

Abstract

Churn prediction is a task in data mining to predict potential customers churn. In this study the data used in churn prediction is imbalance where the number of major classes is more than minor. The data used in this final project using customer data of Telkom Corporation. In this final project to overcome the problem of class imbalance, we used SMOTE and backpropagation CGF method. SMOTE method is used to handle class imbalance with increasing amount of minor class by generating synthetic data to reduce the cases of major and minor classes so that the gap between major and minor class is reduced. Furthermore, backpropagation CGF is used to classify churn and non-churn classes. In this final project, the best performance of F1-Measure is 42.86% and accuracy is 94.73%.

Keywords: churn prediction, imbalance class, SMOTE, backpropagation, conjugate gradient Fletcher-reeves