Credit Risk Modeling

1) Problem:

    a) Credit risk refers to the likelihood that a borrower will default on their financial obligations. Financial institutions need to assess credit risk of potential borrowers to minimize loss from defaults. Additionally, borrowers need to know their own risk of default to avoid their own financial ramifications. An effective credit risk model can help identify borrowers that have a high risk of default. The goal of this project is to classify borrowers as low or high credit risk and estimate the probability of default.

    b) As a student of economics, I have always been interested in the finance industry. I find this project to be particularly interesting because it is a real world scenario that involves both institutions and individuals. Most people will have to take out a loan at some point in their life and will be subject to repaying that loan. I also find this type of data interesting because it gives insight into other people's lives and human behavior in general.

2) The data would come from the [Loan Prediction Dataset 2025](#) found on Kaggle.

3) Outline of approach:

    a) This is a supervised problem.

    b) This is a binary classification problem.

    c) This model will try to predict if a borrower will default on their loan or not.

    d) Many predictors will be used for this problem. Some examples are: education level, age, income, credit score, loan amount, interest rate, credit history

    e) I will use a traditional machine learning approach.

4) The final deliverable will be an application deployed as a web service.

5) This project can be completed on a standard computer.