

## **Maintaining diversity for genetic algorithm : a case of timetabling problem.**

### **ABSTRACT**

Over the last decade, variant of genetic algorithm (GA) approaches have been used to solve various type of optimization problems. Premature convergence is the main problem for GA performance. A common hypothesis is that high diversity is important to avoid this problem. Failure to maintain GA population diversity will lead to this problem and affected quality of result will be produced. In this paper, we proposed two-problem representation and two strategies to retain population diversity as well as preventing premature convergence. The algorithm was then applied to timetabling problem and showed promising result.

**Keyword:** Genetic algorithm; Premature convergence; Diversity; Timetabling; Optimization.