## Grey Wolf Optimizer for the Nurse Rostering Problem

## ABSTRACT

This paper proposes a novel discrete version of Grey Wolf Optimizer (GWO) in addressing selected Second International Nurse Rostering Competition (INRC-II) problem instances. The position-updating mechanism in the original GWO is replaced with mutation and crossover operators. Experiments are carried out to set parameter values for the algorithm to run optimally. The population size of 10 is the most effective for the proposed GWO. The combination of swap and change as mutation operators allows the GWO to perform at its best. In addition, the performance of the proposed GWO is compared with that of a Hill Climbing (HC) algorithm. The computational results show that the proposed GWO outperformed the HC for all the selected instances. Experimental results are discussed.