

<b>PROJECT OVERVIEW STATEMENT</b>	<b>Project Name: Credit default status prediction</b>	<b>Student Name:</b> Sai Krishna Nikhil Appasani
<b>Problem/Opportunity:</b>  <p>Credit default is a major risk to the financial institutions because borrowers do not fulfill their debt obligations. However, manual evaluations and credit scoring are slow and prone to inaccuracies, which are the traditional credit risk assessment methods. Improving efficiency, risk assessment and financial loss, this process can be automated using machine learning.</p> <p>A good credit default prediction model can minimize the risk of default by the banks and financial institutions to qualify high risk borrowers who may otherwise default.</p>		
<b>Goal:</b> <p>The intent of this project is to build a machine learning based model to forecast a likelihood of the borrower defaulting its credit obligation based on the financial data, income, loan details and other such relevant factors. The project proposes to enhance the credit risk assessment accuracy and efficiency via classification algorithm and data analysis.</p>		
<b>Objectives:</b> <p>Objective 1:  Outcome: Use this to build a classification model for predicting credit default status.  Time Frame: Within 2 months of project initiation.  Measure: Classify credit default into high or low and then achieve an accuracy of at least 85%.  Action: Get a dataset containing borrower details, collect and preprocess it, extract the applicable features and train the machine learning model for classification.</p> <p>Objective 2:  Outcome: Create a deep learning model such as Neural Networks to improve the classification performance.  Time Frame: Within 2 months of project initiation.  Measure: Beyond standard machine learning models, improve model accuracy.  Action: Fine tuning and training deep learning architectures to enhance the credit default predictions.</p> <p>Objective 3:  Outcome: Introduce an explainable AI approach to understand predictions made by the model.  Time Frame: Within 1 month of project initiation.  Measure: This will give you clear insights as to why a borrower is considered as a potential defaulter.  Action: SHAP values or LIME to explain model decisions and increase transparency.</p> <p>Objective 4:  Outcome: Secure a credit default risk assessment dashboard created on the web.  Time Frame: Within 2 months of project initiation.  Measure: Build an interactive tool for financial institutions to be able to assess the risk of borrowers at the time of assessment.  Action: Use a web based interface for financial institution to deploy the model.</p> <p>Objective 5:  Result: Assess the framework against real-world datasets and conduct a comparative investigation with existing credit chance models.</p> <p>Time Outline: Inside 1 month of extend start.</p> <p>Degree: Benchmark the models execution against industry guidelines.</p> <p>Action: Conduct empirical evaluations and report discoveries.</p>		

**Success Criteria:**

The venture will be considered fruitful in case the taking after criteria are met:

- The machine learning demonstrate accomplishes at slightest 85% exactness in credit default expectation.
- The profound learning show illustrates predominant execution compared to conventional strategies.
- The reasonable AI strategy gives significant bits of knowledge into the classification prepare.
- A utilitarian web-based device is created for monetary educate.
- The framework is assessed against real-world datasets, and discoveries are reported.

**Assumptions, Risks, Obstacles:**

A few variables may affect the victory of this venture. It is accepted that the dataset utilized is different and agent of real-world credit default cases. Potential dangers incorporate one-sided preparing information, administrative changes influencing credit chance appraisals, and advancing monetary showcase conditions. Guaranteeing show generalizability and interpretability will be key challenges. Viable chance relief methodologies incorporate ceaseless dataset upgrades, thorough testing, and compliance with budgetary directions.

**Prepared By**

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**Date**

01/06/2025

**Approved By****Date**