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Short Communication

Machine Learning Algorithms in Wireless Body Area Network

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Healthcare and entertainment applications induces various design challenges in design of Wireless Networks design. In healthcare applications to monitor the health of aged people, bedridden and kids are performed by tiny sensor nodes implanted in their body. The sensor nodes are low power devices. To minimize the battery failure and energy dissipation is a big challenge in designing a Wireless Body Area Network (WBAN). The WBAN is a three-tier network as shown in figure. The tier1 consists of sensor nodes and coordinators. The tier2 consists of access points. The tier3 consists of medical server or database. In each tier the energy consumption is minimized by efficient power allocation, interference mitigation scheme and resource allocation algorithms. To implement these mechanisms various mathematical models such are coloring algorithm, game theory algorithm is widely used so far. Recent times the machine learning and deep learning algorithms are widely used to construct the power allocation and resource allocation schemes. This is because these algorithms learn to take decisions based on the previous events and parameters assigned. Therefore, the throughput is always high compare to other mathematical models.

Figure 1