Fuzzy Modeling for Wireless Sensor Networks

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Abstract

Applications of the wireless sensor networks have widely increased in recent years. However, a lot of work has been developed to improve the performance of these wireless sensor networks. But, there are some main limitations till now due to complexity appeared for maximizing the lifetime, dealing with the noisy data, having a balance of the node loading, speeding up the transmission process of wireless sensor networks (WSNs). The present work proposes a new routing technique that has used the fuzzy modeling to overcome these drawbacks of WSNs. Proposed fuzzy technique seeks to determine the optimal route path from source to destination so that the energy consumption is balanced and minimized. The proposed fuzzy routing technique is applied for a WSN used in radiated products' system. Then, the suggested system is compared with Traditional Low- Energy Adaptive Clustering Hierarchy (LEACH) commonly used protocol for WSNs. The obtained results show significant increase in the performance of the WSNs. However, the proposed system has proved its well suitability for the real-time applications.
References

Index Terms

Computer Science  Fuzzy Systems

Keywords