



Fraud Detection

PROPOSAL

Current state of affair for Card Fraud in US

- 2.5 Million Fraud Reported in 2022. 17% (429K) of reports with Payment Methods
- 36.9% reported with payment methods are card fraud
 - 21% Credit card
 - 15.9% Debit card
- 415.8 Million USD loss

FTC CONSUMER SENTINEL NETWORK

Published July 25, 2023
(data as of June 30, 2023)

All Fraud Reports by Payment Method
Year: 2022

● All
○ FTC
○ Data Contribu..

○ Contact Method
● Payment Meth..

Year
2022

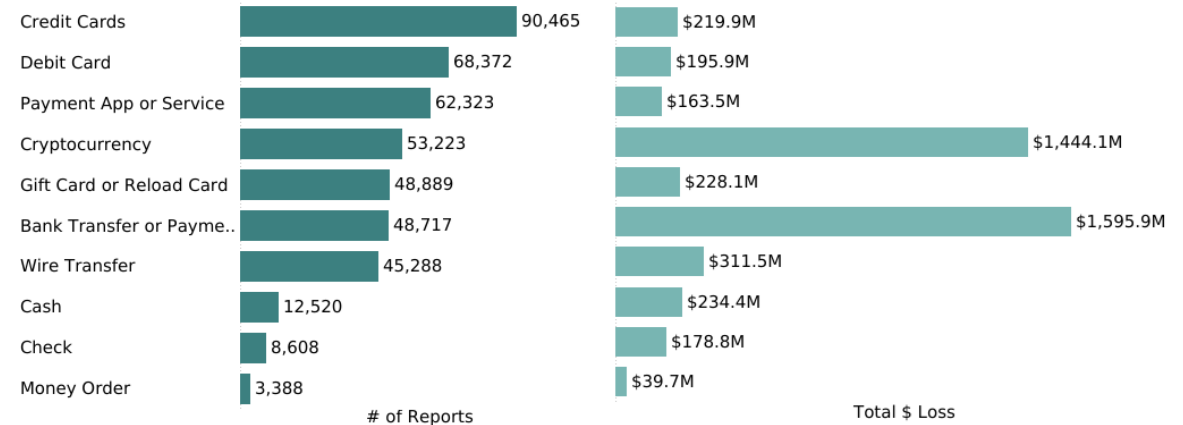
Quarter
All

2,555,088

Number of Fraud Reports

429,273 (17%)

of Reports with Payment Method



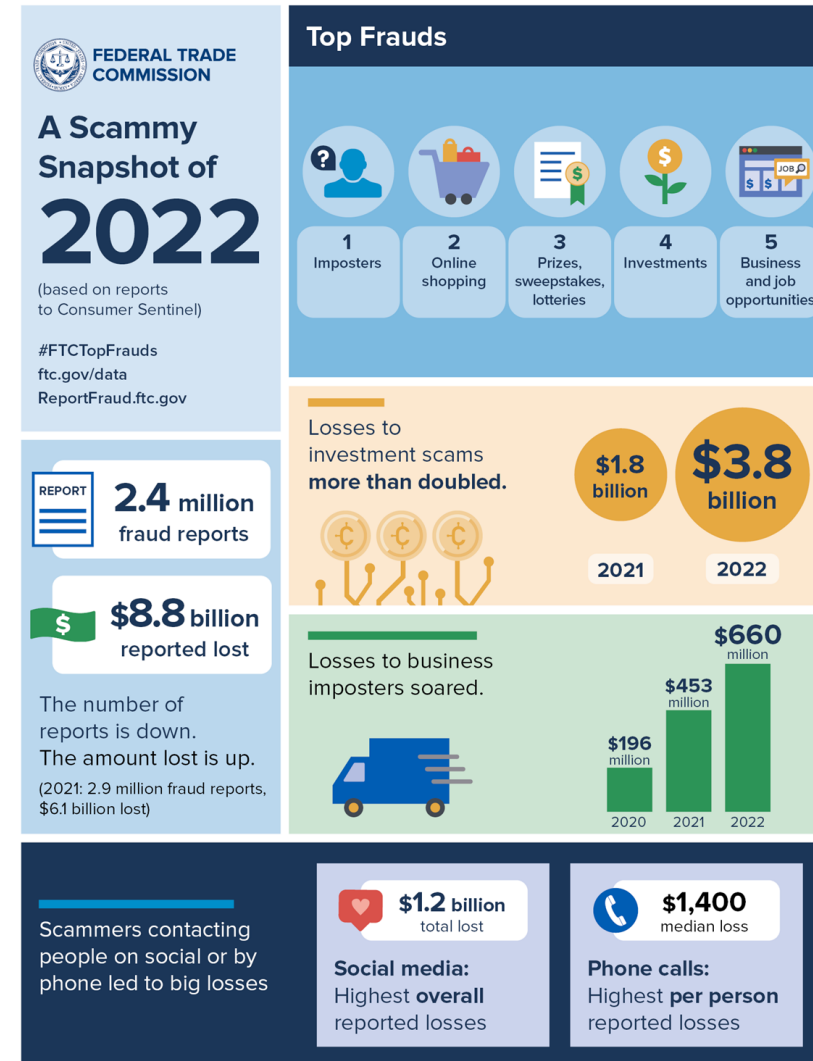
Other payment methods includes Payroll Allotment and Telephone Bill.

FEDERAL TRADE COMMISSION · ftc.gov/exploredata

Source: [FTC Consumer Sentinel Network](#)

Consumers Reported Losing Nearly \$8.8 Billion to scams in 2022

- Fraud losses increase more than 30% over 2021
- Most commonly reported, Imposter scams
- Followed by Online Shopping scams



Problem Statement

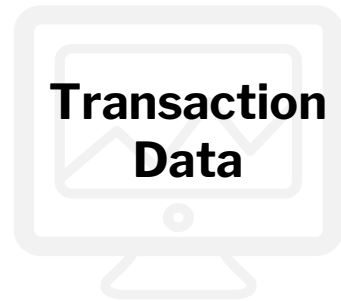


In the contemporary digital age, credit card fraud has emerged as a significant and pervasive threat, causing financial losses for financial institutions, businesses, and individuals. The problem has been further intensified by the proliferation of electronic transactions and online purchasing, which endangers consumer financial security and compromises the integrity of economic systems.

Due to the constant development of deceptive methods that exploit cutting-edge technologies, there is an urgent need for a comprehensive and all-encompassing strategy to address this issue.

Dataset

The Fraud Detection Dataset provided by Vesta Corporation, a leading company in guaranteed e-commerce payment solutions and it is designed for predicting the likelihood of fraud in online transactions.



Transaction Data

Contains transaction details, including payment amount, product category, card information, addresses, email domains, counting variables, timedelta values, match variables, and Vesta-engineered features with 'isFraud' as the target variable.

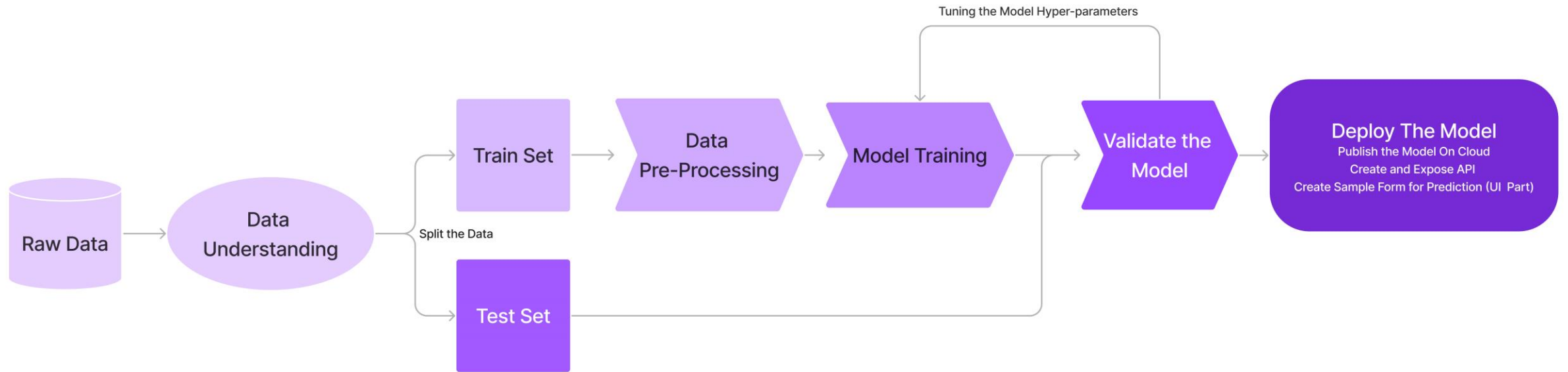


Identity Data

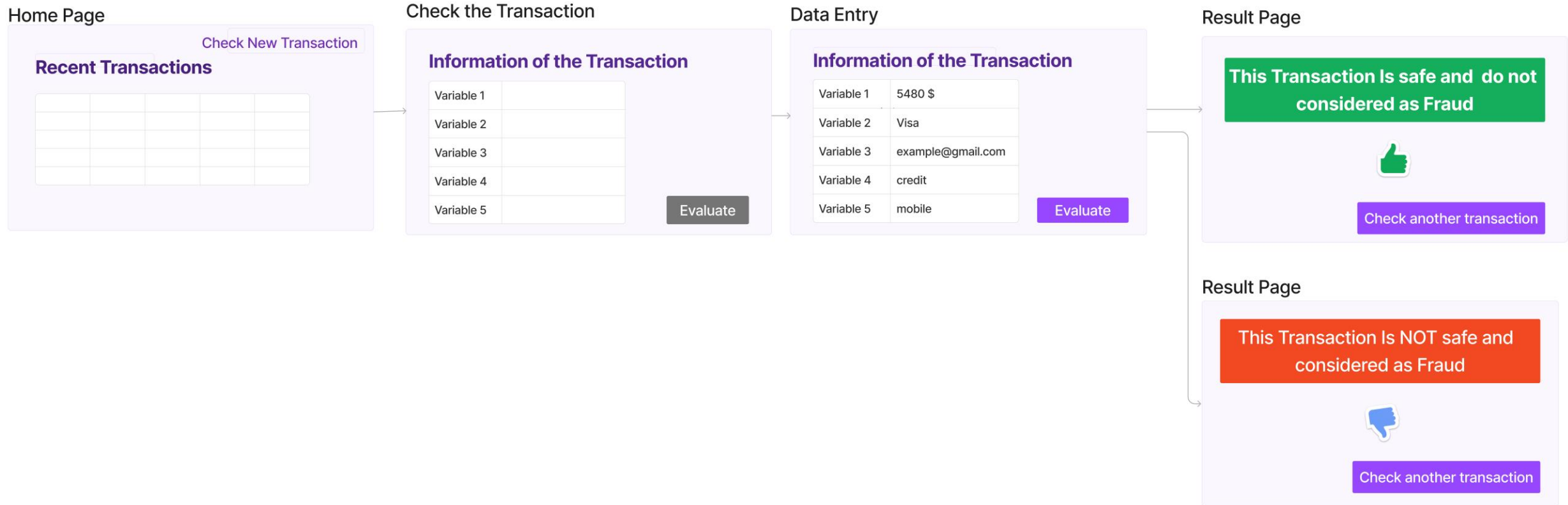
Stores identity-related information associated with transactions, including network connection data and digital signatures.

*The Transaction table contains a total of **394** variables, while the Identity table contains a total of **41** variables.*

Workflow



Wireframes



Why to chose this solution?

To analyze behaviors, devices, and payment history, we employ best-in-class data. Our model is distinguished from the competition by its combination of innovation, accuracy, and exceptional performance. The rigorous training regimen of our model guarantees the generation of predictions and classifications that are exceptionally precise. One notable attribute is its adaptability, which enables it to acquire new knowledge and remain pertinent amidst evolving data consistently.

Furthermore, it demonstrates exceptional speed and efficiency, enabling instantaneous decision-making and real-time insights, which are critical in the rapidly changing contemporary environment. Designed with resilience, our model exhibits consistent performance across various conditions and efficiently handles chaotic data, reducing the likelihood of errors.