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FUZZY BASED DATA CONGLOMERATION MODEL IN MULTI SENSOR FOR OPTIMIZING AQUAFARM

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ABSTRACT

The success of real time system especially aquaculture and allied projects largely depend upon the quality of the site selected for the projects. The selection of best site in aquaculture system is not formulated just from one variable alone but from multiple variables. In the emerging technology era, these variables are collected using sensor-based network systems, wireless sensor networks (WSNs). Due to the environmental characteristics, limited power and processing capabilities of WSNs, it is essential to find techniques that improve the flow of information in the network. Data conglomeration can be used to minimize the amount of information flowing, and the energy spent during sensing, processing and communication operations in the network. In this backdrop, fuzzy logic based data conglomeration model in multi sensor was developed for optimizing aquafarms. This leads to effective utilization of various resources like water, land, infrastructure facilities, support and inputs and hence becomes a cost effective system for the expected yield. The results show that the application is correct and reasonable and enables the user to precisely acquire the culture requirement information. The proposed models provide tools that will help the planners and the decision-makers to make choices regarding the development of aquaculture farming practices.

KEYWORDS: Wireless Sensor Networks, Fuzzy Logic, Mamdani Fuzzy Inference System, Aquaculture, Optimization.

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