted users slip through undetected.

Entity Matching and Resolution

Using fuzzy matching and entity resolution, DataVisor dedupes and resolves imperfect and incomplete data sets and creates aggregated customer profiles.

Transaction Monitoring

Leveraging supervised and unsupervised machine learning, linkage analysis, and intelligent rules, DataVisor enables real-time transaction monitoring to identify new money laundering patterns as they emerge and generate extremely low false positives.

Investigation and Case Management

DataVisor triages and prioritizes potential money laundering cases, combines cases based on shared details to reduce manual reviews, allows cluster reviews, and provides easily digestible visualizations of network patterns and explainable reason codes to help investigators review cases quickly.

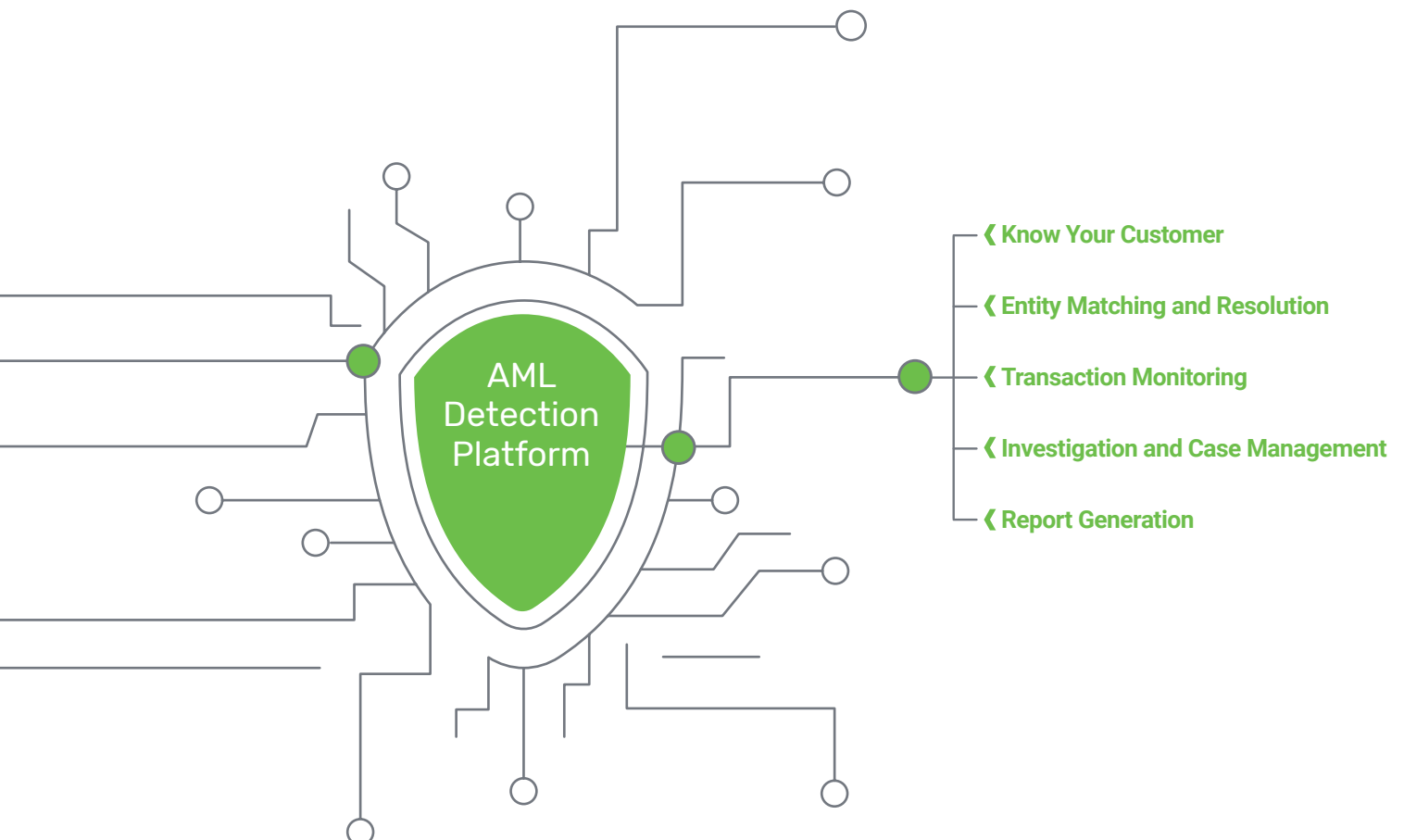
Report Generation

DataVisor generates data-rich, properly formatted SARs for e-filing with appropriate law enforcement agencies, saving investigation teams time and effort in the reporting process.

1 Know Your Customer

Knowing your customers (KYC) can help you identify their potential for being involved in money laundering activities. KYC detection core steps include customer identification procedures, transaction monitoring, and risk management. To facilitate these steps in an increasingly digital world, DataVisor's AML platform integrates with internal and external data and sanctions lists to deliver greater insight into past customer behaviors and activities.

The DataVisor Difference: DataVisor integrates with your sanction lists so that when you acquire new customers, the platform can identify whether they meet any blacklist users or entities with precision and accuracy.



2 Fuzzy Matching and Entity Resolution

Know Your Customer and Entity Matching go hand in hand. Once your customer hands over their identifying information, it needs to be validated so you know exactly who is conducting the transaction.

It is not enough to assume a person's identity based on initial credentials. In many cases, one person may use multiple identities to conduct their illicit activities. This is why entity resolution is so essential: Financial institutions need to verify the customers conducting certain activities.

Synthetic identities are often used to obscure criminal behavior. These identities can appear legitimate on the surface because they use some real customer details. Taking the extra step of entity matching can remove doubt from the equation and support case management efforts if money laundering activity is detected.

DataVisor uses fuzzy matching (record linkage when items may be missing information or are not 100% perfect) to identify data discrepancies when some details are obscure or inexact. For example, transaction data that match one-to-one with an entity may not be a reason for suspicion. However, if the entity provides a different name or location than what you have on file, it could require a case review. Fuzzy matching can show all possibilities for that entity and translate them into a visual design for easy reference.

The DataVisor Difference: DataVisor uses fuzzy matching to uncover similar variations in names and addresses, while also comparing with other features like Tax ID, Zip Code, and phone.

ID_pos	score	DV Assigned Entity ID	first_name	last_name	addres_line1	city_name	state_prov_code	postal code	tax_id
1574	0.94	Entity 1477	Alexis	Mayer	17 South Blv	Columbus	OH	43XXX	XXX-XX-XXXX
1832	0.94	Entity 1477	Mayer	Alexis					XXX-XX-XXXX

ID_pos	score	DV Assigned Entity ID	first_name	last_name	dob	photo_id	tax_id
1675	0.7	Entity 1075	Frank	Castille	4/22/1998		
1287	1.0	Entity 1075	Frank	Castille		765109XXXX	
1843	1.0	Entity 1075	Frank	Castille		765109XXXX	XXX-XX-XXXX
1926	0.94	Entity 1075	Frank	Castille	4/22/1998	765109XXXX	

In the example above, we can see fuzzy matching for entity resolution at work. While some fields are missing in each of four transactions, there's enough information across all entries to determine the identity of an individual.



3 Transaction Monitoring

DataVisor takes a comprehensive approach to transaction monitoring, leveraging a variety of technologies such as supervised and unsupervised machine learning, intelligent rules, and linkage analysis. Each of these components is powerful on its own, but when combined, they provide a holistic view of transactions that helps investigators spot potential money laundering activities quickly, while generating extremely low false positives.

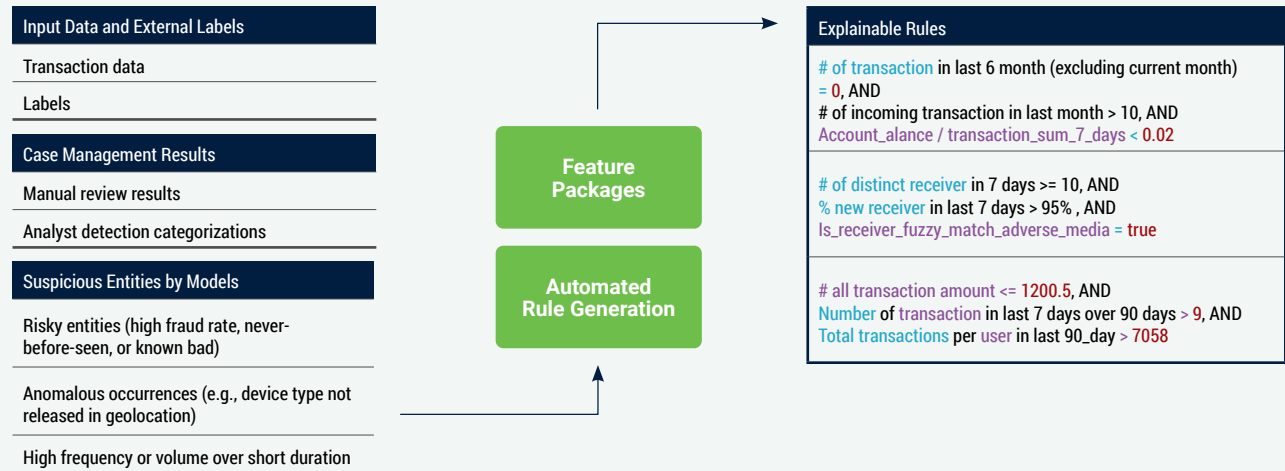
3.1 Turning Data into Intelligent Rules

DataVisor enables you to aggregate data both from internal and external sources to generate more intelligence for your AML solution. It can even process unstructured data from third-party sources to do so.

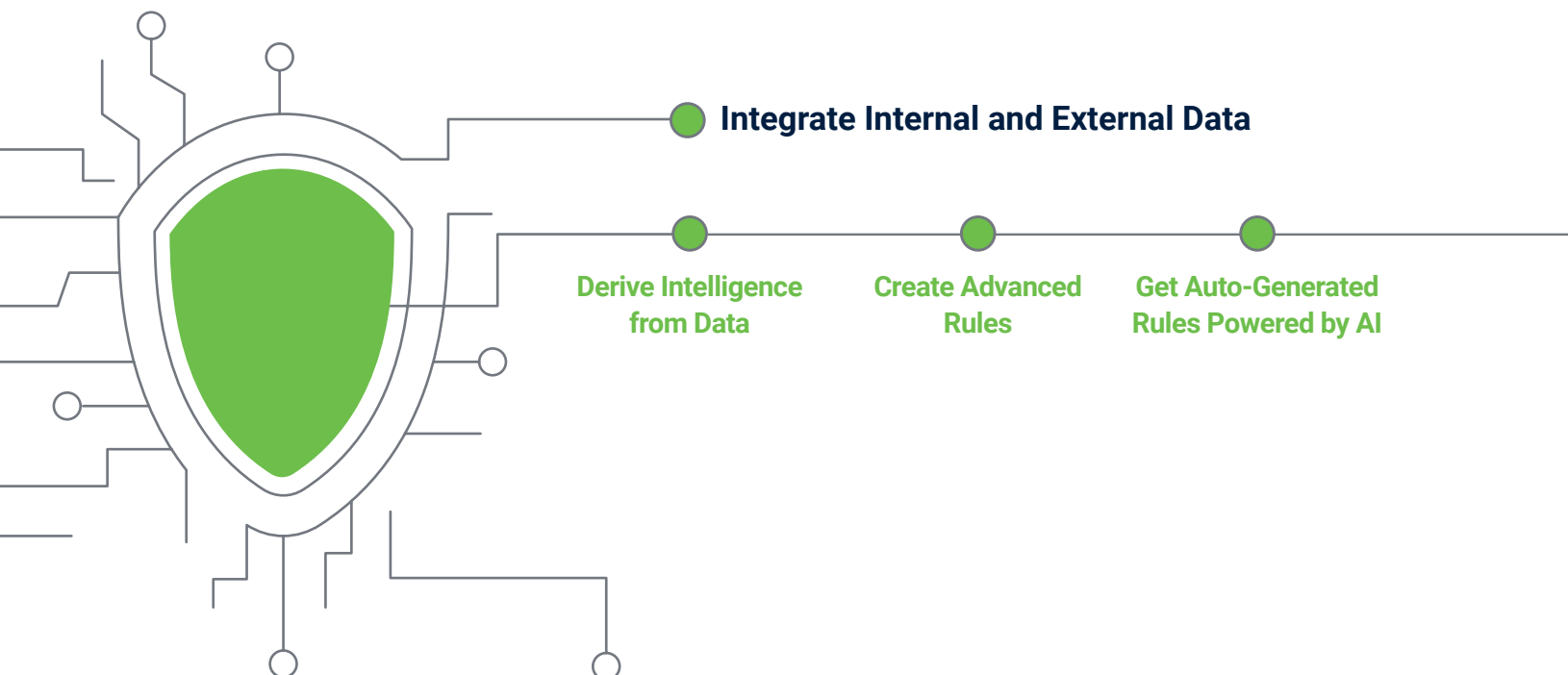
Using DataVisor's Feature Platform, you can derive intelligence from data straight out of the box with a variety of pre-built packages. For even better AML detection, you can create advanced features to build high-quality rules specific to your own business.

Using advanced features, you can create powerful rules that deliver better performance than traditional simple rules. For example, you might use the Features Platform to write a rule to alert investigation teams if a dormant account suddenly starts conducting multiple transactions in a short period of time. Another rule might be to send an alert when transactions are continually just below the minimum amount that would otherwise trigger a review of the account. Money launderers usually know these limits so they can continue to fly under the radar. But transactions that are constantly just under this minimum might seem suspicious.

Turning Raw Data into Intelligent Rules



Alternatively, you can use DataVisor to get auto-recommended rules powered by machine learning. Your fraud team can get hundreds of advanced rules in minutes to proactively adapt to fast-evolving fraud with incurring extra overhead expenses.



For automatically generated rules, investigation teams have the option of accepting, rejecting, or altering the rules based on the rule's performance. Automation can help organizations discover new patterns and decide whether to bring that rule under their fraud detection umbrella.

The DataVisor Difference: By turning raw data into intelligent rules with a Feature Platform and automating rule generation where possible with unsupervised machine learning, DataVisor uses a multi-layer approach to detect money laundering activity.

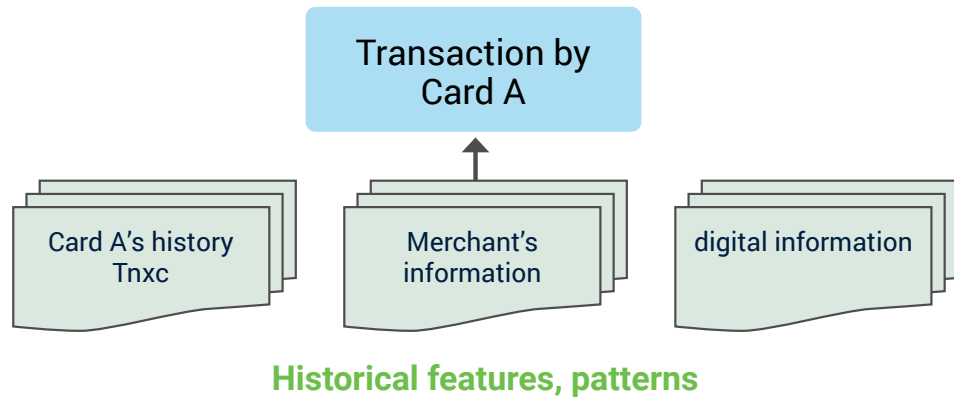
3.2 Discovering the Unknown with Unsupervised Machine Learning

Unsupervised machine learning is a proactive solution that can detect previously unknown money laundering patterns. It is able to identify the most suspicious transactions for further scrutiny. It looks at all correlated events in real time, holistically analyzing all data, including account information, transaction information, digital fingerprints, and the connections among different accounts. That makes unsupervised machine learning uniquely qualified to detect organized, coordinated crime rings and large-scale money mules.

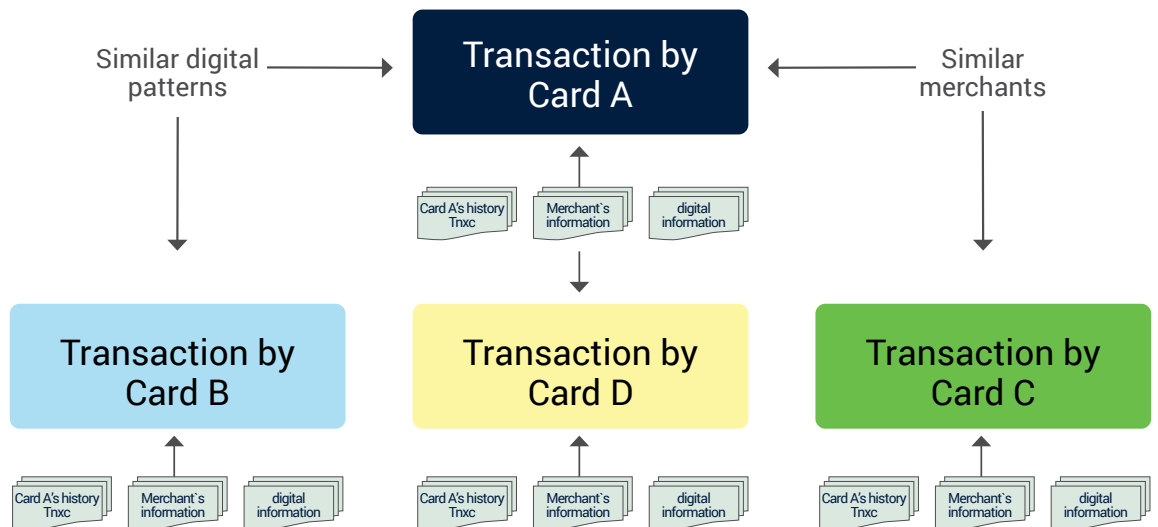
Holistic View of All Events For AML Detection



Traditional Rules or SML
Decision based on the current event itself



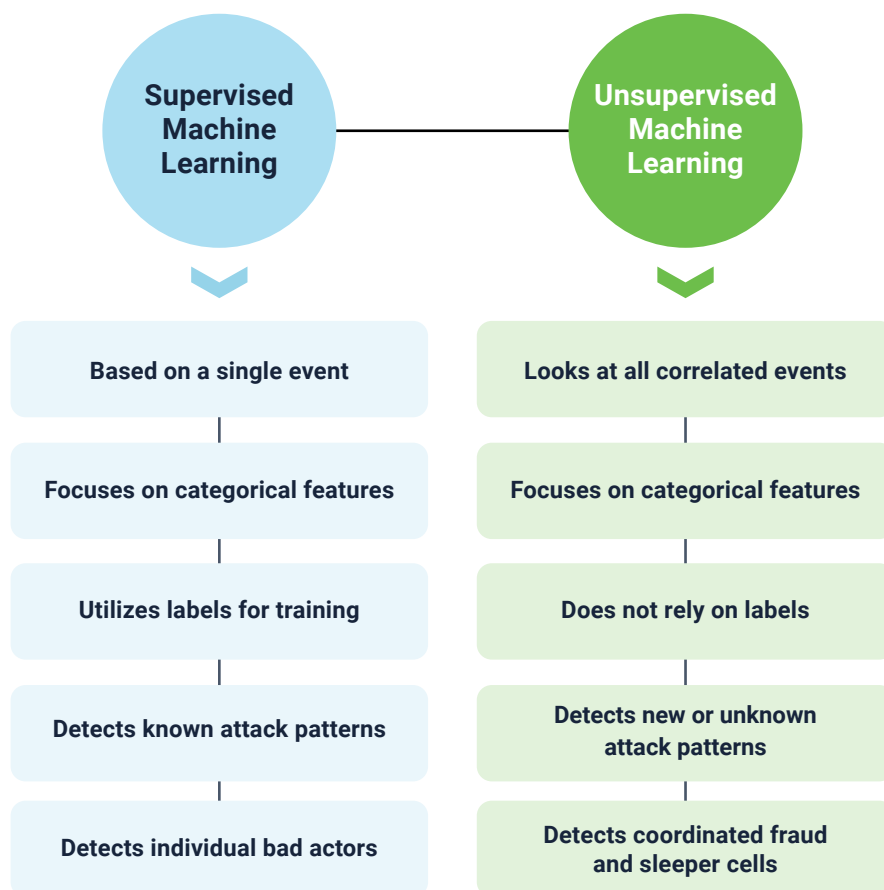
DataVisor UML
Decision based on correlation with other events



Unsupervised machine learning is highly accurate and it generates very low false positive results. That means that the investigation team is not overloaded with false alerts and can focus on the most suspicious cases.

3.3 Ensembling Supervised and Unsupervised Machine Learning

DataVisor combines the power of a multi-layered solution to deliver the best performance in AML detection. Complementing supervised machine learning, which can detect known patterns and individual bad actors, with unsupervised machine learning, which can detect unknown patterns and group attacks, DataVisor brings the best of both to bear to fight money laundering on multiple levels.

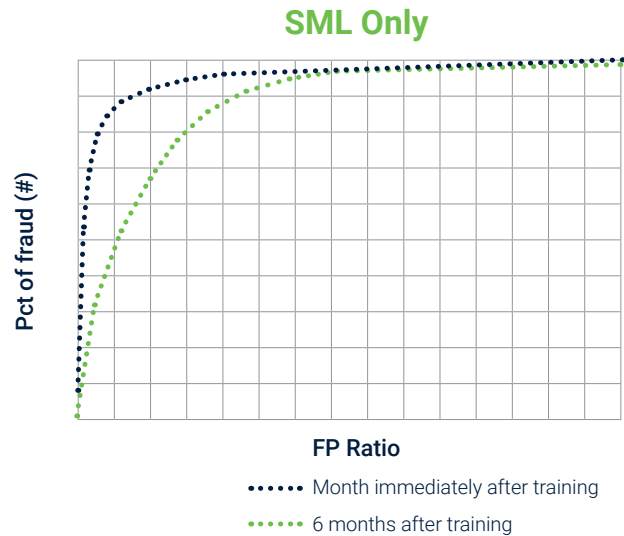


The AML platform includes both unsupervised machine learning and supervised machine learning, which significantly boosts the performance of the model. Alone, supervised machine learning may be only effective enough to detect up to 40% of suspicious activities with a 90% success rate. But when combined with unsupervised machine learning, the hybrid approach increases recall from 40% to 80%.

The combination of unsupervised and supervised machine learning solves the challenge of model decay because unsupervised machine learning models evolve in real time and do not need constant retraining.

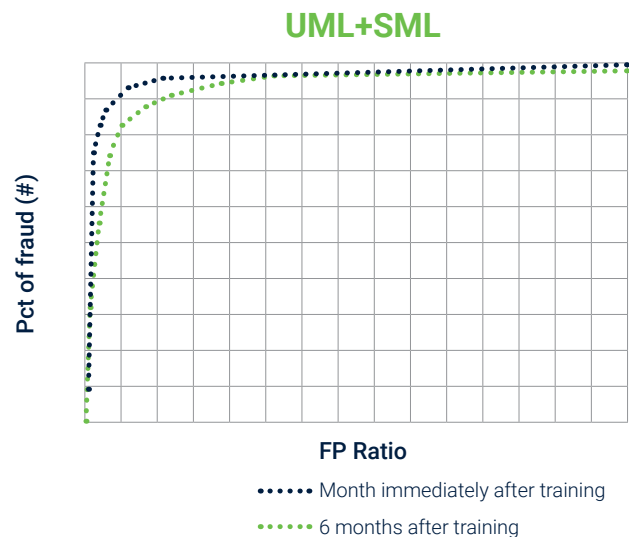
SML-only model decays quickly

- Label maturity takes 3 months
- Model development/validation takes 2 months
- Model is already degrading before going to production



UML helps reduce model decay significantly

- Does not rely on labels
- Detects new attacks
- No need for frequent retraining



The DataVisor Difference: By combining supervised with unsupervised machine learning, DataVisor's hybrid approach increases recall from 40% to 80%.

3.4 Visualizing Networks with Linkage Analysis

DataVisor uses linkage analysis to help make the job of investigating money laundering easier and more intuitive. Linkage analysis enables investigation teams to visualize and contextualize potential money laundering patterns. By quickly identifying the most suspicious transactions in relation to other network transactions, investigators can quickly identify organized crime rings and make contextual decisions in real time.

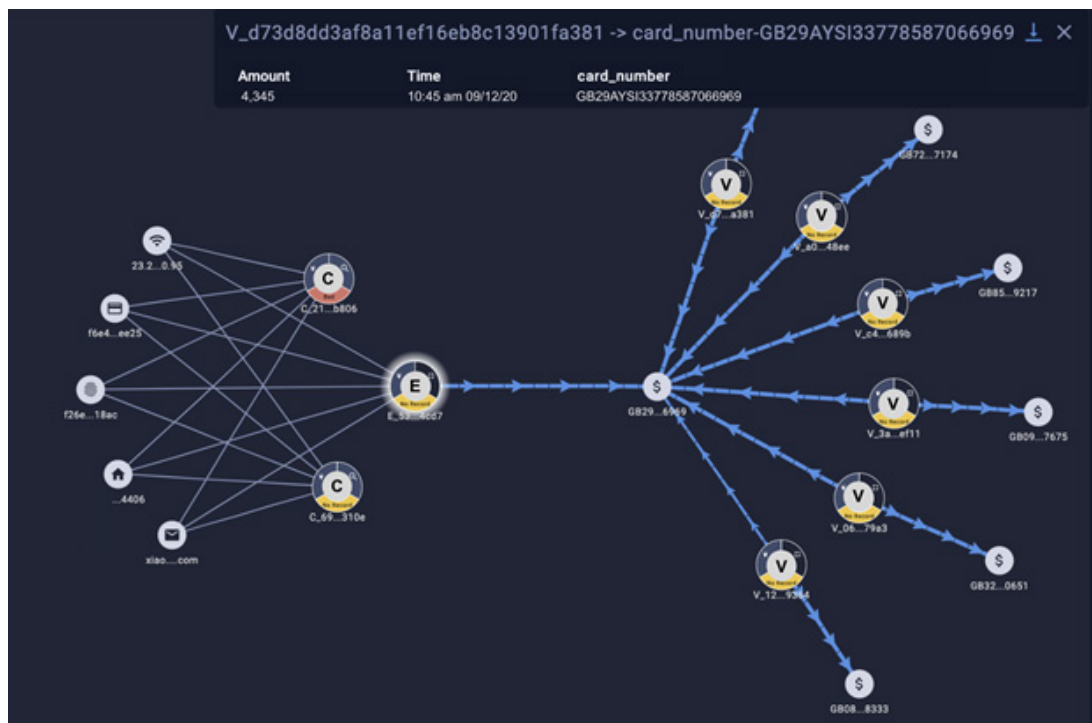
Single users cannot commit money laundering in a single transaction. Rather, they send funds through a network of accounts to launder the money. Put another way, they use money mules to launder money.

It is difficult to spot money mules looking at individual transactions in a vacuum. That's why linkage analysis is key to identifying and understanding money laundering patterns. Linking data visually helps organizations quickly identify patterns for further analysis and review.

Not all linkages are suspicious. For instance, two customers using popular IPs or two consumer accounts investigated by the same employee might not be cause for alarm.

However, there are other linkage edges that are suspicious and for these, something else is needed. DataVisor's Feature Platform enables users to build conditional edges for any type of linkage, according to any type of definition required by the user.

For example, you could easily construct edges based on node properties. Examples of this might be something such as an account that is payable to a vendor IBAN, but the IBAN belongs to an employee, or something like an employee in the product department that should not access client information.



In the example above, we detected internal suspicious money transactions being committed across six vendor accounts. They each have Accounts Payable funds sent to a vendor IBAN, which is actually owned by an employee. This is different from the vendors' historical and profile IBAN. Funds were going to an account that the vendor has never used before. It could be a new account, or it could be an attempt of fraud or money laundering.

It has been said that a picture is worth a thousand words. DataVisor's linkage analysis solution paints a clear picture of money laundering that speaks volumes to investigators, visualizing easily identifiable real-time AML activity for quick case review and decision making.

The DataVisor Difference: DataVisor utilizes powerful linkage analysis to help investigation teams quickly and intuitively identify the most suspicious transactions and make contextual decisions based on patterns that emerge in robust network visualizations. Expanding the visual network, investigators can easily identify organized crime rings and money laundering activity on a large scale, which could go undetected if single transactions were reviewed without additional context.

4 Investigation and Case Management

The biggest challenge for AML investigators today is handling a large case volume that comes through their transaction monitoring system. They lack an efficient way to prioritize alerts and take quick action. Too many cases, too many false positives, and too many cases requiring manual review and reporting equate to big headaches for investigation teams.

Triage and Prioritize Results

- ▶ The biggest challenge for AML investigators today is handling the sheer case volume that comes through TMS and the lack of an efficient way to prioritize them



Business Problems

- ▶ Too many cases and false positives
- ▶ Incredible amount of manual efforts

How DataVisor Solved

- ▶ Prioritize high risk cases with highest risk for SARS filing, 50%+ review saving
- ▶ Combined cases ⇒ 10X case reduction
- ▶ Easy to review with graph and automated report narrative suggestions

Investigation teams need an efficient way to triage and prioritize cases of potential money laundering according to the risk level involved.

When suspicious activities are identified, investigation teams can use the AML platform's case management feature to review items for clarification. DataVisor's AML platform automatically triages events based on activities so that investigation teams can first focus on the ones most likely to be money laundering. Only about 5% become high priority alerts, while as much as 75% will become low priority cases that are mostly false positives and can be remedied with a quick review and dismissal.

Cluster review allows for increased efficiency by removing much of the manual labor and guesswork. Cases can be aggregated based on shared details, resulting in a 10X reduction in manual case reviews. For example, cases that have different names but share the same tax ID or driver's license may be aggregated for further review.

The Knowledge Graph displays activities in a visual manner for easier interpretation and faster decision-making. DataVisor's high correlative abilities help to generate greater results and reduce the number of false positives (and the time spent reviewing them). Further, the platform's automated report narrative suggestions provide additional input to help investigators quickly review cases. At this stage, investigation teams can make better decisions as to which cases are money laundering and which ones are not, and let the "good" ones pass through.

The DataVisor Difference: DataVisor's case management system streamlines triage and prioritization of cases, allows cluster reviews, combines cases based on shared details to reduce repetitive manual review, and provides easy-to-grasp visuals to aid investigators in detecting money laundering patterns..

5 Report Generation

An investigator's job doesn't end with finding and investigating money laundering activity. The last step in the process is reporting that activity to the correct authorities using the correct format.

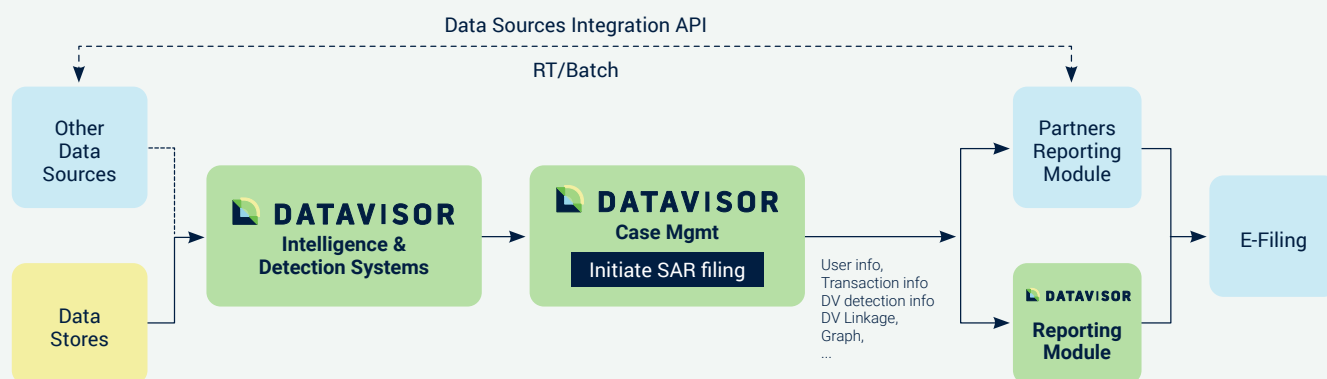
DataVisor compiles AML cases into data-rich, properly formatted Suspicious Activity Reports (SARs) that can be shared with relevant law enforcement. Summaries and case details are generated using automation to save time and provide clarity and consistency with every money laundering case.

The DataVisor Difference: DataVisor's SAR Report Generation functionality takes your AML process through its final step, e-filing SARs with appropriate law enforcement.

DataVisor's AML platform uses holistic user-level information, network-level information, and explainable unsupervised machine learning reason codes to generate SARs. Leveraging natural language processing techniques, the platform creates a ready-to-file report. Then, integrating with your SAR e-filing module, the platform enables you to complete the last step of the process, without the added manual workload usually required for reporting purposes.

SAR Report Generation

- ▶ DataVisor Reporting Module
- ▶ Standard Reporting Integration Architecture
- ▶ Custom Built API for the client's SAR E-filing





What Makes DataVisor AML Platform Unique?

DataVisor purpose-built its AML detection platform to accommodate the entire lifecycle of identifying, investigating, and reporting money laundering activities, from initial KYC efforts to confirm the identity of your customers to generating and filing Suspicious Activity Reports with law enforcement.

DataVisor's AML solution offers three unique advantages compared with legacy solutions:

1. Accurate detection and low false positives
2. Better prioritization and increased efficiency
3. User-friendly visualization and investigation

Accurate Detection and Low False Positives

DataVisor begins delivering precision and accurate detection from your initial KYC efforts forward. First, the platform integrates with internal and external sanctions lists, helping you spot potential trouble immediately. Then, the platform can provide additional confidence via entity resolution by further matching details (e.g., names, addresses, phone numbers, etc.). During the transaction process, the platform deploys a number of machine learning solutions to avoid the high false positives other solutions produce.

Better Prioritization and Increased Efficiency

The case management user interface is easy to understand and use to make connections, leading to less time spent reviewing each case. Cases are triaged and prioritized based on their likelihood of being real anti-money laundering cases vs. potential false positives.

DataVisor also uses automation in its report generation feature so that less time can be spent creating reports for positive cases. In total, DataVisor decreases time spent on case review and reporting by 10x, increasing efficiency throughout the process.

User-Friendly Visualization and Investigation

Money laundering is all about money movement. Rather than looking at cases individually, the AML platform focuses on the structure of how money is being transferred. This gives investigation teams a bird's-eye view of money laundering rather than zooming in too closely on unimportant details.

Data collected by the AML platform is displayed in a rich visual Knowledge Graph, which makes it easy to see connections between users and activities. Multiple similar alerts are combined into single cases for easier review. For example, one customer that triggers alerts by conducting multiple transactions or one customer with multiple accounts can be consolidated into a single case for faster and easier review.





Put DataVisor's Next-Generation AML Detection to Work for Your Organization

Money laundering continues to be a significant concern for organizations globally and defending against it continues to be a challenge. That is why AML compliance leaders in the financial services industry report, according to a recent Aite survey, that they are not looking to invest in recalibrating their existing technology roadmaps. Rather, 70 percent of them are, instead, expecting to increase spending on innovative technology that will help them approach AML detection and compliance in a new way.

DataVisor's multi-layered AML platform takes a new approach – one that is comprehensive, multi-layered, and designed for every stage of your AML detection strategy from customer identification to SAR generation and filing. Combining the power of supervised and unsupervised machine learning, linkage analysis, case management, an easy-to-use features platform, and more, DataVisor's AML platform provides unparalleled AML detection. To learn more, [get a demo today](#).

See DataVisor's AML Detection in Action.

REQUEST A DEMO

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About DataVisor

DataVisor is the world's leading AI-powered Fraud and Risk Platform for enterprises. Using proprietary unsupervised machine learning algorithms, DataVisor restores trust in digital commerce by enabling organizations to proactively detect and act on fast-evolving fraud patterns, and prevent future attacks before they happen. Combining advanced analytics and an intelligence network of more than 4B global user accounts, DataVisor protects against financial and reputational damage across a variety of industries, including financial services, marketplaces, ecommerce, and social platforms.

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