Abstract

All bank marketing campaigns are dependent on customers' huge electronic data. The size of these data sources is impossible for a human analyst to come up with interesting information that will help in the decision-making process. Data mining models are completely helping in the performance of these campaigns. This paper introduces analysis and applications of the most important techniques in data mining; multilayer perception neural network (MLPNN), tree augmented Naïve Bayes (TAN) known as Bayesian networks, Nominal regression or logistic regression (LR), and Ross Quinlan new decision tree model (C5.0). The objective is to examine the performance of MLPNN, TAN, LR and C5.0 techniques on a real-world data of bank deposit subscription. The purpose is increasing the campaign effectiveness by identifying the main characteristics that affect a success (the deposit subscribed by the client) based on MLPNN, TAN, LR and C5.0. The experimental results demonstrate, with higher accuracies, the success of these models in predicting the best campaign contact with the clients for subscribing deposit. The performances are calculated by three statistical measures; classification accuracy, sensitivity, and specificity.
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Index Terms

Computer Science

Artificial Intelligence

Keywords

Bank Marketing; Naïve Bayes; Nominal Regression; Neural Network; C5. 0.