

## Abstract Details

**Title:** Efficient Cognitive Radio Routing based on Improved Ant-Lion based

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**Abstract:** This paper outlines a proficient directing procedure for the cognitive radio by improving a most recent streamlined meta-heuristic approach, Ant-lion optimization. A protocol named improved ant lion based routing in cognitive radio (IALbCr) is proposed in the work. In this algorithm the routing of data is same as done by the ant lion based algorithm while the sensing of channel and transmission of data is modified by using the Ant lion algorithm. The Ant lion has a feature to wait for the ant to get trapped in the pit hole designed by it. The ant lion doesn't attack the ant until the ant reaches at a threshold depth of pit hole. This concept is used to determine the waiting time to sense the channel and transmit the data. The implementation of the IALbCr is done using the network simulator. The performance of IALbCr is compared against ALbCR, SER, ANT-CR and the CbCr for parameters residual energy, PDR, End 2 end delay, Throughput and routing load on different network scenario shows that the algorithm is better in terms of delay, residual energy, PDR as well as throughput.

**Keywords:** Cognitive Radio, Ant Lion, Ant, Ant Lion Optimization, Meta-Heuristic.