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A Survey of Ant Colony Optimization Based Algorithms for Efficient Routing in Mobile Ad-Hoc Networks

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Abstract: *Mobile ad hoc networks are self organizing mobile nodes. Given that these portable gadgets are free to join, leave and the network topology can alter regularly. Devices in such networks must interact with one another and function autonomously through wireless channels because to a lack of infrastructure. It is difficult to create a proper routing protocol for MANETS. Swarm Intelligence (SI), may provide possible optimum solutions that guarantee high resilience, adaptability, and affordability. Additionally, they are capable of handling complex large-scale issues without the need for a centralized control system. In addition to the fundamental requirements for routing in MANETs are expected to function independently organized and provide minimal packet lag, rate of increase in packet delivery, and effective assimilation to changes in the network configuration. In dynamic MANETs, ant colony optimization has been effectively employed to strike a balance between the different connectivity limitations. This paper offers a thorough analysis of different categories of MANET ACO-based routing methods.*

Keywords: MANET, Swarm Intelligence (SI), WSN, ACO, FANTs, BANTs, Energy Efficiency, MMP

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