

## POSTER

### PERSONAL FINANCE AND BUDGETING MACHINE LEARNING MODEL CONCEPT

#### **PROBLEM STATEMENT:**

Predict future expenses by analyzing historical spending patterns and economic indicators. Categorize expenses into essential needs and discretionary wants.

#### **DATA SET:**

The goal is to help users effectively manage their income, expenses, and savings. By predicting future expenses, identifying areas for cost reduction, and providing personalized budgeting recommendations, users can optimize their financial management.

#### **ALGORITHM:**

Collect and Prepare Data: Gather transaction data (amounts, dates, categories) from bank statements or user inputs. Clean and format the data to ensure consistency.

Categorize Expenses: Use a simple classification method to categorize transactions into types (e.g., groceries, rent, entertainment).

Spending Patterns: Calculate average spending for each category and identify spending trends over time.

Recommend a Budget: Suggest a budget by setting spending limits for each category based on past data, aiming to reduce overspending.

Detect Anomalies and Forecast Spending: Identify unusual transactions and forecast future expenses using basic statistical analysis or time-series methods.

#### **EXPECTED OUTPUT:**

Cleaned and formatted transaction data.

Categorized expense labels.

Spending summaries by category.

Optimized budget limits for savings.

Alerts for anomalies and spending forecasts.

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