

Internet of Things: Route Search Optimization Applying Ant Colony Algorithm and Theory of Computer Science

Authors : Tushar Bhardwaj

Abstract : Internet of Things (IoT) possesses a dynamic network where the network nodes (mobile devices) are added and removed constantly and randomly, hence the traffic distribution in the network is quite variable and irregular. The basic but very important part in any network is route searching. We have many conventional route searching algorithms like link-state, and distance vector algorithms but they are restricted to the static point to point network topology. In this paper we propose a model that uses the Ant Colony Algorithm for route searching. It is dynamic in nature and has positive feedback mechanism that conforms to the route searching. We have also embedded the concept of Non-Deterministic Finite Automata [NFA] minimization to reduce the network to increase the performance. Results show that Ant Colony Algorithm gives the shortest path from the source to destination node and NFA minimization reduces the broadcasting storm effectively.

Keywords : routing, ant colony algorithm, NFA, IoT

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