ABSTRACT

Credit score is an important indicator used by financial institutions to assess a customer's creditworthiness and minimize the risk of default. Traditional methods for credit evaluation are often inefficient when dealing with large volumes of data, which necessitates the use of machine learning approaches. This study applies the *Random Forest* algorithm to develop a reliable credit score classification model. In building the *Random Forest* model, manual tuning of hyperparameters was conducted to achieve optimal classification results. The dataset used in this study consists of 100,000 customer records with 27 independent features and 1 target feature, followed by preprocessing steps such as handling missing values, encoding, and normalization. The resulting *Random Forest* model, after hyperparameter tuning, achieved the best classification performance with an accuracy of 77,74%. Therefore, this model can be utilized by financial institutions as a decision support tool for creditworthiness classification in a more accurate and efficient manner.

Keywords: Credit Score, Random Forest, Classification, Machine Learning