

# **Loan Eligibility Prediction Using Machine Learning**

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**Abstract:** *With technological advancements and the expansion of businesses, the demand for loans has increased significantly, both for personal and business purposes. Due to limited assets, banks cannot grant loans to every applicant. Identifying the right candidates for loans is a complex and time-consuming process. Banks aim to deliver loans to individuals who can repay them on time and provide maximum profit. Thus, there is a need for a system that can analyse and streamline this process, saving time and resources. This paper aims to develop a more accurate loan prediction model using machine learning to reduce the risk involved in selecting appropriate loan applicants. By mining previous loan records and using bank loan rules, we will train a machine learning model to predict loan eligibility. We will use the sklearn library for our model and the train- test-split method to split the dataset. Various models, including Logistic Regression, Decision Tree (DT), Random Forest (RF), and Support Vector Machine (SVM), will be employed to achieve accurate results. Our experiments indicate that the Random Forest classifier provides the best accuracy.*

**Keywords:** Logistic Regression, Decision Tree, Random Forest, Support Vector Machine

