💸 Magic\_Money\_Manage — Smart Expense Analyzer

# Abstract

Magic\_Money\_Manage is a smart expense analysis tool that leverages Google’s Gemini Generative AI and a local Machine Learning model to standardize, categorize, and visualize personal bank transactions. It helps users get insights into their spending habits with intuitive charts and summaries.

# Introduction

Managing personal finances can be tedious when transactions are unorganized. Magic\_Money\_Manage solves this by providing a simple Streamlit web interface where users upload their raw bank statements. The system standardizes the data using Gemini AI and further classifies expenses using a pre-trained local NLP model.

# Technologies Used

- Python  
- Pandas  
- Streamlit  
- Google Generative AI (Gemini)  
- Scikit-learn  
- Matplotlib  
- Joblib  
- Jupyter Notebook

# Working Mechanism

1. User uploads a raw CSV file of bank transactions.  
2. Gemini Generative AI standardizes the file into structured columns: Date, Description, Amount, Transaction, and Category.  
3. The local NLP model predicts categories for transactions based on their descriptions.  
4. Transactions are split into Debit and Credit.  
5. Total Debit, Credit, and Net Difference are computed.  
6. Visualizations: A bar chart shows daily debit amounts and a pie chart shows spending by category.

# Features

- Upload CSV bank statements.  
- Standardize data using Gemini AI.  
- Predict expense categories using ML.  
- Visualize daily debits and spending breakdown.  
- Calculate total debit, credit, and net difference.

# Conclusion

Magic\_Money\_Manage demonstrates the power of combining Generative AI and Machine Learning for practical financial insights. The system is extensible and can be improved with live bank API integrations, user profiles, and automated retraining to adapt to evolving spending patterns.