

NAVIGATION

OVERVIEW

SUSPICIOUS BEHAVIOUR

ML INSIGHTS

FURTHER ACTIONS

FILTER

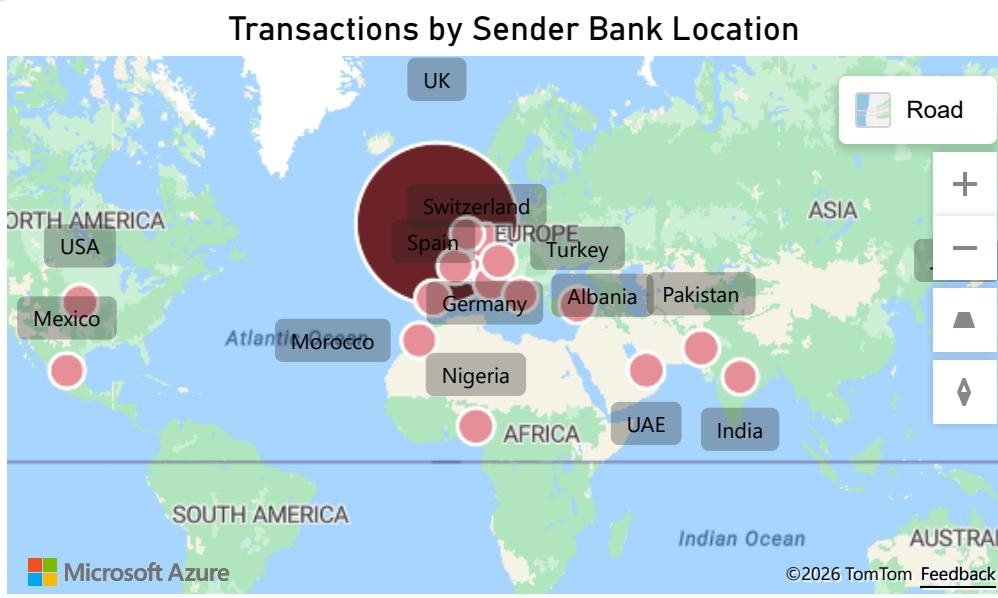
Is_laundering

Normal

Suspicious

MONEY LAUNDERING DETECTION | TRANSACTION OVERVIEW

Uncovering the bigger picture – where transactions happen, how money moves, and which channels drive laundering risks.



UK	9183088
Turkey	20902
Switzerland	20503
Pakistan	20346
UAE	20081

9.505M	83.291bn	15	7
Total Transactions	Total Amount	Total Typologies	Total Payment Type

Top Bank Location

UK



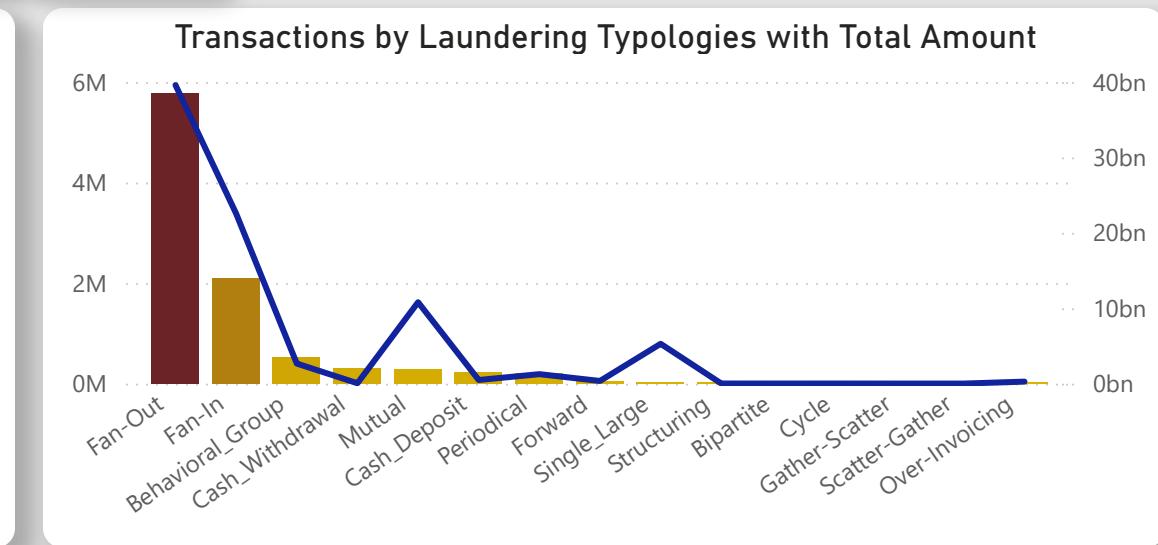
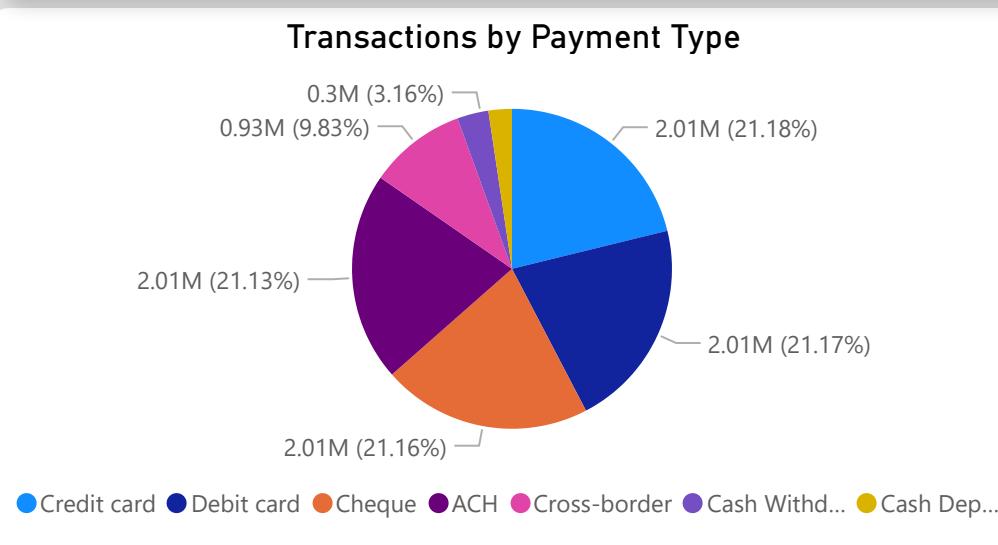
Top Payment Type

Credit card



Top Laundering Structure

Fan-Out





MONEY LAUNDERING DETECTION | SUSPICIOUS BEHAVIOUR EXPLORATION

Zooming into red flags – spotting unusual patterns that reveal hidden laundering activities

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Payment Type

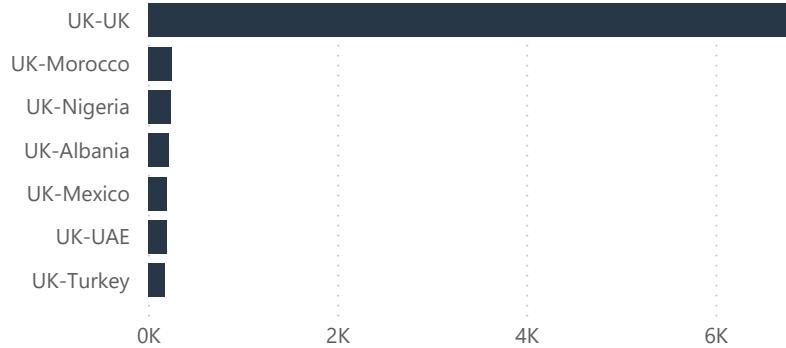
- ACH
- Cash Deposit
- Cash Withdrawal
- Cheque
- Credit card
- Cross-border
- Debit card

Typologies

- Behavioral_Group
- Bipartite
- Cash_Deposit
- Cash_Withdrawal
- Cycle
- Fan-In
- Fan-Out
- Forward
- Gather-Scatter
- Mutual
- Over-Invoicing
- Periodical
- Scatter-Gather
- Single_Large
- Structuring

Top 7 Pair Bank Location

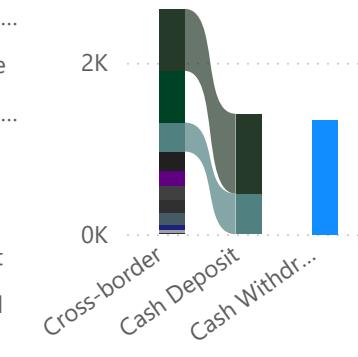
Is_laundering ● Suspicious



Top 3 Payment Type with Typologies

Launderin...

- Behavior...
- Bipartite
- Cash_W...
- Cycle
- Fan-In
- Fan-Out
- Forward



9873

Total Transactions

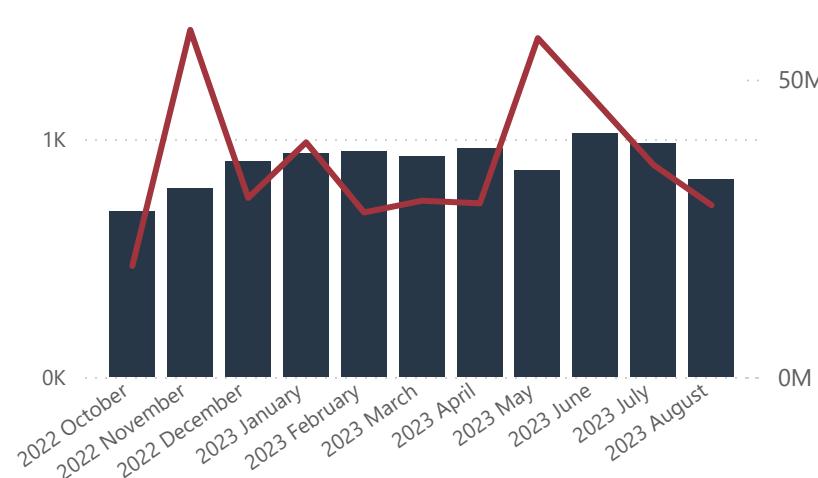
400.722M

Total Amount

Is_Weekend	Day	Night
Weekday	4595	2672
Weekend	1515	1091

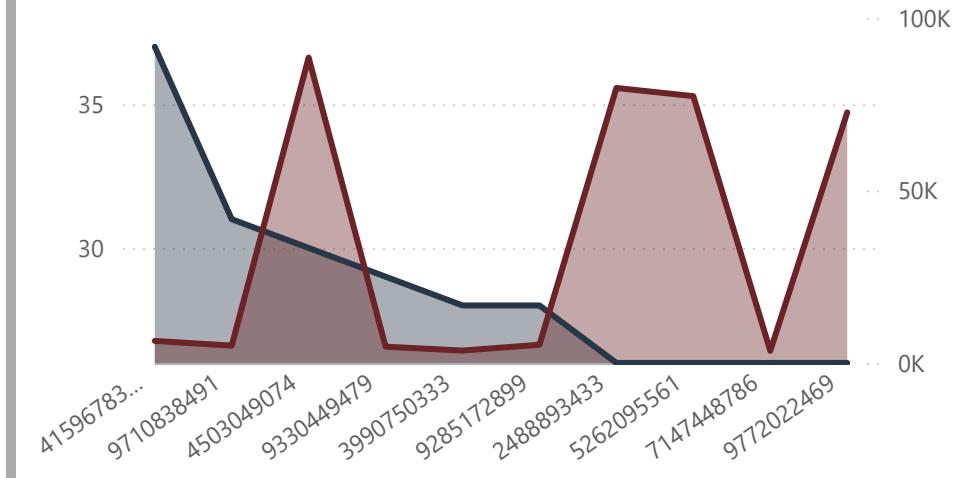
Total Amount & Frequency of Transaction per Month

Is_laundering ● Suspicious ● Sum of Amount



Top 10 Senders with High Frequency and Amount

● Total Transactions ● Sum of Amount





MONEY LAUNDERING DETECTION | MACHINE LEARNING INSIGHTS

9.505M

Total Transactions

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Model

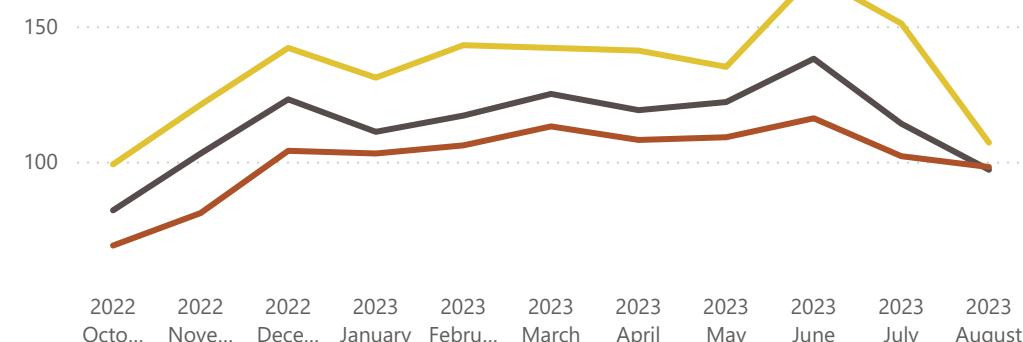
Random Forest

XGBoost

From data to intelligence – evaluating machine learning models to predict and detect laundering with precision

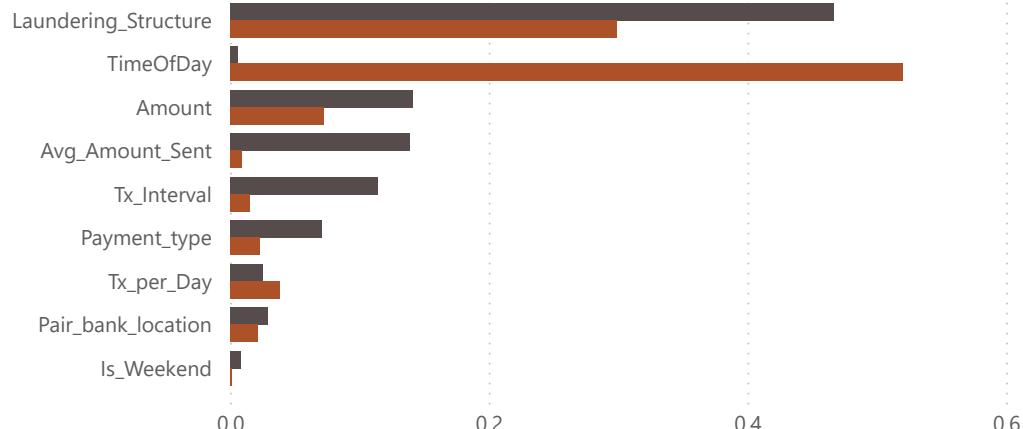
Model Predictions

Model ● Random Forest ○ True ● XGBoost



Feature Importance

Model ● Random Forest ● XGBoost



METRIC SCORE

0.9187

Precision

0.7316

Recall

0.8138

F1-Score

0.9997

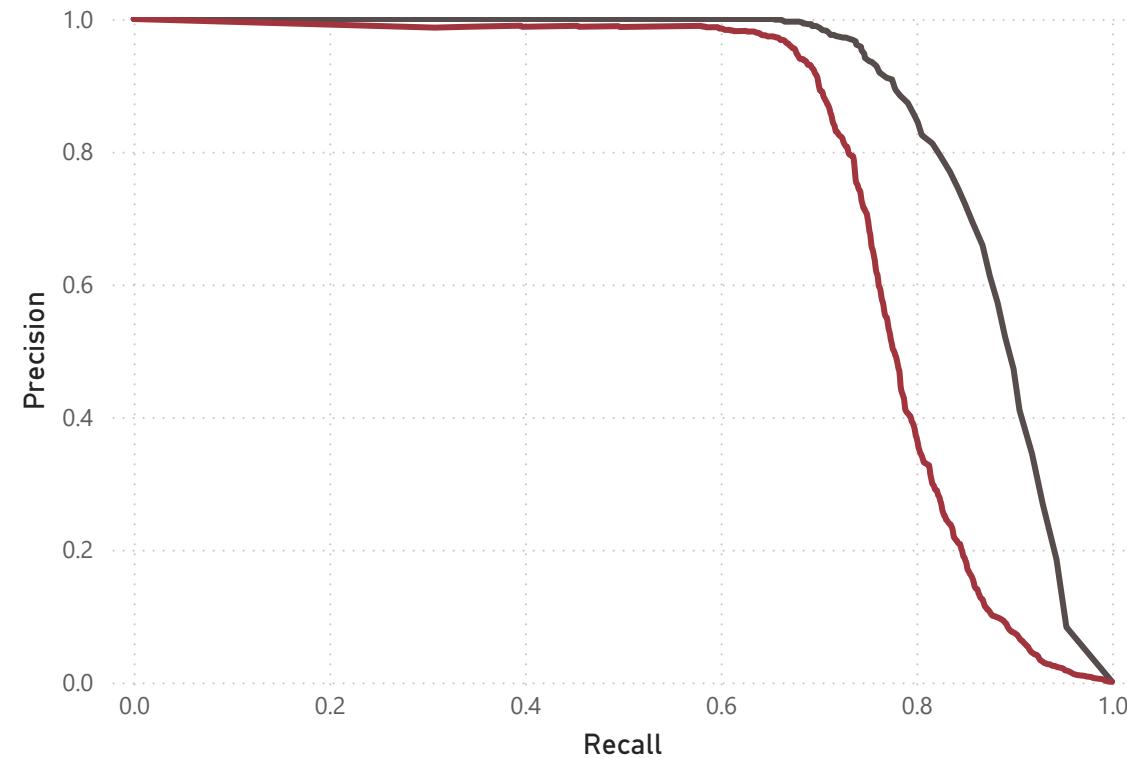
Accuracy

0.8259

AUPRC

Precision-Recall Curve

Model ● Random Forest ● XGBoost



MONEY LAUNDERING DETECTION | FURTHER ACTIONS AND RISK MANAGEMENT

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Threshold

0.24



From Detection to Action – Prioritizing High-Risk Transactions

1251

FlaggedCount

69.9937M

FlaggedAmount

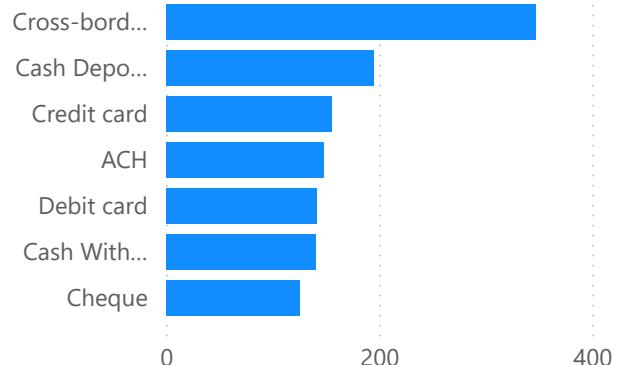
651

HihgRiskCount

938 hr 15 min

Estimated Workload

High-Risk Payment Type



High-Risk Countries

UK

1150

Mexico

12

UAE

10

Transaction_ID true_label predicted_label predicted_prob

Transaction_ID	true_label	predicted_label	predicted_prob
253272	1	1	0.25
969114	0	1	0.25
1795513	1	1	0.25
1838655	0	1	0.25
1950682	0	1	0.25
2232192	0	1	0.25
2829885	0	1	0.25
3406266	1	1	0.25
3877077	1	1	0.25
3967410	0	1	0.25
4647140	1	1	0.25
4968607	0	1	0.25
5039715	0	1	0.25
5634053	1	1	0.25
6186007	1	1	0.25
6466469	0	1	0.25
6561183	0	1	0.25
7122526	1	1	0.25
7412212	1	1	0.25
8665825	0	1	0.25
9036678	1	1	0.25

Total

