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Loan Eligibility Prediction

Loan Eligibility Prediction is a critical aspect of financial decision-making, involving the utilization of data and machine learning algorithms to forecast an individual's eligibility for a loan. This project employs supervised learning techniques to create a robust machine learning model dedicated to predicting loan approval. The primary focus is on designing and implementing a model capable of assessing the likelihood of loan approval by analyzing various factors and features related to the applicant's financial situation and creditworthiness. The dataset used is a carefully curated combination of publicly available information and contributions from students, ensuring the quality of training and testing data. The ultimate goal is to assist financial institutions, such as banks or credit unions, in making informed decisions by providing a reliable tool for evaluating loan eligibility. The dataset encompasses diverse attributes including income, credit score, employment status, and other pertinent financial indicators. Cleaning procedures will be applied to address missing values, outliers, and inconsistencies, guaranteeing the reliability of the data for model training.

The learning process involves the systematic testing of multiple algorithms, encompassing decision trees and artificial neural networks (ANN), along with other predefined methods such as logistic regression, support vector machines, and k-nearest neighbors. The performance of these algorithms will be rigorously evaluated on a separate test dataset. Key evaluation metrics, including accuracy, precision, recall, and F1 score, will be employed to quantify the efficacy of the models in predicting loan eligibility.