

REAL-TIME

FRAUD DETECTION

Leveraging AWS

TOOL &
FUNCTION



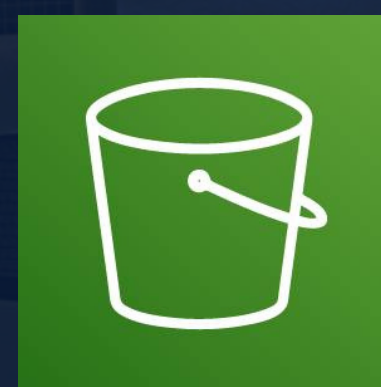
AWS Kinesis

Collect and Process
Streaming Data



AWS SageMaker

Train and Deploy
ML Model



AWS S3 bucket

Data Storage



AWS Lambda

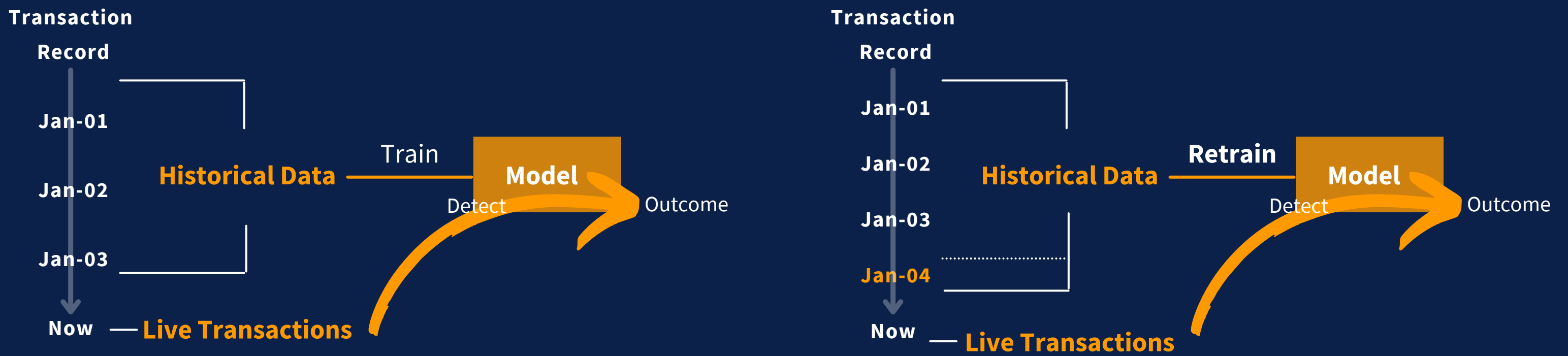
Function Trigger

GROUP 7

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Fraud costs merchants **\$190 billion** each year

- Real-time fraud detection can help reduce this cost
- Self updating model to remain relevant

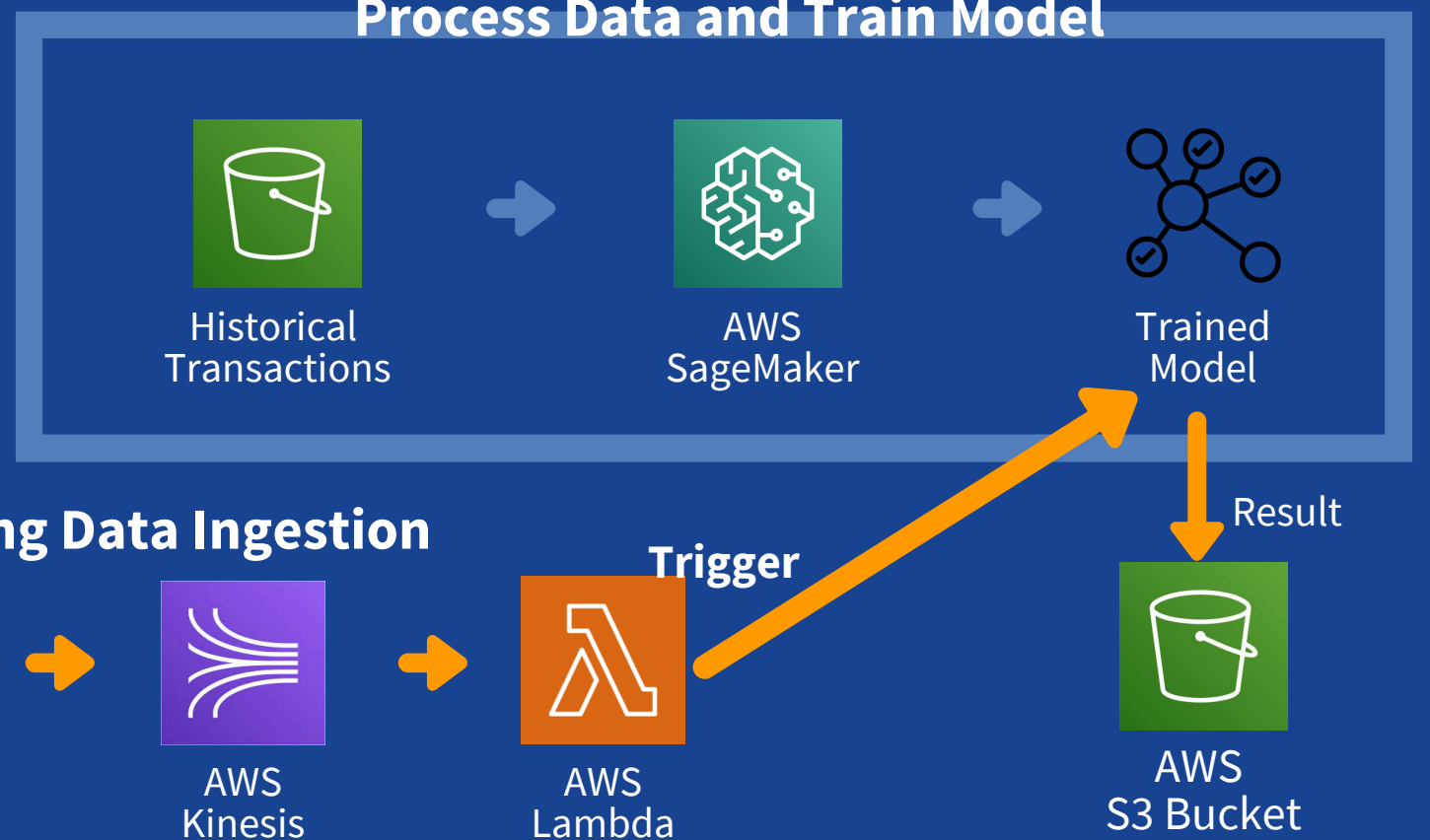


OVERALL STRUCTURE

Detection Process

- Historical data is stored in AWS S3 bucket and used for model training
- Streaming data is ingested, processed through AWS Kinesis
- AWS lambda triggers the function and lets the model predict the outcome from streaming data

Process Data and Train Model



Streaming Data Ingestion

Live Transaction

AWS Kinesis

AWS Lambda

Trigger

AWS S3 Bucket

Result

Process Data and Train Model



Retraining Model

1. Streaming data is aggregated and the historical data is updated
2. Model is periodically retrained

Streaming Data Ingestion

Live Transaction

AWS Kinesis

AWS Lambda

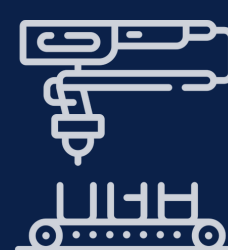
Trigger

AWS S3 Bucket

Result

MORE THAN FRAUD DETECTION

- Monitor production line
- Inspect product quality (AOI)
- Monitor environmental data
- More...



Visualization

Notification

Automated Reaction