

Abstract—The 2019 COVID-19 pandemic caused a global crisis, including in Indonesia, which disrupted the financial stability of companies and triggered financial distress in various sectors. This condition highlights the importance of financial distress prediction to help companies prevent bankruptcy and protect investors from investment risks. This study aims to compare the accuracy of two machine learning algorithm models, namely Random Forest and Naïve Bayes, in predicting financial distress of industrial sector companies in Indonesia listed on the Indonesia Stock Exchange for the period 2019–2023. The dataset used consists of 190 companies, with financial variables. The model tested using a confusion matrix and evaluation metrics such as accuracy, precision, sensitivity, specificity, and F1-Score. The results showed that Random Forest had an accuracy of 93%, precision of 93%, sensitivity of 93%, and F1-Score of 92%, which was superior to Naïve Bayes with an accuracy of 80%, precision of 77%, sensitivity of 80%, and F1-Score of 76%. This study concluded that the Random Forest model is more effective in predicting financial distress than Naïve Bayes. This research makes a significant contribution as an early warning tool to prevent corporate bankruptcy, providing strategic benefits for management, investors, creditors, and regulators.

Index Terms—*financial distress, industrial sector, naïve bayes, random forest*