



# CREDIT RISK PREDICTION

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# **BACKGROUND**

## **Our Problem**

Credit risk is a risk of loss caused by the inability of the borrower to fulfill his debt payment obligations.

## **Our Goal**

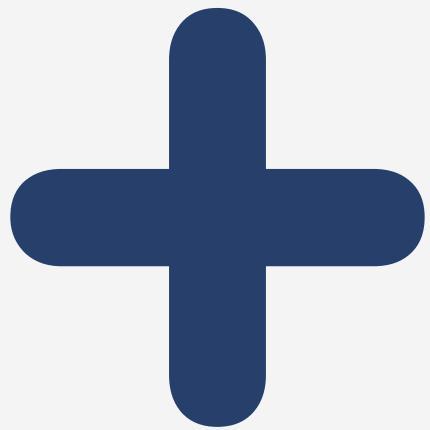
The main goal is to be able to predict the borrower's status from applying machine learning. What is hoped is that this model will be able to make consideration for the company.

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# EXPLORATORY DATA ANALYSIS



Dataset has 466285 rows and 75 columns

There are features or columns that have null values (null values columns > 50% will be dropped)



The features or columns that are mostly unique values will be deleted / drop

Dataset has no label or target





# LABELING THE BORROWERS



- Good Borrowers  
Current, Fully Paid, In Grace Period
- Bad Borrower  
Charged Off, Late (31-120 days), Does not meet the credit policy, Late (16-30 days), Default.

# DATA PREPARATION

Check Duplicated Data

Drop features that has null value > 50% and unnecessary features

Imputation features.  
Numerical types use median and Categorical Types use mode.

Scalling the numerical features

Do the one-hot-encoding for categorical features

Handling Outliers using Z-Score

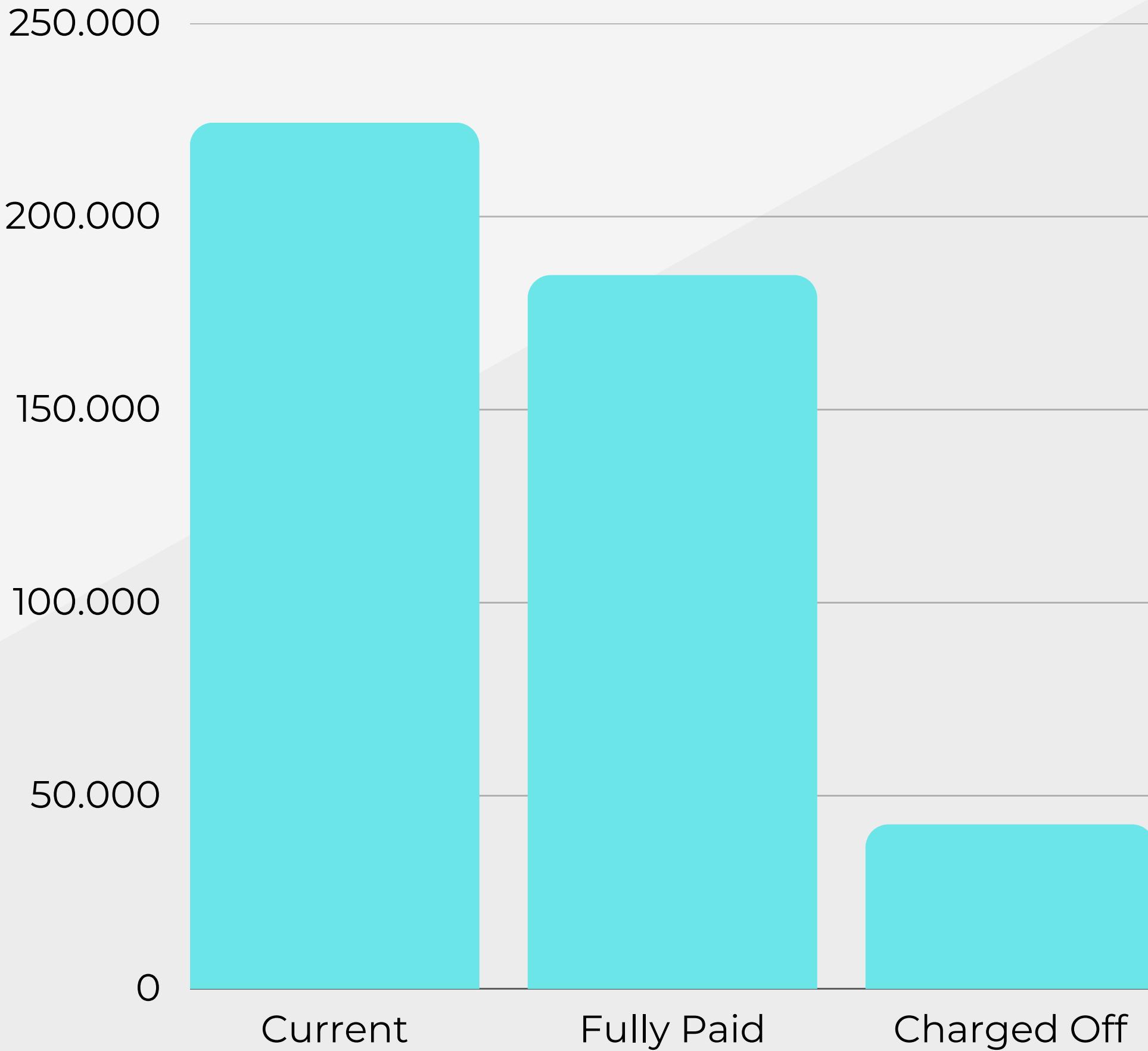
# MODELLING & EVALUATION

Model	AUC	Accuracy	Recall	Presicion
Random Forest	0.85	0.94	1.00	0.94
Linear Regression	0.85	0.93	1.00	0.93
Decision Tree	0.70	0.88	0.93	0.94
KNN	0.74	0.93	0.99	0.93

AUC Score is the important metrics in this case

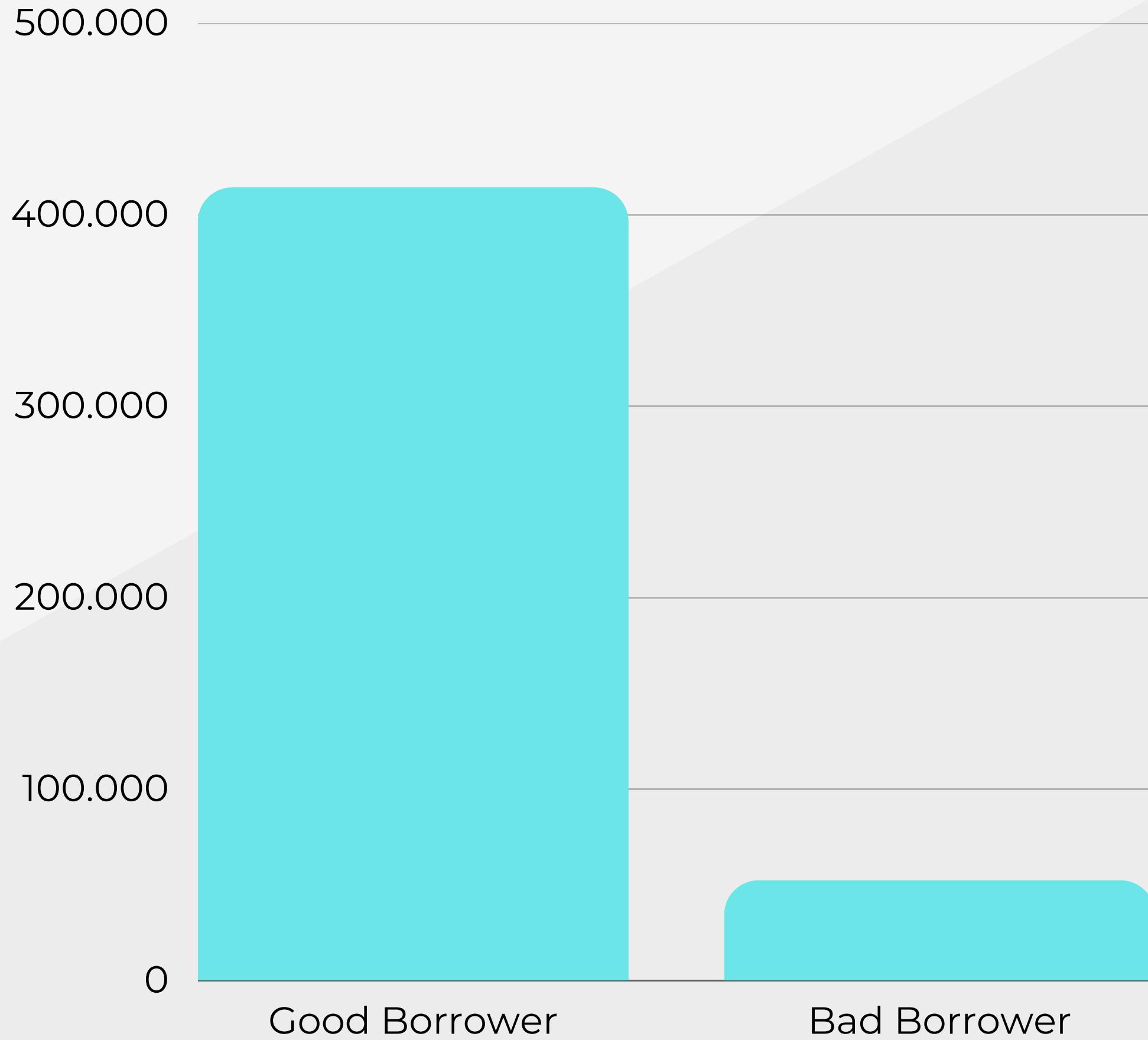
# INSIGHTS

Frequency of applicants  
based on Loan Status  
(Top Three)



# INSIGHTS

Frequency of applicants  
based on Status Borrower





# RECOMMENDATION

- Approval of the loan amount

Have to be careful about the size of the loan to be borrowed. We must know the eligibility background of the borrower and whether the borrower is a good borrower or a bad borrower. If the borrower is a bad borrower, it will definitely bring a bad impact.





# THANK YOU

