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Sensor Node Communication based Selfish Node Detection in Mobile Wireless Sensor Networks

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Abstract



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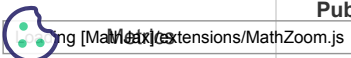
A mobile wireless sensor network (MWSN) is a self-configuring network that does not require a fixed structure, which minimizes its operation time. At the same time, every... **View more**

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Abstract:

A mobile wireless sensor network (MWSN) is a self-configuring network that does not require a fixed structure, which minimizes its operation time. At the same time, every node in this network is free to move and make the network change its topology frequently. Several routing algorithms designed for MWSNs are established on every node that forwards data packets in the network. However, in real time, some of the nodes may act as selfish nodes. Those selfish nodes use the network and its services but do not cooperate with other nodes. Therefore, detecting these nodes is essential for the WSN. Thus, this approach, "sensor node communication-based selfish node detection" (CSND) in MWSN, is proposed. In this approach, it can be verified that the node communicates based on the route request and reply messages sent within the communication network. The article's objective is to distinguish the selfish node in WSNs. This approach elects the forwarder node based on the highest energy level and node communication ratio (RNC). The BS is noticing the behaviour of every communication in the MWSN. The simulation illustrates that it enhances delivery and drop rates and improves energy efficiency during data transmission.

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I. Introduction

MWSN provides wireless connectivity through the sensor nodes constructed by the network's actions. An MWSN works by observing, processing, and forwarding information in an indicated atmosphere. MWSN contains a number of sensor nodes that gather and forward the information to the BS. MWSN technology has a lot of benefits, such as reducing costs and being reliable, scalable, manageable, correct, and easy to distribute. This network contains a number of sensor nodes and one base station (BS). This BS controls all sensor nodes [1].

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