

CREDIT RISK

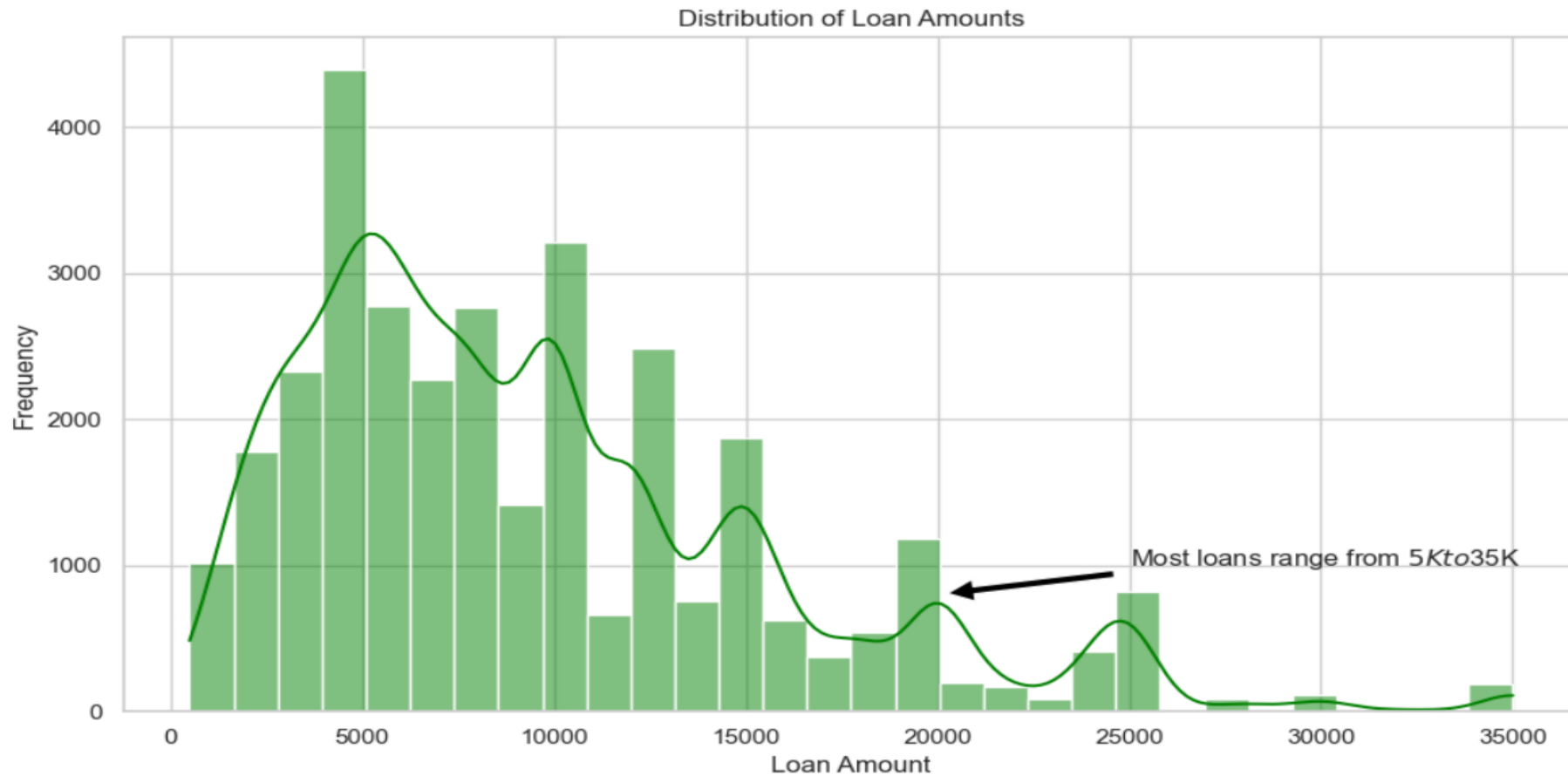
It is the risk of borrowers not repaying loan, credit card or any other type of loan.

It has four credit risk components :

- Probability of Default (PD) *Higher the probability, higher the chance of default.*
- Exposure at Default (EAD)
- Loss given Default (LGD)
- Effective Maturity (M)

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DESCRIPTIVE ANALYSIS ON DATA

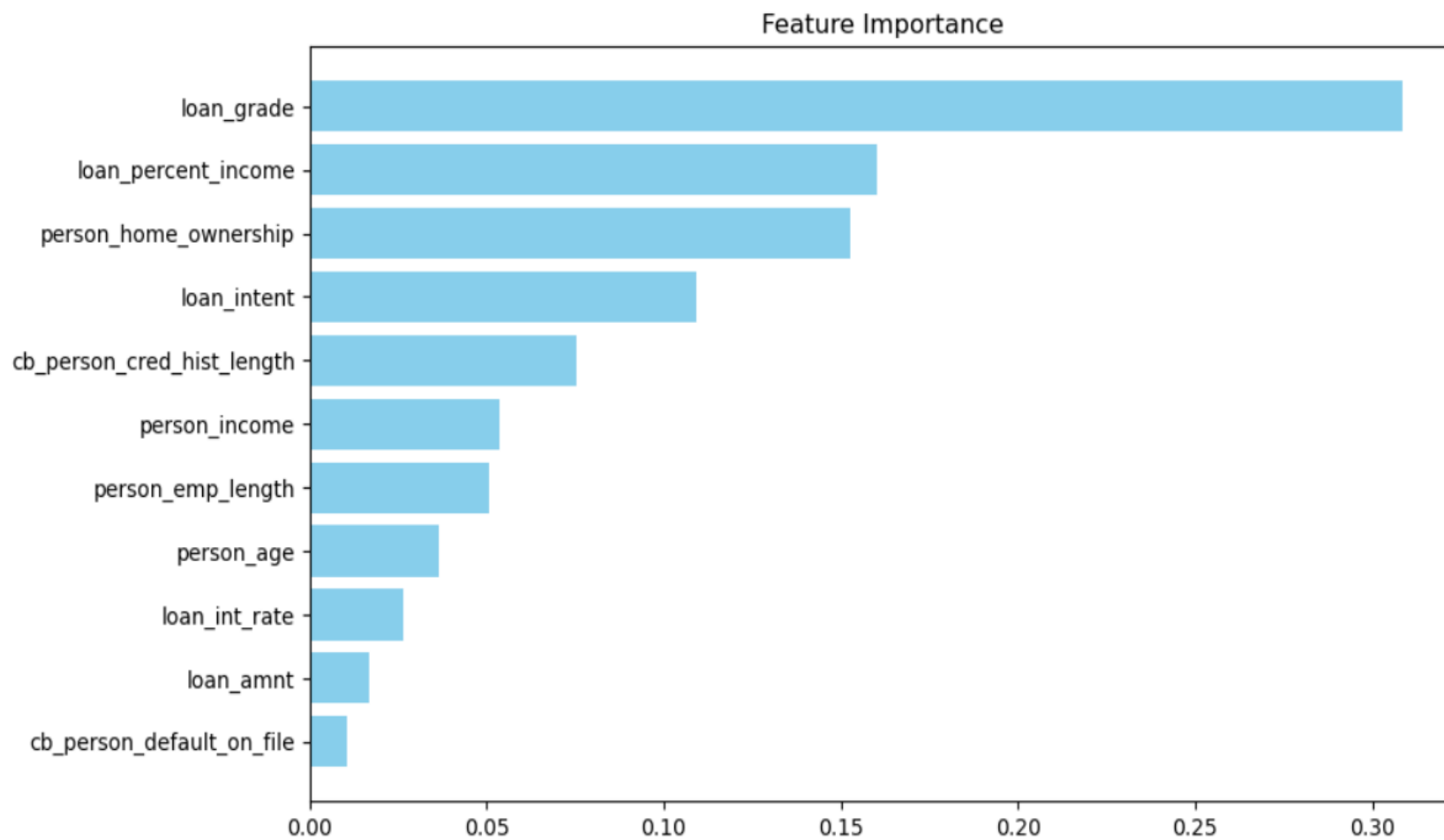


KEY INSIGHTS BASED ON THE EXPLORATORY AND INFERENTIAL ANALYSIS:

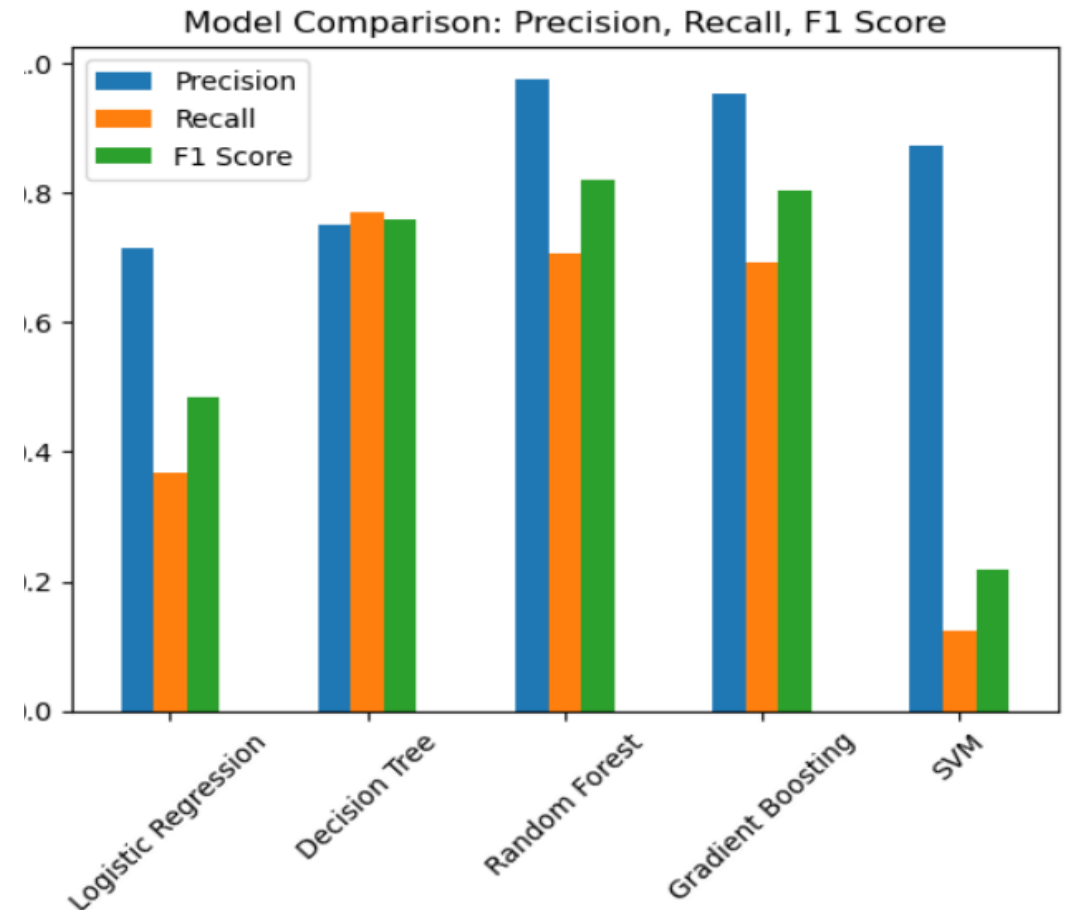
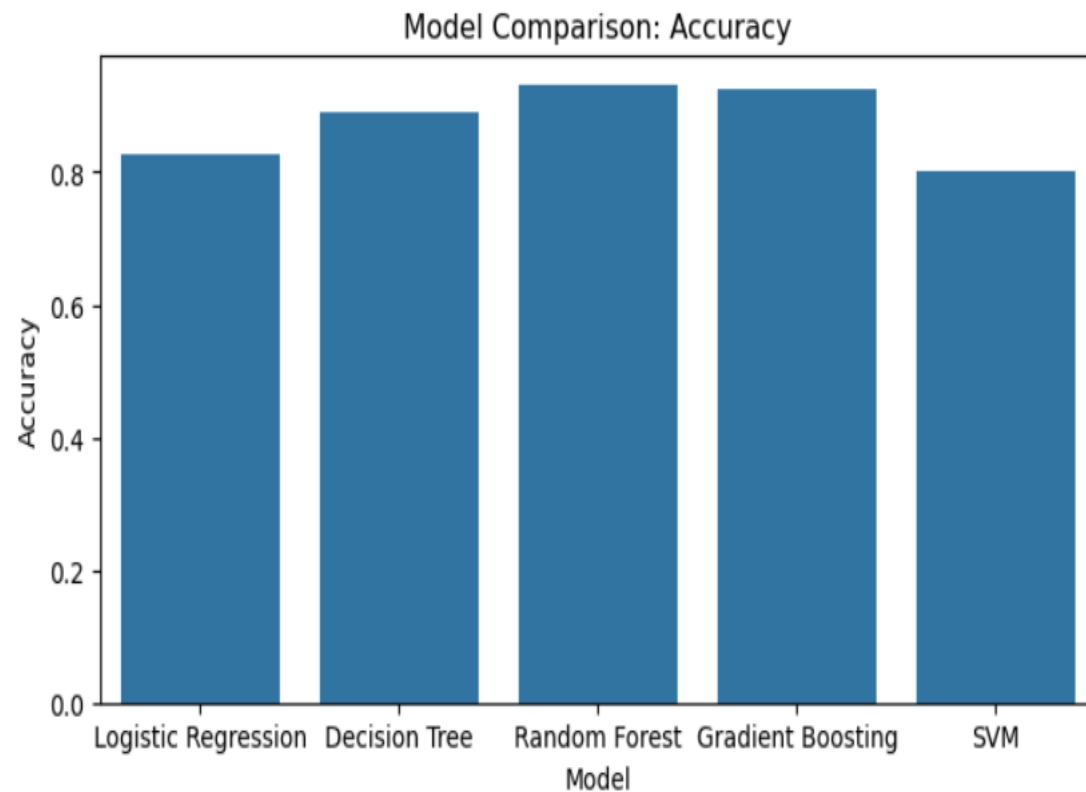
1. Loan Amount and Defaults: Loan amounts tend to be higher for individuals who default.
2. Interest Rates and Defaults: The interest rates for those who default are significantly higher than for non-defaulters.
3. Credit History Length: The length of a person's credit history appears to play a role in default risk. Individuals with shorter credit histories are more likely to default, while those with longer credit histories are less likely to default.
4. Employment Length: Employment length seems to have a modest impact on loan defaults, with individuals who have shorter employment durations being slightly more prone to default. This could be linked to income stability.
5. Home Ownership: Renters and mortgage holders show higher default rates compared to individuals who fully own their homes.
6. Loan Intent: The purpose of the loan (e.g., medical, education, personal) has a strong relationship with default risk. Certain loan intents (such as education or personal loans) may be associated with higher default rates.



IMPORTANT FEATURES FROM RANDOM FOREST



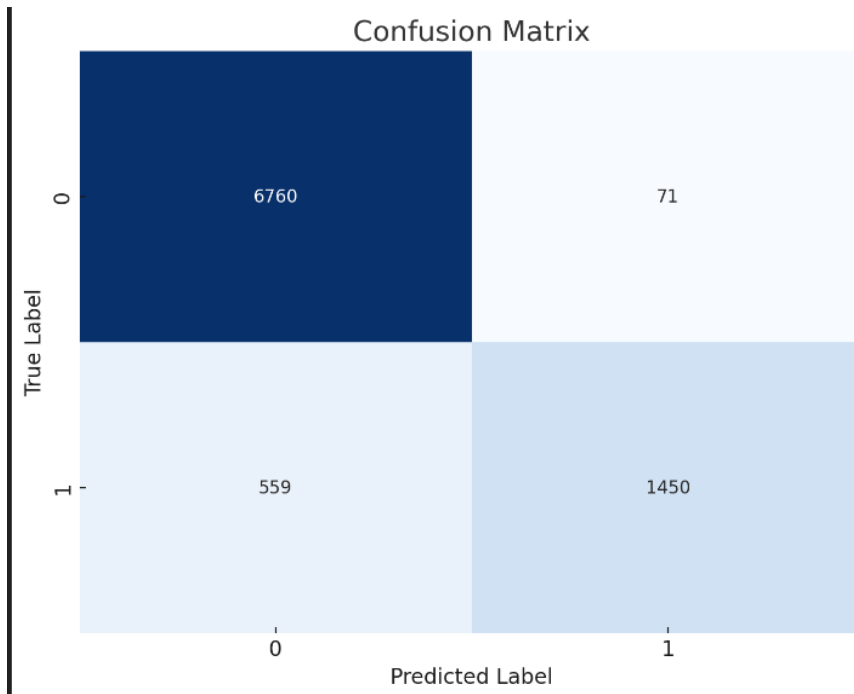
MODELS PERFORMANCE COMPARISON



RANDOM FOREST MODEL EVALUATION

After Hyperparameter (w/o Smote)

Accuracy: 93%



After Hyperparameter (with Smote)

Accuracy: 93%

