Abstract

Wireless Sensor Network (WSN) consists of small, light weighted, low cost sensor nodes to monitor the presence of environmental and physical phenomena like wind speed, temperature etc. The nodes in the WSN have limited battery-power. Improving the lifetime is one objective of any wireless sensor network. There are different solutions to fulfill this objective. Clustering approach is one solution clustering algorithm is used to create the cluster of the nodes and select the cluster head to perform the data collection and transmission operation. LEACH (Low Energy Adaptive Clustering Hierarchy), Particle Swarm Optimization (PSO) and Artificial Bee Colony (ABC) are examples of clustering algorithms. A sensor node requires more energy for transmission rather than sensing and processing the information. Hence, data compression is another solution used to transfer lesser bits to final location. In this paper, we proposed a model where we use both clustering algorithm and compression algorithm to increase the Life of Wireless Sensor Network. To form a cluster we use a PSO clustering algorithm and to compress the data into smaller bits we use a Huffman compression algorithm.
Increase the Lifetime of Wireless Sensor Network using Clustering and Compression

References

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Index Terms

Computer Science Wireless
Keywords

clustering; WSN; compression; lifetime, energy.