ABSTRACT

In running a telecommunications business one of the challenges to be faced is customer churn. Churn prediction born as knowledge for the company to detect potential customer churn in the future. The main process in churn prediction is balancing and classification. To handle the problem of imbalance class in churn prediction, the proposed Neighborhood Cleaning Rule (NCL) method. Modified Backpropagation The Conjugate Gradient Fletcher Reeves algorithm is used to classify churn and non-churn customers. Data used in this final project is customer data of PT. Telekomunikasi Indonesia Regional 7. The NCL method used in the balancing process produces the best performance of F1-Measure of 50.13% and the accuracy of 97.23%. RUS is a method of balancing data by reducing the data on major classes and able to produce the highest performance of F1-Measure of 62.99% and accuracy of 97.22%.

Keywords: *churn prediction, artificial neural network, backpropagation, conjugate gradient fletcher reeves, neighborhood cleaning rule, imbalance class, random unsersampling*