RiskGuard:
Innovations in Credit Safeguarding

Context:

Credit risk pertains to the possibility that a borrower might fail to reimburse a loan, resulting in the lender losing either the principal amount or the associated interest. This risk emerges because borrowers rely on future cash flows to settle current debts, making it challenging to guarantee their ability to repay. Interest payments from borrowers or debt issuers serve as a compensation for lenders or investors assuming credit risk.

In today's fiercely competitive environment, banks are consistently seeking to harness analytics to obtain insights and effectively assess risks and opportunities. This empowers more efficient decision-making processes, ultimately aiming to bolster market share.

Credit Risk analytics solutions include:

- Loan Delinquency and Default
- Loan Portfolio Management
- Sales/Service Differentiation
- Low Loan Recovery and High Charge-off

Lending Club:

Lending Club is a Peer-to-Peer lending company that utilizes a group of private investors to fund loan requests. LC allows for debt consolidation, home and auto loans, credit card financing loans and expense financing. With such a level of financing options available to borrowers from investors, it attracts risks also in the form of borrower default and interest loss on prepayment. Lending Club's model for risk assessment categorizes borrowers by assigning them a grade and a subgrade based on their credit history.

Problem Statement:

The aim of this analytical investigation is to conduct risk assessment and implement measures for risk mitigation. Risk Assessment enables lenders to analyze potential risks inherent in a lending model, allowing them to identify which customers are likely to accept a credit, default on it, or prepay the loan. Hence, this study entails the following:

- Perform exploratory analyses and employ diverse machine learning techniques to forecast borrower default behavior.
- Analyze financial data to anticipate loan defaults and utilize methods for addressing missing data.

Expectation:

You are expected to answer below questions :

1. Provide a summary of the insights, highlighting at least four key points.
2. How does the analysis of loan defaulting vary both overall and on an annual basis, What is your risk assessment here?
3. What is the annual breakdown of the distribution of loan amounts within the lending club?
4. What are the primary reasons for loans obtained from the lending club, and is there a correlation between loan type and default rates?
5. How does the verification status affect loan default rates and the loan amounts granted?
6. Are interest rates influenced by factors like loan term, loan amount, yearly income, home ownership status, or any other variables?
7. What are the observable factors that contribute to predicting loan defaulters, and how can they be identified and suggested for use?

Note:

1. You are required to take all the necessary steps for data cleaning and preparation for the final analysis.
2. You may use any analytical tool to achieve the results.