

Abstract

Predicting employability in an unstable developing country requires the use of contextual factors as predictors and a suitable machine learning model capable of generalization. This study has discovered that parental financial stability, sociopolitical, relationship, academic, and strategic factors are the factors that can contextually predict the employability of information technology (IT) graduates in the democratic republic of Congo (DRC). A deep stacking predictive model was constructed using five different multilayer perceptron (MLP) sub models. The deep stacking model measured good performance (80% accuracy, 0.81 precision, 0.80 recall, 0.77 f1-score). All the individual models could not reach these performances with all the evaluation metrics used. Therefore, deep stacking was revealed to be the most suitable method for building a generalizable model to predict employability of IT graduates in the DRC. The authors estimate that the discovery of these contextual factors that predict IT graduates' employability will help the DRC and other similar governments to develop strategies that mitigate unemployment, an important milestone to achievement of target 8.6 of the sustainable development goals.