Power Efficient Data Fusion Assurance Scheme for Sensor Network using Silent Negative Voting

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ABSTRACT

Security is a very important issue when designing or deploying any network or protocol. The nature of large, ad-hoc, wireless sensor networks presents significant challenges in designing security schemes. One or several sensors then collect the detection results from other sensors. The collected data must be processed by the sensor to reduce the transmission burden before they are transmitted to the base station. This process is called data fusion. Data fusion Nodes will fuses the collected data from nearby sensor nodes before they are sent to the base station. If a fusion node is compromised, then the base station cannot ensure the correctness of the fusion data sent to it. Various methods are proposed, that deal with providing an assured data transfer to the Base Station.

In this paper a novel power-efficient data fusion assurance scheme has been proposed using silent negative voting mechanism. The proposed scheme has been compared with the direct voting based fusion assurance scheme. The proposed scheme produced very well with better power efficiency and lower network overhead.

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