
Abstract

During the COVID-19 pandemic, transportation became a serious problem that needs to be considered and regulated to reduce and minimize the virus' spread. This current situation will affect airline's flight scheduling due to fewer flights and passenger capacity than usual. This research proposes the implementation of Multi-Objective Antlion Optimization(MALO) on solving Flight Scheduling and Aircraft Routing in the current pandemic conditions. The result showed an improvement in the estimated number of passengers and a decrease in the total cost. The result also revealed that MALO capable of outperforming other well-known optimization algorithms and converged faster in the large data group while able to work faster than Genetic Algorithm(GA) across all experiments, proving MALO to be a more suitable method when dealing with large scheduling task.

Keywords: flight scheduling, aircraft routing, multi objective optimization, antlion optimization algorithm, differential evolution
