ACROPOLIS
Enlightening Wisdom

Acropolis Institute of Technology & Research, Indore

Title of the Project

Submitted to:Juhi Shrivastva

Department of Computer Science and Engineering

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Supervised by: Prof.

Team Members

1.ANSH JOSHI (0827CS201036)

2.BHAVIK SHARMA(0827CS201058)

3.BHAVIK MUNDRA(0827CS201057)

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Project Presentation Outline

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Collection of Loan Default's DataSets

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Selection of Parameters

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Prediction based of Parameters

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Results and Suggestions

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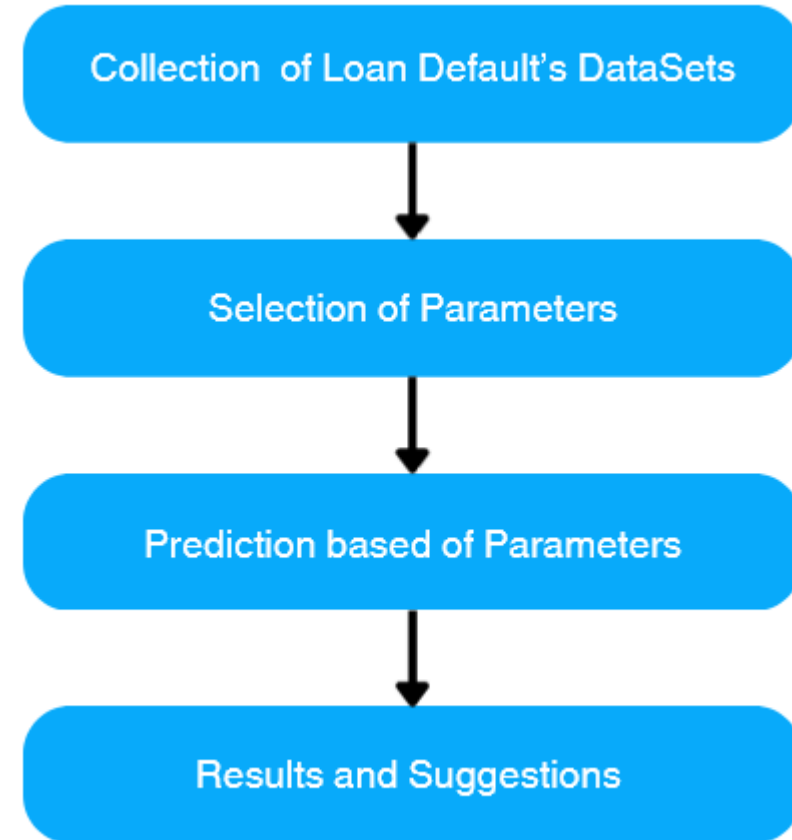
Abstract

❖This project aims to develop a machine learning-based loan approval prediction system to enhance the accuracy and efficiency of loan approval processes in the banking sector. By analyzing historical loan data and applicant attributes, the system predicts loan approval status, streamlining decision-making and promoting responsible lending practices. The user-friendly interface allows for easy input of application data and provides quick loan approval predictions, benefiting both lenders and applicants.

Introduction

❖ Our project uses machine learning to improve lending risk assessment for banks. With a RandomForest Classifier, we analyze borrower data such as income, gender, and loan purpose. The aim is to create a reliable model predicting loan default, ensuring a secure financial landscape.

The Problem Statement

❖Traditional risk assessment in banking relies on subjective methods, risking human error. This may lead to increased defaults and financial instability. Our project aims to tackle this by using machine learning to enhance the accuracy of loan default predictions.

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Objectives

1. **Enhance Accuracy:** Improve the precision of loan default predictions by leveraging machine learning algorithms, ensuring more reliable risk assessments.

2. **Real-Time Decision Making:** Provide applicants with instant feedback on loan approval or rejection, streamlining the application process for both the applicant and the financial institution.

3. **Minimize Defaults:** Reduce the occurrence of defaults by implementing a robust RandomForest Classifier to analyze borrower data and identify potential risks more effectively.

4. **Strengthen Financial Stability:** Contribute to a more secure financial landscape by implementing a data-driven approach to risk assessment, minimizing the impact of defaults on the institution.

EARLY WARNING SYSTEM → BUSINESS OUTCOME

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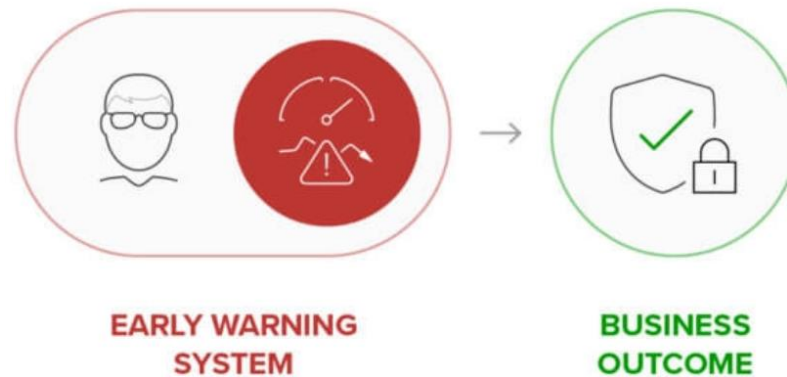
Solution Proposed

❖Our solution involves implementing a RandomForest Classifier, a powerful machine learning algorithm, to analyze a comprehensive dataset. By considering factors such as borrower income, gender, and loan purpose, we aim to create a robust model for predicting loan defaults. This data-driven approach ensures a more accurate and objective evaluation of lending risk, contributing to better-informed decision-making and a secure financial environment for the institution.

RANDOM FOREST   LOAN PREDICTION

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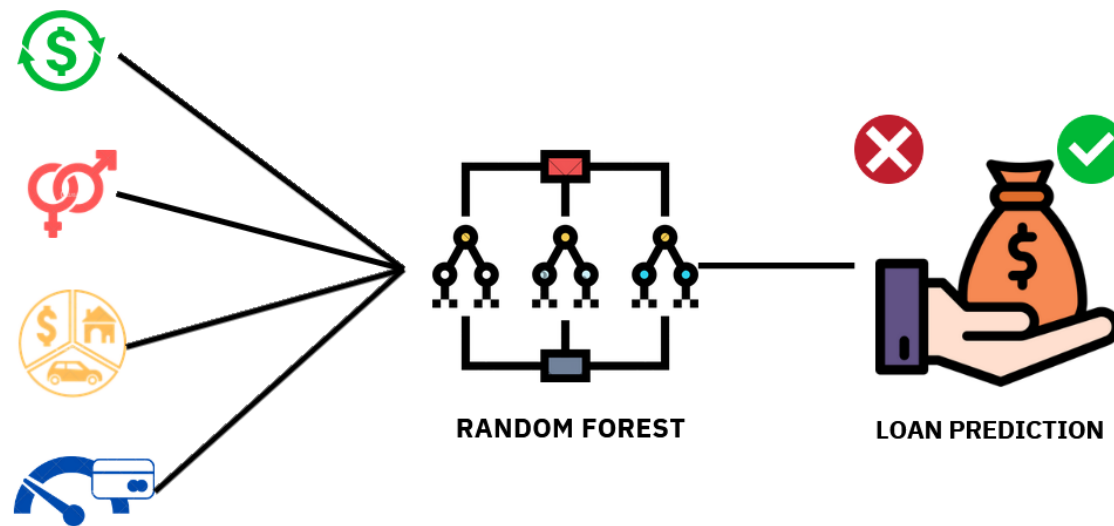
The Outcome

1. **Deployed Web Application:** A fully functional web application accessible to users for seamless and efficient loan application processing.

2. **High Prediction Accuracy:** Achieve a notable increase in accuracy for loan approval predictions through the implementation of the RandomForest Classifier.

3. **Improved User Experience:** Provide users with a streamlined and intuitive interface, ensuring a positive experience throughout the loan application process.

4. **Reduced Defaults:** Expect a significant decrease in loan defaults, contributing to a more stable financial landscape for the institution.

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Survey of Existing System

❖Loan default prediction systems have been developed to address the critical challenge of accurately assessing credit risk in the banking sector. Here is an insightful analysis of existing systems and methodologies:

1. FICO Score

2. Manual Apporval

Conclusion

❖Our project revolutionizes lending risk assessment through machine learning. The web application ensures real-time feedback, expedites loan approvals, and reduces defaults, contributing to a more secure financial landscape. Ongoing innovation and collaboration are key to unlocking the project's full potential and optimizing lending practices for the future.

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Acknowledgment

❖ Firstly we would like to express our gratitude to our head of department Prof. Praveen Bhanodia without whom we would not have had the opportunity to make this project. Also our project coordinator Prof. Preeti Shukla for her support and guidance. Her constructive criticism and valuable insights helped us develop this project in a better way. Finally, no task at hand is successfully complete without the blessings of our parents and support of our team members and so we would like to thank them as well.

THANKS

Department of Computer Science Engineering

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