

Summary/Synopsis: The project "Bankruptcy Prediction for Public Companies" focused on addressing the risk posed by potential bankruptcies in public companies. By using Python, I analyzed a dataset of accounting data from 8,262 companies between 1999 and 2018, splitting it into training and testing sets to train a LightGBMClassifier. While the model achieved an overall accuracy of 93.44%, it struggled with detecting bankrupt companies, as shown by a low recall of 0.04 for the "failed" class. This highlighted the challenge of class imbalance and suggested a bias toward predicting companies as "alive." Feature importance analysis indicated that retained earnings, inventory, and market value were significant predictors. The project concluded with recommendations for improving model performance, future applications for financial forecasting, and ethical considerations to ensure responsible usage.