Loan Default Prediction Analysis

Analyzing factors influencing loan default

Agenda

- Introduction and Background
- Analysis and Conclusions

Problem Statement

- The goal is to identify patterns which indicate if a person is likely to default on a loan. The insights gained will help in making decisions such as denying the loan, reducing the loan amount, or lending at a higher interest rate to risky applicants.

Data Understanding

- The dataset contains information about past loan applicants and their loan status, including whether they defaulted or not. It includes variables such as loan amount, interest rate, annual income, and more.

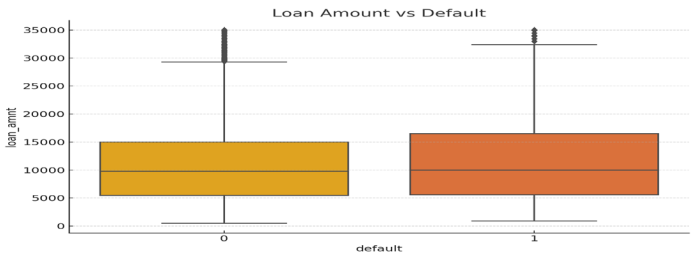
Analysis and Conclusions

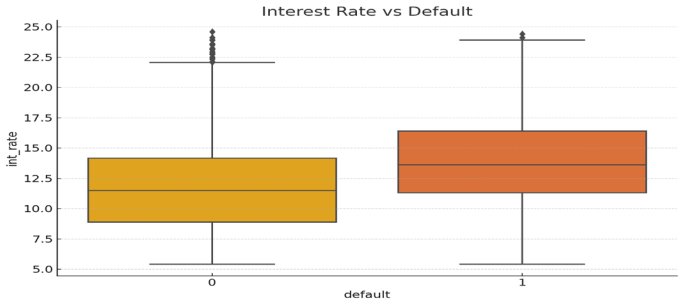
Univariate Analysis

- Key insights from the univariate analysis:
- - Loan amounts are mostly between $5,000 and $15,000.
- - Interest rates are mostly between 10% and 20%.
- - Annual incomes are highly right-skewed, with many borrowers reporting incomes below $100,000.

Bivariate Analysis

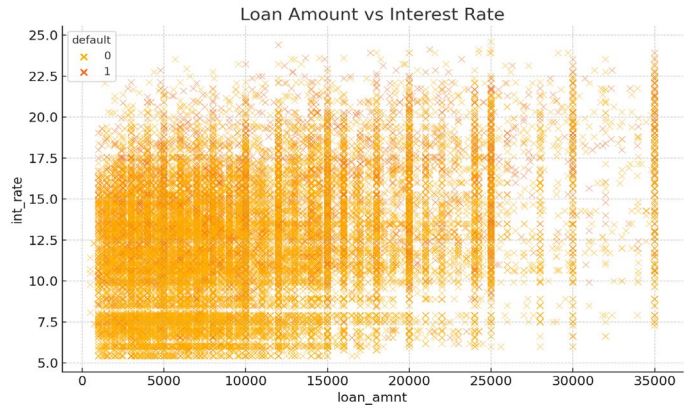
- Key insights from the bivariate analysis:
- - Borrowers who default tend to have slightly higher loan amounts.
- - Higher interest rates are associated with a higher likelihood of default.
- - Lower annual incomes are associated with a higher likelihood of default

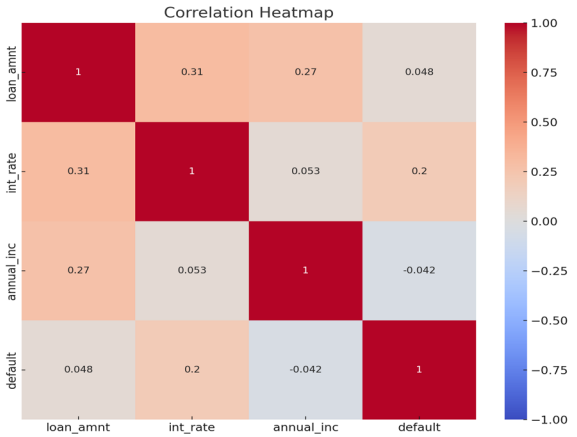




Multivariate Analysis

- Key insights from the multivariate analysis:
- - Correlation heatmap shows relationships between numerical variables.
- - Scatter plots show the relationships between pairs of key variables, colored by default status.





Conclusions

- Summary of findings:
- - Higher loan amounts and interest rates increase the likelihood of default.
- - Borrowers with lower annual incomes are more likely to default.
- Recommendations:
- - Use these insights to refine loan approval criteria.
- - Consider offering lower amounts or higher interest rates to risky applicants