**Project Description**

**Project Title: Predictive Transaction Intelligence using for BFSI**

**Project Statement:**

This project focuses on developing an AI-driven system that utilizes Large Language Models (LLMs) to analyse historical customer transaction patterns and behavioral data in order to predict future transactions and assess fraud risks in real time. By identifying anomalies and learning fraud indicators from previous data, this solution will help financial institutions enhance transaction security, improve fraud detection, and optimize risk management—without disrupting customer experience.

**Outcomes:**

* **Predictive Modeling:** Anticipate customer transactions using behavioral and historical data.
* **Real-Time Risk Assessment:** Evaluate transaction legitimacy instantly based on learned patterns.
* **Fraud Detection:** Improve identification of anomalous or high-risk transactions through pattern learning.
* **Enhanced Financial Security:** Strengthen anti-fraud systems, reducing risk exposure for financial institutions.

**Modules to be Implemented:**

**Module 1: Data Collection and Preprocessing**

* Collect and clean historical transaction data (timestamps, values, locations, customer behaviors).
* Normalize and transform the dataset for compatibility with LLM input requirements.
* Tag known fraudulent and legitimate transactions for model training.

**Module 2: Predictive Transaction Modeling**

* Fine-tune LLMs for forecasting transaction behavior.
* Train models using customer-specific historical data to predict the next likely actions.
* Measure prediction accuracy using precision, recall, and F1 scores.

**Module 3: Real-Time Fraud Detection Engine**

* Implement risk detection logic based on model outputs.
* Match predicted transactions against known fraud signatures and behavioral deviations.
* Generate alerts for high-risk activity in real-time.

**Module 4: Deployment and Integration Layer**

* Deploy predictive models into a live environment.
* Integrate the fraud detection engine with existing monitoring systems.
* Conduct functional testing for performance, accuracy, and reliability.