Enhancement in lifetime of sensor node using Data Reduction Technique in Wireless Sensor Network

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Abstract

In this paper data compression is becoming more popular, because it helps to reduce the size. A number of clustering protocols have been explored in order to obtain the effective energy usage in WSNs. It is based on randomized rotation of the CHs to distribute the energy load among the sensor nodes evenly in the entire network. Each node elects itself as a CH based on a probabilistic scheme and broadcasts its availability to all the sensor nodes present in the area. The received signal strength is the prime parameter for determining the communication distance between the nodes. The CH performs aggregation of the packets received from all the nodes present in their cluster. Also, all the nodes get a chance to become the CH to balance the overall energy consumption across the network. The aim of Clustering is one of the important methods for prolonging the network lifetime in wireless sensor networks (WSNs). It involves grouping of sensor nodes into clusters and electing cluster heads (CHs) for all the clusters. CHs collect the data from respective cluster’s nodes and forward the aggregated data to base station by using Huffman encoding techniques [1].
References


Index Terms

Computer Science

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Keywords

Wireless sensor network (WSN), cluster Head (CH), Sensor node, Huffman coding.