Abstract

Wireless Sensor Networks (WSNs) have gained due importance for applications requiring remote sensing. The major challenges faced are related to energy and routing. The sensor nodes being battery operated devices of limited resources, techniques like data aggregation, selective node activation and energy efficient routing are adopted with main focus of saving energy. The objective is to prolong life of the network and also distribute the load evenly among the nodes. Several approaches have been suggested in literature; mostly for homogeneous WSNs only. Fuzzy logic has recently been opted for selection of cluster heads in these networks. This paper proposes a fuzzy logic based unequal clustering protocols for WSNs in heterogeneous settings. Four decision criteria for selecting cluster heads are input to the fuzzy logic which gives two outputs instead of one. This unique feature makes the proposed method effective.

References

Index Terms

Computer Science  Wireless
Keywords

Wireless Sensor Networks, Cluster Heads, Network Lifetime, Energy Consumption, Heterogeneous Networks