Fedex Scam Detection using Audio and Text processing techniques

Amrita Vishwa Vidyapeetham - School of Computing, Chennai

Introduction/Motivation

- Rising fraud through fake FedEx scam calls and messages.
- AI-based system detects scams using text and audio analysis.

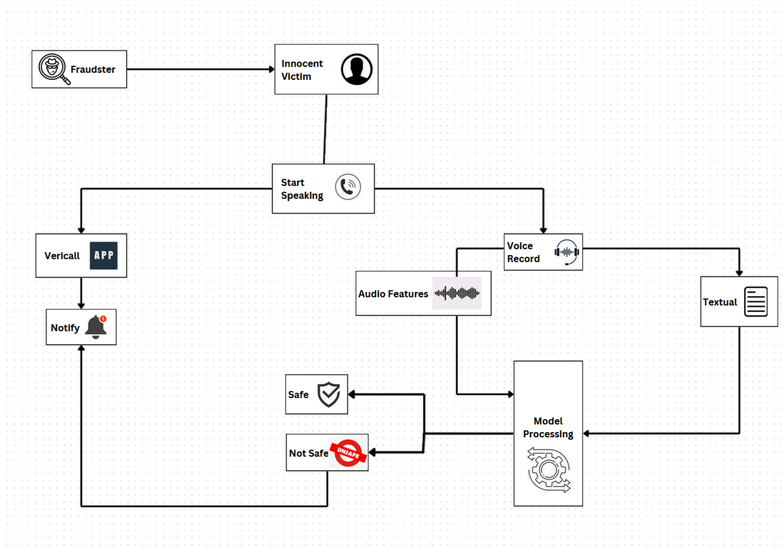
Problem statement

- Surge in phone scams like FedEx courier fraud threatens personal and financial safety.
- VeriCall Pro detects potential scam calls using AI-driven audio and text analysis.
- Tailored for Indian users, considering regional accents and language patterns.

Objective/Scope

- Classifies scam-related words in recorded phone calls using word-level analysis.
- Detects fraudulent patterns in audio using CNN-based processing.
- Analyzes entire sentences with NLP, RNN, and GloVe embeddings for accurate classification.

Architecture Diagram



Data Gathering

- Word-level dataset includes 500 real and 500 fake words from news articles.
- Sentence-level dataset has 702 fraud and 775 real conversations, totaling 1477 rows.
- Real-world audio data is collected and analyzed using features like zero-cross rate and hesitation time.

Tech Stack

- ML/DL: RNN, CNN, NLP, GloVe
- Backend: Python, Flask
- Frontend: Android (Java), HTML
- Database: MySQL
- APIs: Speech-to-text

Results and Future Scope

- Achieved 93% accuracy in detecting scam calls using text and audio analysis.
- Word and sentence-level models effectively identify fraud patterns.
- Audio analysis captures real-world scam traits like hesitation and tone.
- Future work includes expanding datasets and supporting more regional languages.

Web Application SnapShots