Abstract

In this paper, the author discusses the main concept of intelligent optimization techniques, artificial neural networks, and new genetic algorithms to solve the multi-objective multicast routing problems with shortest path (SP) problem that used in the addresses networks and improve all processes addressing in the wireless communications based on multi-objective optimization. The most important characteristics in mobile wireless networks is the topology dynamics and the network topology changes over time, the routing problem (SPRP) in mobile ad hoc networks (MANETs) turns out to be a dynamic optimization problem[13], the hybrid immigrants multiple-objective genetic algorithm (HIMOOGAs) in the real-world are dynamic in nature, that has objective functions, constraints, and parameters, the dynamic optimization problems (DOPs) are a big challenges to evolutionary multi-objective, since any environmental change may affect the objective vector, constraints, and parameters, HIMOGA for the optimization goal is to track the moving of parameters and get a sequence of approximations solutions over time. The quantity of services (QoS) is supporting guarantee for all data traffic and getting the maximizing utilization for network, the QoS based on multicast routing offer
significant challenges, and increases to use an efficient multicast routing protocol that will be able to check multicast routing and satisfying QoS constraints. The author propose to use HIMOGAs and SP algorithm to solve multicast problem that produces new generation wireless networks with immigrants schema to get high-quality solutions after each change and satisfying all objectives.

References

16. S. Yang, “Genetic algorithms with memory-and elitism-based immigrants in dynamic
Hybrid Multi-Objectives Genetic Algorithms and Immigrants Scheme for Dynamic Routing Problems in Mobile Networks.


**Index Terms**

Computer Science  
Algorithms

**Keywords**

Hybrid immigrants multiple-objective, dynamic shortest path routing problem, Dynamic immigrants scheme.