Loan Prediction Data Analysis Project Report

Title

Loan Prediction Using Data Analysis and Visualization

A. Problem Statement

Banks receive loan applications daily. Evaluating repayments is crucial. This project analyzes data to identify factors influencing loan approval.

B. Objectives

1. Understand dataset
2. Perform descriptive and visual analysis
3. Preprocess data for modeling
4. Gain meaningful insights

C. Dataset Description

- Total records: 614
- Total features: 13
- Target: Loan_Status
- Key variables: Gender, Married, Education, Income, LoanAmount, Credit_History

D. Methodology

1. Data loading
2. Exploratory analysis
3. Missing value handling
4. Encoding & normalization
5. Visualization

E. Descriptive Statistics

- Avg Income: ~5400
- Avg Loan Amount: ~146
- 69% approved loans

F. Visual Insights

- Most incomes < 10,000
- Loan amount skewed
- Credit history strongly impacts approvals

G. Key Findings

- Credit history is most important
- Income alone doesn’t guarantee approval

H. Conclusion

Data analysis reveals credit history and manageable loan requests improve approval chances.

I. Future Recommendations

1. Apply ML models
2. Add more features like credit score
3. Feature selection + tuning
4. Build a dashboard/web tool