



# Deep Learning with Keras and Tensorflow

## Course-End Project

# Home Loan Data Analysis

## Problem Statement:

For a safe and secure lending experience, it's important to analyze the past data. In this project, you have to build a deep learning model to predict the chance of default for future loans using historical data. As you will see, this dataset is highly imbalanced and includes a lot of features that make this problem more challenging.

**Objective:** Create a model that predicts whether or not an applicant will be able to repay a loan using historical data

**Domain:** Finance

**Analysis to be done:** Perform data preprocessing and build a deep learning prediction model

## Steps to be done:

- 1) Load the dataset that is given to you
- 2) Check for null values in the dataset
- 3) Print the percentage of default to a payer of the dataset for the **TARGET** column
- 4) Balance the dataset if the data is imbalanced
- 5) Plot the balanced or imbalanced data
- 6) Encode the columns that are required for the model
- 7) Calculate sensitivity as a metric
- 8) Calculate the area under the receiver operating characteristics curve