Abstract

Wireless sensor network (WSN) is one of emerging trends in networking technologies being used for communication purpose in modern life. It has mainly comprised of small sensor nodes (SNs) with limited resources. Individual SNs are connected with each other and make the communication possible. Enhancement in the communication among sensor nodes or Sensor-to-Sink nodes is today’s most prominent objective. In this paper we have surveyed artificial neural network for different QOS parameters of WSN. Artificial neural network (ANN) is very prominent emerging area for WSN applications. Generally, artificial neural networks are classified in supervised learning and unsupervised learning. Unsupervised learning includes algorithms like Hebbian, Winner-take-all, ART, ART1, ART2, counter propagation network etc., while supervised learning includes perceptron model, delta learning rule, error back-propagation etc. ANN helps to achieve the better quality of services for communication in wireless sensor networks at the greater extent. We have summarized the survey of neural networks’ techniques applied for WSN applications so far.
- Danco Davcev and Stojanco Gancev (2009).
- Monitoring of environment by...
energy efficient usage of Wireless Sensor Networks, Information Technologies in Environmental Engineering; Proceedings of the 4th International ICSC Symposium Thessaloniki, Greece, Publisher: Springer Berlin Heidelberg, pp. 229-237.

Quality of Services Provisioning in Wireless Sensor Networks using Artificial Neural Network: A Survey


- Runjie LIU, Kai SUN and Jinyuan SHEN (2010), &apos;BP localization algorithm based on virtual nodes in wireless sensor network&apos;, published in Wireless Communications networking and Mobile Computing (WiCOM), 6th International Conference on Sept.  2010,
- Mohit Mittal and Krishan Kumar, Network lifetime enhancement of homogeneous...
- Krishan Kumar, ”Self-Organizing Map (SOM) Neural Networks for Air Space Sectoring”, Sixth IEEE International Conference on Computational Intelligence and Communication Networks (CICN), 2014, pp. 1096-1100.

Index Terms

Computer Science
Artificial Intelligence

Keywords
Wireless sensor network; artificial neural network; unsupervised learning; supervised learning; Fuzzy ART; ART1; ART2; perceptron model; error back propagation; quality of services.