

ABSTRACT

Nowadays, many companies already have a big amount of data, since the data is important to the companies, not only for current importances, but for the future needs of the companies. In fact, the data can be used to improve the company performance. It can be done with Data Mining.

Data Mining have a several methods, one of them is classification. Classification main goal is to find a special pattern, that can be formed in tree, classification rule, or mathematics formula, within the data. In order to find this, all we have to do is applying a certain algorithm. One of that is Ant Colony Optimization. ACO have been applied in Data Mining task, called Ant_Miner. But as the time goes by, some scientist have it modified and invented a new Ant_Miner3.

This Final Task analyzed the changes effect in Ant_Miner3 with the accuracy and the simplicity of rules that was found, and how system parameter effect to it's result. For that purpose, the Ant_Miner3 software was build, and compared it to another Data Mining tools See5 which uses a well known C5.0 algorithm in classifying the Breast Cancer, Tic-tac-toe and House Votes datasets. The result shows that Ant_Miner3 have a better accuracy than C5.0, and it also have a little differences in simplicity.

The accuration rate can be improved by the use of pheromone and assigning the no_of_ants with a greater number. Besides, by assigning pheromone evaporation, max_uncovered_case and min_cases_per_rule with smaller number will increase the accuracy. While the simplicity can be improved with the use of pruning technique, and assigning max_uncovered_case and min_cases_per_rule with a greater number.

Keyword : *Data Mining, Ant Colony Optimization, Ant_Miner, Ant_Miner3.*