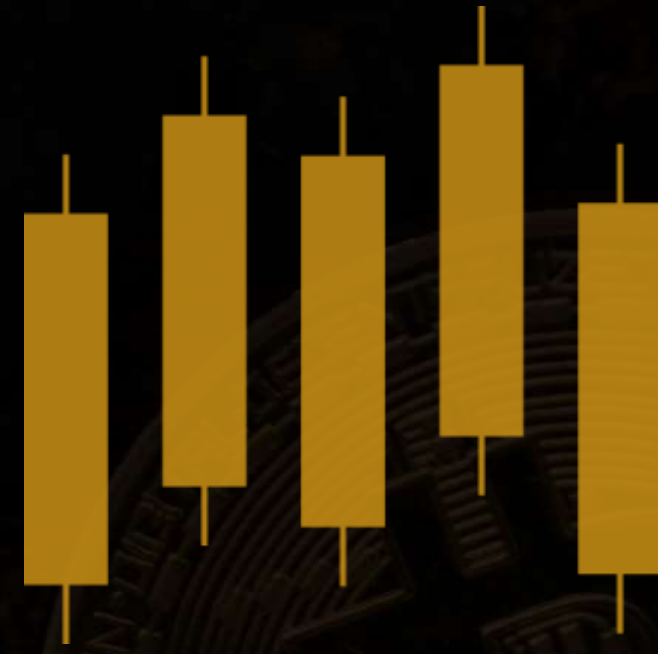# FRAUD DETECTION APP

## REAL-TIME FRAUD DETECTION SYSTEM USING CLAUDE
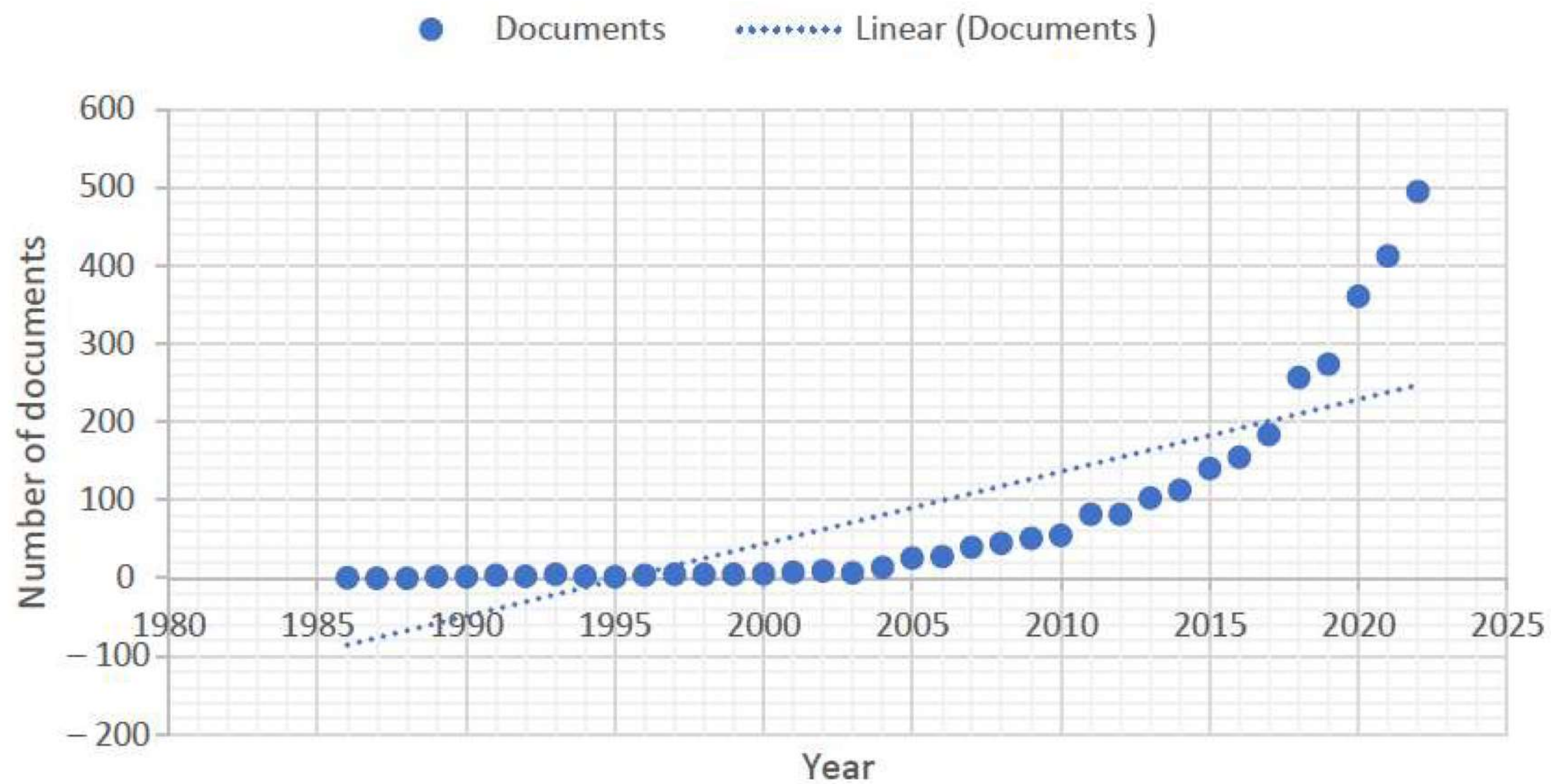
# Our Team

- Muhammad Hanzla
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# The Problem

FRAUD
ALERT

The incredible convenience of online transactions come with an alarming rise in fraudulent activities

**Fraudsters** are making even secure systems vulnerable

**Fraud is draining billions from businesses and consumers every year.**

# Reactive systems detect fraud too late

Real-time protection is essential in today's fast-paced digital world.

# Fraud Detection App:

## A crucial defense for businesses against evolving fraud threats.

- Real-Time Fraud Detection
-  improves detection accuracy using Machine learning
- User-Friendly Interface with visual insights
- Handles varying volumes of transaction data

# First we take input transaction data

- The app preprocesses the data
- Machine learning algorithms analyze the transaction data in real-time
- flags suspicious transactions based on predefined thresholds and patterns learned from historical data
- If potential fraud is detected, the app sends immediate alerts

# How Are We Better?

| Feature | Our App | FraudLabs Pro | MaxMind | FraudGuard | Simility | Ravelin |
|---|---|---|---|---|---|---|
| Real-Time Fraud Detection | ☑ | ☑ | ✕ | ✕ | ☑ | ✕ |
| Machine Learning-Powered | ☑ | ✕ | ✕ | ✕ | ☑ | ☑ |
| User-Friendly Interface | ☑ | ☑ | ✕ | ✕ | ✕ | ☑ |
| Customizable Alerts | ☑ | ✕ | ✕ | ☑ | ✕ | ✕ |
| Scalability | ☑ | ✕ | ☑ | ✕ | ☑ | ✕ |
| Secure Data Handling | ☑ | ☑ | ☑ | ✕ | ☑ | ☑ |

# Demo



**Real-Time Fraud Detection System Using Claude**

**Transaction Data**

|   | Timestamp | Amount | TransactionType | Location | AccountID | PreviousTransactionHistory |
|---|-----------|--------|-----------------|----------|-----------|----------------------------|
| 0 | 2024-08-01 10:05:00 | 150 | Purchase | New York | 12,345 | 100 |
| 1 | 2024-08-01 10:10:00 | 2,500 | Withdrawal | Los Angeles | 54,321 | 1,500 |
| 2 | 2024-08-01 10:15:00 | 20 | Purchase | Chicago | 67,890 | 50 |
| 3 | 2024-08-01 10:20:00 | 5,000 | Deposit | San Francisco | 11,223 | 2,500 |
| 4 | 2024-08-01 10:25:00 | 75 | Purchase | Houston | 99,887 | 200 |
| 5 | 2024-08-01 10:30:00 | 3,000 | Withdrawal | Miami | 44,556 | 800 |
| 6 | 2024-08-01 10:35:00 | 45 | Purchase | Dallas | 78,901 | 150 |
| 7 | 2024-08-01 10:40:00 | 1,200 | Deposit | Seattle | 33,221 | 600 |
| 8 | 2024-08-01 10:45:00 | 10 | Purchase | Boston | 55,678 | 20 |
| 9 | 2024-08-01 10:50:00 | 8,500 | Withdrawal | Las Vegas | 11,234 | 3,000 |

## Analyzing for Anomalies... 🔗

Run Real-Time Analysis

# Demo

## Fraud Detection Results

Here are the potentially fraudulent transactions I identified:

TransactionID 2: A $2,500 withdrawal in Los Angeles shortly after a $150 purchase in New York. The large withdrawal amount and quick change in location are potential indicators of fraud.

TransactionID 6: A $3,000 withdrawal in Miami shortly after a $75 purchase in Houston. Again, the large withdrawal amount and quick change in location seem unusual.

TransactionID 10: An $8,500 withdrawal in Las Vegas is a very large amount compared to the previous transactions for that account. This could potentially be fraudulent, especially if there is no history of withdrawals this size for that account.

The other transactions do not seem obviously fraudulent based on the information provided. Of course, additional context around the customer's transaction history and behavior could provide more signals to identify other fraudulent activity. Let me know if you would like me to explain my reasoning for any of these assessments in more detail.

# How it works?

# Step 1: Data Input

Users provide transaction data by uploading files or connecting to a live data stream. The app supports various data formats, ensuring smooth integration with different sources.

# Step 2: Data Processing

The app cleans and pre-processes the data, removing any inconsistencies or errors. Data is structured in a way that optimizes it for analysis, ensuring accuracy in fraud detection.

# Step 3: Real-Time Analysis

Machine learning algorithms analyze the data in real-time, identifying patterns and anomalies that may indicate fraudulent activities.

# Step 4: Fraud Detection

Flags suspicious transactions based on predefined thresholds and patterns learned from historical data. If potential fraud is detected, the app sends immediate alerts

# THANK YOU