

EDA LOAN DEFAULT ANALYSIS

Analyzing the Key Factors Influencing Loan Defaults

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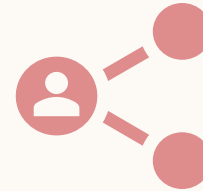
PROBLEM STATEMENT & ANALYSIS APPROACH



Problem Statement:

The consumer finance company wants to identify key factors leading to loan defaults.

By understanding these factors, the company can mitigate financial losses and improve risk assessment.



Analysis Approach:

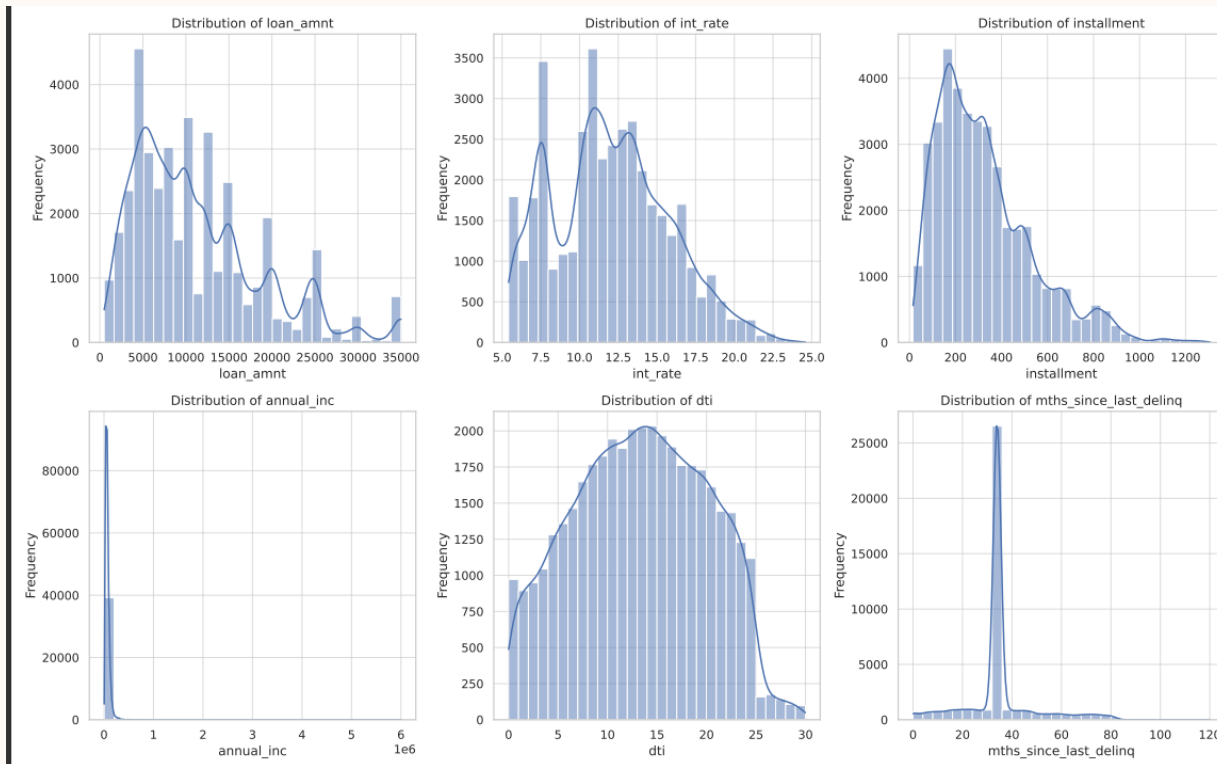
Data Cleaning: Handle missing data and standardize formats.

Univariate Analysis: Understand the distribution of key variables.

Bivariate Analysis: Explore relationships between loan status and key variables.

Multivariate Analysis: Identify correlations and

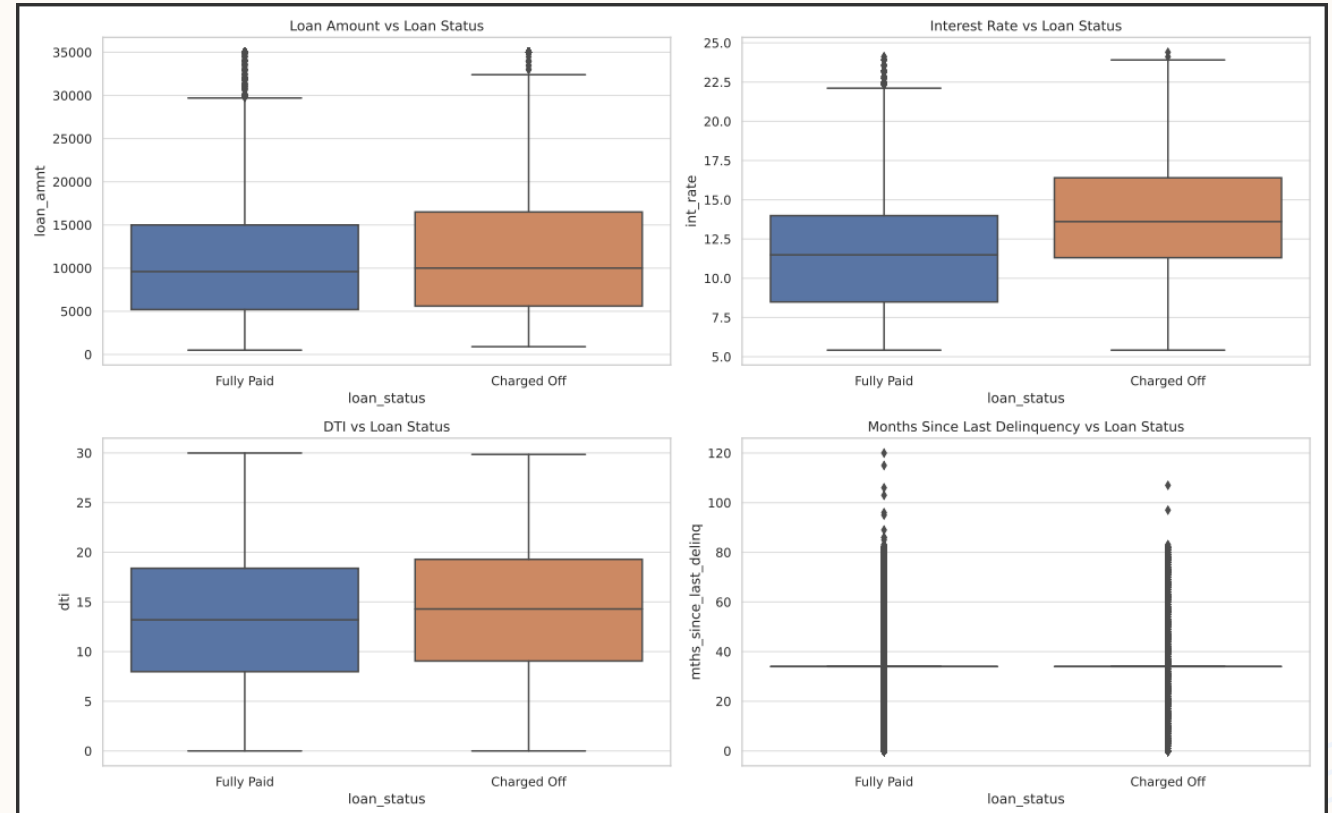
UNIVARIATE ANALYSIS



- The univariate analysis focused on understanding the distribution of key variables like:
- Loan Amount
- Interest Rate
- Debt-to-Income Ratio (DTI)
- Months Since Last Delinquency
- These distributions provide insights into the common ranges and outliers.

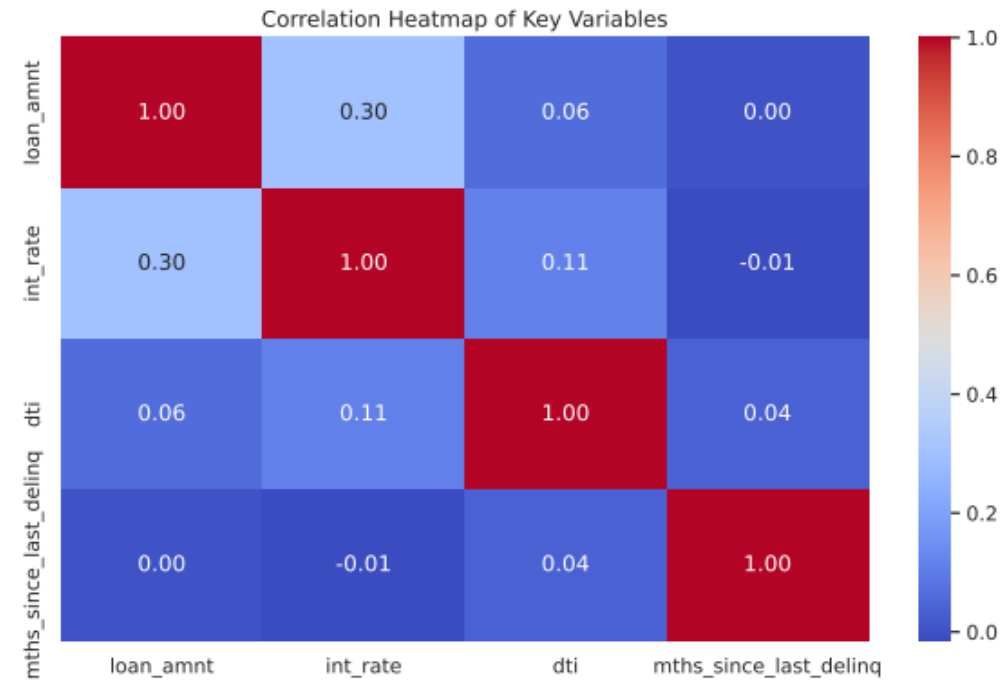
BIVARIATE ANALYSIS

- The bivariate analysis explored the relationship between loan status and variables such as:
- Loan Amount vs. Loan Status
- Interest Rate vs. Loan Status
- DTI vs. Loan Status
- Months Since Last Delinquency vs. Loan Status
- **Key Insight:** Higher interest rates and higher DTI ratios are associated with a greater likelihood of loan defaults.



CORRELATION ANALYSIS

- The multivariate analysis involved generating a correlation heatmap to identify relationships between variables:
- Moderate positive correlation between interest rates and DTI ratios.
- Slight positive correlation between loan amount and interest rate.
- These insights can help in predicting the likelihood of defaults.



KEY INSIGHTS & RECOMMENDATIONS

- **Key Insights:**
 - Higher interest rates and DTI ratios are significant indicators of loan defaults.
 - Recent delinquencies are strong predictors of future defaults.
- **Recommendations:**
 - Adjust lending criteria based on DTI ratios and interest rates.
 - Consider recent delinquency history when evaluating loan applications.
 - Implement risk-based pricing to mitigate potential losses.