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(51) International classification	:H04N 21/466, H04L 41/06, G06N 20/20, H04L 41/0677, G06N 3/0985	(71) <b>Name of Applicant :</b> <b>1)NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY</b> Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India (72) <b>Name of Inventor :</b> <b>1)Dr. RASHMI SHARMA</b> <b>2)JISHU VARSHNEY</b>
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(57) Abstract :

The present invention relates to a computer model (100) for smart optimization of wireless sensor networks (WSNs), comprising sensor nodes (101), clustering module (102), routing module (103), data aggregation unit (104), predictive learning engine (105), fault tolerance manager (106), centralized monitoring (107), and cloud integration layer (108). The invention optimizes multiple parameters including energy, latency, throughput, and fault tolerance simultaneously using adaptive algorithms, reinforcement learning, and predictive modeling. Experimental validation demonstrates improved network lifetime, reliability, and scalability, making the invention suitable for real-world IoT and WSN applications.

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