

Loan Approval Prediction using Artificial Intelligence

Internship Project Report

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Abstract

This project aims to develop an Artificial Intelligence-based system to predict loan approval status. The system analyzes applicant information such as income, credit history, marital status, and loan amount to determine whether a loan should be approved or rejected. Machine learning algorithms are used to automate decision-making and improve accuracy in the loan approval process.

Introduction

Banks receive many loan applications daily. Manually verifying applications is time-consuming and may lead to errors. Artificial Intelligence helps automate this process by analyzing historical data and predicting loan approval status.

Problem Statement

Manual loan approval processes are slow and inefficient. There is a need for an AI-based system that can automatically predict whether a loan should be approved based on applicant details.

Objectives

- Analyze the loan dataset
- Preprocess and clean data
- Apply Machine Learning algorithms
- Predict loan approval status
- Evaluate model performance

Dataset Description

The dataset contains applicant details such as Gender, Married, Dependents, Education, Income, Loan Amount, Credit History, Property Area, and Loan Status (Target Variable).

Methodology

- Import dataset
- Handle missing values

- Encode categorical variables
- Split data into training and testing sets
- Apply Logistic Regression algorithm
- Evaluate model accuracy

Results

The model successfully predicts loan approval status with good accuracy. It helps automate the loan approval process and reduces manual effort.

Conclusion

The Loan Approval Prediction system demonstrates how Artificial Intelligence can improve financial decision-making. It ensures faster and more accurate loan approval predictions.

Future Scope

- Use advanced algorithms like Random Forest or Neural Networks
- Deploy as a web application
- Improve accuracy using larger datasets