Credit Risk Classification Module 20

Overview of the Analysis The purpose of this analysis is to evaluate the performance of a logistic regression model in predicting loan status. The model aims to classify loans as either healthy (0) or high-risk (1) based on various financial features. This analysis will help determine the model's effectiveness and suitability for deployment in a real-world financial setting.

Results Accuracy Score: 99% Precision Score: Class 0 (healthy loan): 1.00 Class 1 (high-risk loan): 0.86 Recall Score: Class 0 (healthy loan): 0.99 Class 1 (high-risk loan): 0.94 Summary The logistic regression model demonstrates excellent performance in predicting loan status, with an overall accuracy of 99%. The precision and recall scores for class 0 (healthy loans) are exceptionally high, indicating that the model is highly reliable in identifying healthy loans with minimal false positives and false negatives. For class 1 (high-risk loans), the model also performs well, with a precision score of 0.86 and a recall score of 0.94, suggesting that it correctly identifies most high-risk loans while maintaining a reasonable balance between precision and recall.

Recommendation Based on the results, I recommend using this logistic regression model for predicting loan status. The high accuracy and strong performance metrics for both classes indicate that the model is well-suited for deployment. It can effectively assist the company in identifying high-risk loans, thereby enabling better risk management and decision-making processes.