

Abstract

Scheduling is one of the most usual problem that happen in human daily life. Activities like transportation, production, distribution, school, work, and many other activities, need a schedule to be done well. One of the scheduling problem with highest complexity ever exist is university timetabling and student course. The reason why university timetabling and student course has a high complexity is the student ability to take lower level course or a higher level course. Beside that, the student also allowed to take different class for every course.

To solve this university timetabling and student course, an appropriate probabilistic algorithm's needed. One of the probabilistic algorithm that good enough to solve the scheduling problem is Artificial Immune system Algorithm. Artificial immune system algorithm is an optimization algorithm that inspired by the way of human immune sytem works to prevent and exterminate all of the microbes that attack human body. In this final project, the setting of the parameters of clonal selection is analyzed to get the optimum result of university timetabling and student course. Another algorithm also added to initialize the solution that is greedy search algorithm.

Based on the result of the parameters analysis, it is known that the best parameters for an optimum result of university timetabling and student course is the value that not too high but also not to low. The high value of parameters would affect the time performaceof the system that caused by the large of space solution resulted. On the other hand, the low value of parameters would affect the system to find the global optimum solution that caused by the limited solution space resulted.

Keywords : university timetabling and student course, artificial immune system, clonal selection, greedy search, optmization algorithm.