ABSTRACT

Provide an overview of UPI (Unified Payments Interface) and the increasing incidents of fraud in digital transactions. With the rapid adoption of digital payment systems like the Unified Payments Interface (UPI), the need for robust fraud detection mechanisms has become paramount. This project addresses this challenge by leveraging machine learning techniques to detect fraudulent transactions in UPI payments. The project begins with a comprehensive review of existing literature on fraud detection in financial transactions, highlighting the importance of accurate and timely detection methods. Subsequently, a dataset comprising UPI transaction records is collected and preprocessed to ensure data quality and consistency.

Existing mechanisms provide a certain level of protection against fraud, they are not foolproof and have limitations in detecting sophisticated or novel fraud schemes.

This project processes a machine learning based approach for detecting UPI frauds efficiently. In this project, we model the sequence of operations in UPI transaction processing using a Convolutional Neural Network (CNN) and show how it can be used for the detection of frauds. We are using auto encoder, outlier factor and K -Means clustering algorithms to detect the fraudulent UPI transactions. If an incoming UPI transaction is not accepted by the trained CNN with sufficiently high probability, it is considered to be fraudulent. At the same time, we try to ensure that genuine transactions are not rejected. The proposed system utilizes various machine learning algorithms to analyze transaction pattern, user behavior and relevant features to identify potentially fraudulent activities.