

TVSCREDIT

e.p.i.c 6

ENRICH | PERFORM | INNOVATE | CHALLENGE

svssathvik77 & MVGRCE

SVS SATHVIK | SHAIK AZEEM PASHA

PROBLEM STATEMENT

- 01 The current EMI calculator on the website is limited to calculating simple interest, providing only basic outputs without considering the user's unique financial situation. By integrating different types of loan calculators, we can offer a more comprehensive solution.
- 02 Users don't receive personalized suggestions based on their financial situation regarding the optimal combination of principal, time and interest rate. This makes it difficult for them to choose the best loan plan for their needs.
- 03 As a result, users might end up making poor loan choices, leading to financial strain and missed opportunities for better loan options.

UNDERSTANDING THE SOLUTION

01

We are going to integrate an AI/ML-powered loan suggester into the existing EMI calculator. This enhancement will not only calculate the EMI but also provide suggestion scores to the user's loan choices based on the TVS's already seen user data.

02

The model will analyze various loan options with different principal amounts, loan types, and durations, and then compare these loan choices based on the user's financial inputs.

03

Based on the combination of loan options and the user's financial inputs, we provide suggestion scores that indicate the likelihood (as a percentage) of the user successfully repaying the debt without much strain.

USER'S FINANCE DATASET

- 01 We collect the user's monthly income, monthly savings, monthly debts, and their preferred EMI (the amount they feel comfortable paying each month). These will hereafter be referred to as the user's financial data.
- 02 To build the initial ML model, we collected similar data from our college mates via a Google form and synthetically generated a larger dataset of 1,000 records. This data is not fully authentic but serves as a starting point for model training.
- 03 In production, TVS Credit will collect users' financial information (monthly income, savings, debts, preferred EMI), along with loan details such as loan amount, tenure, and interest rate. They will also maintain a database that tracks whether users have repaid their loans or consistently made EMI payments. This labeled data will be used to train the ML model in production.

WORKING OF ML MODEL

01

Our machine learning model processes the user's financial data along with loan details for each loan option being compared. The model evaluates the safe EMI limit, and predicts whether the user can realistically bear the EMI for their chosen loan plan.

02

Our model uses logistic regression as the core algorithm to determine the likelihood that a user can safely manage the EMI based on their financial inputs.

03

The model is trained by looking at the previous trends of TVS Credit users repaying their debts with the similar loan combinations.

PROJECT SOURCES

- 01 Drive Link for Feature Flow - [Click here](#)
- 02 Drive Link for Proof of concept - [Click here](#)
- 03 Prototype repository - [Click here](#)
- 04 ML model repository - [Click here](#)

CONCLUSION AND WORK SCOPE

- 01 The integration of the AI/ML-powered loan suggester into the existing EMI calculator significantly enhances the tool's functionality.
- 02 This innovation improves user engagement and satisfaction, benefiting both individual borrowers and TVS Credit
- 03 The tool allows users to compare multiple loan options simultaneously, streamlining the loan selection process
- 04 The project represents a key advancement toward creating a more user-centric financial ecosystem.

ANNEXURE:DATA SET

Monthly Income	Savings	Debts	Safe EMI	Monthly EMI	Total Payable	Has Paid
141958	30801	81014	56783	67351	1288470	0
166867	34865	87488	66746	60606	952807	1
151932	37801	46297	60772	58667	692739	1
123694	44284	39768	49477	47478	602400	1
139879	26299	79871	55951	19781	237109	1