





Chapter


An Efficient Lion Optimization Based Cluster Formation and Energy Management in WSN Based IoT

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 Dr D Yuvaraj ·  M. Sivaram ·  Mohamed Uvaze Ahamed Ayoobkhan ·  S. Nageswari

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Abstract

For the past few decades, Wireless sensor networks (WSNs) disseminate less expensive sensor nodes (SNs) in its area, where nodes plays significant role in Internet of Things (IoT). WSN based IoT, nodes are generally resource constraints in numerous ways, like energy, storage, computing resources and so on. Effectual routing protocols (RP) are essential for longer lifetime and to attain superior energy utilization. Here, a novel energy efficient k- centroid Lion optimization based routing protocol (KEE-LOP) to enhance network performance. Anticipated KEE-LOP comprises three essential factors: distributed behaviour of lion based cluster formation technique to facilitate nodes organization, novel algorithm for constructing adaptive clusters based on lion migration and k-nodes centroid based cluster head rotation to distribute load to all sensor nodes eventually, thereby a novel mechanism for reducing energy utilization for distance communications. In specific, residual energy of nodes is measured with KEE-LOP for long distance communication. Specifically, nodes' residual energy is measured as KEE-LOP for computing CH centroid's position. Simulation results specifies KEE-LOP outperforms superior than LEACH, LEACH-C. As well as, KEE-LOP is more appropriate for networks that is essential for longer lifetime.