# resistantxai

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3/2025

## **About Resistant Al**

- 17 years of Al experience in fighting cyber and financial crime
- 9 PhDs in AI with 100s of patents
- Team of 100+ and growing, offices in New York; London; Prague
- Backed by the best

G/ NOTION = Index Ventures

Cred0. Seedcamp



## Who we work with

When we think about geo-expansion we always talk with Resistant.

Head of Risk & Compliance, FINOM

Probably the best tool we have in our review flow.

**Solutions Manager, Payoneer** 

The smoothest implementation of tech that we have ever experienced. No downtime, no interruption of business operations.

Head of Financial Crime, Holvi

COMPLY ADVANTAGE® **O**Payoneer BOV FINOM **Bank of Valletta** Habito ANNA Deloitte. **COLUCINITY** HOLVI

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**100+ customers & partners** 



## Some of the main developments impacting FinCrime compliance



#### Fraud victim reimbursement





Information sharing





Instant cross-border payments







## The fight against financial crime is due a revolution

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## helps you to achieve (far) more with less





## Achieving more is now expected by the regulators





#### Achieving more is now expected Emily Johnson Oliver Smith Amelia White by the Jack Davis Henry Harris Charlotte Walker customers Sophia Robinson

William Turner









## Precision

Recall

## Speed

The industry standard is that 95+% Anti-Money Laundering (AML), fraud, or sanction detections are false positives. The vast majority of fincrime and fraud goes undetected. UNODC estimates that up to 5% of global GDP gets laundered annually. Monitoring of instant payments, both domestic and international, as customers expect immediate service as the norm.



## The potential of AI solutions in Compliance

**Reduce Fraud Losses** 

**Reduce AML Risk** 

**Reduce Operational Costs** 



resistant<sub>x</sub>ai Advanced Detections

resistantxai Alert Prioritisation



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#### **Transaction Forensics** Enhance, don't replace

- Al-native solution layers on top of existing transaction monitoring systems
- Models built to expose new & complex criminal behaviours
- Adaptable & future proof solution
- Time to value get the benefits of Al in weeks - without having to go through a costly & painful migration
- Once a customer you'll never pay for new models release!







## Authorised-Push-Payment fraud Aiming for high precision\*

\*All PII has been anonymised with the use of random name generator. Any similarity with existing persons or businesses is purely coincidental.



#### Preventing opportunistic fraud campaigns Anomalous reference popularity

- Fraud campaigns during big events / product launches: Taylor Swift concerts, Euro tournament, new iPhone, etc.
- Semantically similar descriptions with suspicious frequency of use per given customer are alerted by RAI
- Within a short timespan, customer interacted with number of counterparties that was unexpected for similar kind of reference



Counterparty FIRST SEEN	TRANSACTION DATETIME	REFERENCE	AMOUNT	CLIENT STATUS	FRAUD REPORTED	RAI VERDICT
17/10/2023	17/10/2023 17:49:36		£	accepted	TRUE	HOLD
			145			
17/10/2023	17/10/2023 19:01:48	Taylor Swift	£	accepted	TRUE	HOLD
			120			
17/10/2023	17/10/2023 19:32:05	Ticks	£	accepted	TRUE	HOLD
			240			



#### **Preventing opportunistic fraud campaigns** New account counterparty burst

- Fraudsters create an account and try to defraud as many people as possible within a short period of time
- RAI detects bursts in the number of newly created counterparties with similar behaviour for every account
- Probabilistic thresholding to increase precision

Number of unique previously unseen senders per account ID with respect to account age



Number of days since account creation date

### Identifying organised fraud before it scales **Detecting coordinated attacks**

- Clustering based on the first transaction
- Accounts created in one day received the first transaction from the same counterparty
- Accounts share email format, registration IP, registration device, or other identity features

account Creation Date	First Name	Last Name	Customer Email	<b>Registration IP</b>	<b>Registration Device</b>
2023-07-11	Oliver	Smith	smith8786@gmail.com	122.52.98.12	F5V24N9C6BM1Y7
2023-07-11	Emily	Johnson	8786johnson@gmail.com	122.52.98.87	X3S29N1V7L6R8M
2023-07-11	William	Turner	87turner86@gmail.com	122.77.45.175	H6I2L8K37UP1T9
2023-07-11	Charlotte	Walker	walker8786@gmail.com	122.77.45.132	W8ZE2I7T56R3O4
2023-07-11	Henry	Harris	8786harris@gmail.com	122.77.45.109	XRM3S29N1V7L68
2023-07-11	Sophia	Robinson	87robinson86@gmail.com	122.38.11.35	W8ZE2I7T56R3O4
2023-07-11	Jack	Davis	davis8786@gmail.com	122.38.11.61	XRM3S29N1V7L68
2023-07-11	Amelia	White	8786white@gmail.com	122.52.98.22	P5UQ7N0C9L11Y2









## **Complex money laundering** Aiming for high recall

## **Graph based detection of complex flows**

Dense cluster of nodes and/or edges with correlated weak indicators becomes a strong signal.

#### Limit avoidance

Dense group nodes connected by edges near the decision boundary of smurfing detector.

#### Mirror trading

Cluster of accounts with high percentage of mirror trading edges (same amounts exchanged both ways).

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#### Example:



#### Example:



## **Graph based detection of complex flows**

Detected by long chain and smurfing graph. All accounts with usual activity between 50 and 200 USD

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#### Detection of behavioural anomalies Account handover

Group of accounts created by single entity and then handed over to different entities for money-muling or other illicit activity

Accounts created by single entity share the same registration device and follow similar initial sequence of actions

Following the handover, the accounts are segregated into unconnected groups



#### resistant<sub>×</sub>ai Leveraging large language models Reference Amount Discrepancy - leveraging the power of LLMs







## **Alert prioritisation** Aiming for risk-based efficiency

## **Alert prioritisation**

Take a true risk-based approach to alert management







### **Reduce false positives**

Understand their root cause and take an informed approach





### **Alert prioritisation** Context and explainable outcomes for analysts

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Detection       (by RESISTANT.A)         Code       AFD-AB         Name       Fraud Activity Burst         Description       Usual burst of activity of a single user/ account       AFD-AB         Summary       Customer Jane Jeff sent 21 transactions worth       AFD-AB       Tx:ad0ed8ba       2022:11:18T15:22:10       7       575.00 USD       4. Jane Jiff (4tk/9P1m7aB)       4. Amber Horton (4tk/9P1m7aB)       WIRE         AFD-AB       Tx:ad0ed8ba       2022:11:21T18:20:05       7       602.00 USD       4. Jane Jiff (6tk/8P1m7aB)       4. Amber Horton (4tk/9P1m7aB)       WIRE         AFD-AB       Tx:ad0ed8ba       2022:11:21T18:20:05       7       602.00 USD       4. Jane Jiff (6tk/8P1M4aD)       4. Knistin Ward (6tk/8P1M4aD)       WIRE         AFD-AB       Tx:ad0ed8ba       2022:11:21T18:20:05       7       500.00 USD       4. Jane Jiff (6tk/8P1M4aD)       4. Knistin Ward (6tk/8P1M4aD)       WIRE         AFD-AB       Tx:jt/24f/8j(can       2022:11:21T18:20:05       7       500.00 USD       4. Jane Jiff (1p1m0029h2oW)       4. Knistin Ward (6tk/8p1M4aD)       WIRE         AFD-AB       Tx:jt/24f/8j(can       2022:11:21T18:20:05       7       500.00 USD       4. Jane Jiff (1p1m0029h2oW)       4. Knistin Ward (1p1m029h2oW)       WIRE         AFD-AB       Tx:jt/24f/8j(can       20	< 23934DWJCSAlscmasaw HIGH RISK • Clear in 2h Alert ID 3869 © Detection F-NUMCH II TXs 1	옷 Subjects David Allison 온 Owner Emma Nicol 내 Level Alert - Level 3	In review
Code       AFD-AB       Alerts T *       Tx ID       T *       Tx Datetime       T *       Customer       T *       Counterpart       T *       T * Type         Name       Fraud Activity Burst       Description       Unusual burst of activity of a single user/ account       AFD-AB       Tx:30e52/935       2022-11-18T15:22:10       ?       575.00 USD       .       .       Ander Antion (dtk)       WIRE         Summary       Customer Jane Jeff sent 21 transactions worth 11,752 USD to 21 unique counterparts in one day.       .       AFD-AB       Tx:30e52/935       2022-11-10T09:45:30       ?       602.00 USD       .       Jane Jiff (dtk)       .       .       Amber Horton (dtk)       WIRE         AFD-AB       Tx:30e52/935       2022-11-20T12:55:45       ?       640.00 USD       .       Jane Jiff (dtk)       .       Amber Horton (dtk)       .       .       WIRE         AFD-AB       Tx:30e52/935       2022-11-20T1:2:55:45       ?       640.00 USD       .       Jane Jiff (dtk)       .       Amber Horton (dtk)       .	Detection By RESISTANT.AI	Transactions	
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### Understand your risk, consistently Concrete examples of High and Low risk detections

Key Risk Factors AI

**High Risk Factors** 

- mirror trading relative amount difference below 1%
- total amount above 1,000,000 USD (1,895,015 USD)
- multiple transactions (8) with the same counterparty within one day

#### High risk factors

Low risk factors

#### Key Risk Factors AI

#### Lowest Risk Factors

- domestic transaction
- similar behaviour previously labeled as false positive (2 times)
- low risk customer





## Risks, myths, and regulatory approaches



## The main risks of relying on Al and how to mitigate them...

risk	mitigant
Unfair or discriminatory bias	Proactive model monitoring alerts to disproportionate importance of potentially sensitive features such as gender or nationality in the model decisions.
Building in analyst mistakes or malicious intent	Machine learning feedback loops are weighted to avoid a disproportionate impact of single occurrences. Data drift is proactively monitored. Below and above-the-line tests are conducted.
Relying on a single model approach	Ensemble modelling ensures that controls are balanced and comprehensive. Individual models provide verdict in the context of the ensemble, based on their relative confidence compared to other approaches.

## Debunking the myths: AI in AML and Fraud

myth	reality	tips	
We don't have enough data	Unsupervised approaches do not require millions of transactions to work well. Specialised vendors can provide valuable experience from your peers.	→ →	Conduct a Proof of Concept with a vendor(s) to assess feasibility Benchmark results against your current controls
It's too expensive to rip and replace our systems	Enhancement solutions can sit on top of your current tech-stack, simply improving what you already use.	→ →	Identify your biggest risks and pain points (Fraud? AML? FPs?) Scope the right solution for your problem and start there!
lt's a blackbox	Explainability is crucial, specialised vendors design their solutions to be predictable, measurable, and explainable.	$\rightarrow$ $\rightarrow$	Require auditability and explainability Combine approaches intentionally designed to target specific behaviours
We're not ready to use complex Al	The right solution will make your life easier, not more complicated. Al should be doing the boring job so your analysts can investigate true hits.	→ →	Adopt a side-by-side, phased approach to fully understand the solution before you rely on it solely Ensure your teams receive sufficient and tailored training

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#### **Clear Problem**

"I need to stop phishing fraud."

"I need to reduce false positives by 50% while doubling SARs."

#### **Break the Monolith**

Workflow & Investigation Console vs Data Integration vs Detection

No-one is good in everything. Design for flexibility and openness.

#### **Objective Metrics**

Make Failure Visible

Visible Failure makes Success Easy to Define

NOK  $\rightarrow$  OK  $\rightarrow$  Great

#### Iterate

Deploy when better than current process

Keep improving iteratively

Design your goal and the improvement process, not your implementation

#### **End-to-End Metrics**

Al affects people-side of the process more.

Metrics shall cover current team performance and compromises.

#### **Process Simplification**

AI removes repetitive work

Al can push escalations, triage, process steps into the software stack

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## The regulatory approaches we see across EMEA

#### **1 Expecting innovation and encouraging full AI**

Regulators like the UK's FCA and PSR expect firms to make full use of available technology and take all possible advantage of innovation. Regulatory sandboxes exist to test novel approaches safely.

Many clients rely solely on AI driven detections, with appropriate safeguards and documentation.



#### The regulatory approaches we see across EMEA

#### **2** Encouraging innovation and supporting combined deployments

Many EU jurisdictions encourage **combined approaches**: hard rules based on values, volumes, and country risk combined with AI driven prioritisation as well as detection models.

Many clients combine old and new approaches to start with, and turn off legacy rules in a phased, datadriven approach.



#### The regulatory approaches we see across EMEA

#### 3 Agnostic, letting the private sector drive innovation and policy interpretation

Some regulators have not issued explicit policy or guidance on the use of AI, and are letting firms "figure it out" and substantiate their innovation with data and own experience.

Uncertainty in policy interpretation can slow down progress, but also presents an opportunity to innovative firms to gain a competitive advantage when it comes to customer fraud protection etc.

## Waiting—the biggest mistake in AI for (FR)AML



Don't wait to replace your systems.
 Augment what you have

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- Don't wait for perfect data.
   There's no such thing
- Don't wait for a criminal event.
   Be ready before they scale

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**THANK YOU**