

Abstract

E-mail spam means sending unsolicited messages via e-mail and sent in bulk to anyone. The e-mail service users are forced to receive the e-mail, so many users waste their time to sorting their e-mails that comes into their inboxes. Therefore, many e-mail spam filtering has been developed at this time.

In this work, we built an e-mail spam filtering system using granular computing, support vector machines, and undersampling to solve the imbalanced classification problem. The system performance is measured by using the g-mean.

There are two methods of agregation used in this study, combine and discard. However, combine gives more satisfactory result than discard method, with 83,59% accuracy. It is because there are many informative data that are extracted, so it minimize the effect of information loss.

Keywords: *Granular computing, e-mail spam filtering, undersampling, klasifikasi, support vector machine, granular support vector machine.*