Ethan Phan

ITAI 2372

Use Case 1: Fraud Detection

- **Key Terms:**

Digital Arrest Fraud (A Type of Financial Fraud)

- **How It Works:**
    - Scammers **pose as FBI agents** or other law enforcement officials.
    - They **video call the victim** to make it seem more legitimate.
    - They **demand secrecy**, instructing the victim **not to contact anyone** (friends, family, or real authorities).
    - They **ask for personal information** (social security number, bank details, passwords).
    - They **request a small money transfer** (e.g., asking the victim to send $1) to gain access to financial accounts.
- **Why It's Effective:**
    - The **visual element (video call)** makes it more convincing than traditional scams.
    - Fear and urgency pressure victims into compliance.
- **How AI Can Help Detect This Fraud:**
    - **Pattern Recognition:** AI can detect unusual transactions like small, random transfers.

    - **Behavioral Analysis:** AI compares normal user interactions vs. panic-driven actions.
    - **Voice/Video Recognition:** Advanced AI can flag **known scam scripts or deepfake tactics**.
    - **Fraud Detection** – Identifying suspicious financial activity.
    - **Thefts Upgrade Faster Than People Upgrade** – Fraudsters evolve quickly, often outpacing security updates.
- **How AI Helps Identify Fraud/Theft:**
    - **Usage Patterns & Habits:** AI tracks normal spending and withdrawal behaviors.
    - **Unusual Transactions:** Flags suspicious activities like sudden high withdrawals or Zelle transfers to unknown accounts.
    - **Machine Learning Models:** Detect fraud by analyzing past fraudulent transactions and identifying similar behaviors.
- **Assignment: AI in Fraud Detection Case Study**
    - Research a real-world financial institution using AI for fraud detection.
    - Explore **technology used, benefits, and challenges** faced in implementation.

Use Case 2: Credit Score Assessment

- AI helps in **better credit evaluation** using:
    - **Usage Patterns:** Spending, payment history, and financial behavior.
    - **Improved Creditworthiness Assessment:** AI analyzes more data for an accurate credit score.

- **More Data = More Accuracy:** The more financial history AI has, the better it predicts risk.

Use Case 3: Stock Trading & Market Analysis

- AI in stock trading uses:
  - **Sentiment Analysis:** Understanding public sentiment (news, social media) to predict market trends.
  - **Market Predictive Patterns:** Recognizing trends before human traders do.
  - **Market Manipulation Detection:** Identifying abnormal activities that suggest stock manipulation.
- **DeepSeek AI Warning:**
  - **Unvetted AI can collect user data** (e.g., if installed on a phone, it might steal identity or private information).

Use Case 4: AI Chatbots & Voice Assistants in Finance

- AI-powered chatbots assist with:
  - **Customer Support:** Answering FAQs, processing transactions.
  - **Financial Guidance:** Providing recommendations based on spending habits.
  - **Fraud Alerts & Security:** Detecting suspicious activity and notifying users.
- **Voice Assistants (e.g., Google Assistant, Alexa):**
  - Always listening—raising concerns about **data privacy and security**.

Use Case 5: Personalized Financial Advice

- AI analyzes **your financial data** to:
    - Offer **tailored investment recommendations**.
    - Provide **budgeting suggestions** based on spending habits.
    - **Power of AI is in Data:** Companies buy data from businesses, feed it into AI, and generate targeted ads.
    - **Google & Privacy Concerns:** AI is constantly collecting data for advertising purposes.