An Energy Efficient Cluster Selection Optimization using Evolutionary Imperialist Competitive Algorithm

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Abstract

Wireless Communications is one of the fastest growing segments in the communications industry. Wireless Network is the network that facilitates communication among two or more devices connected through the standard network protocols, without network cabling. Due to the battery constrained the network performance will get reduced i.e. If the energy of the wireless sensor node (WSN's) is drained, recharging of the sensor nodes in unattended environment is very difficult. As WSN nodes are usually battery-powered devices, the important and most critical aspects to face concern is how to reduce the energy consumption of WSN nodes, so that the network lifetime can be enhanced to an extent. Routing the Data in sensor nodes plays a vital role in transferring the data to the base station (BS). Different types of routing algorithm have been used such multihopping, grid based, hierarchical based and clustering based such LEACH, HEED etc... In this we have focused on incorporating clustering technique based on evolutionary technique namely ICA cluster optimization to improve the lifetime of the sensor nodes. We compare our proposed clustering model with LEACH protocol and analyze its efficiency.
References

Index Terms

Computer Science

Wireless

Keywords

WSN, Clustering, data aggregation, Evolutionary technique.