# *Mini - Project Proposal*

*Project Title*: ***Loan Approval Prediction***
*Team Members*: ***Sevakula Jyothi, Sanjna Rajani, Muskaan Gupta,Sri Venkateswara Swami Tumu***

## *Keywords:*

PCA, RandomForest, SVD and VIF dimensionality reduction techniques, Decision tree, Logistic regression, KNN, SVM, Naive Bayes, Random Forest, KMeans Clustering

## *Objective:*

The objective is to develop a machine learning model that predicts loan approval outcomes based on applicant attributes to automate and optimize the lending decision process.

## *Problem Statement:*

The problem is to create a predictive model that assesses the creditworthiness of loan applicants based on various features such as income, credit history, and loan amount, aiming to minimize the risk of default while maximizing approved loans, thus enhancing the efficiency and accuracy of the lending process.

## *Approach:*

EDA Analysis and Balancing the Data

Data Preprocessing and Dimensionality Reduction

Feature Importance and applying regression techniques

Evaluation and Hyperparameter Tuning and Selection of Final Model

## *Resources:*


1) Loan Dataset to Risk_flag. www.kaggle.com. https://www.kaggle.com/datasets/subhamjain/loan-prediction-based-on-customer-behavior/data
2) scikit-learn. (2019). scikit-learn: machine learning in Python. Scikit-Learn.org. https://scikit-learn.org/stable