عنوان مقاله:

Routing in vehicular ad hoc networks using the proposed reinforcement learning method

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خلاصه مقاله:

Today, with the equipping of vehicles and streets with wireless equipment, a new dynamic network called vehicle ad hoc network (VANET) is emerging. This network can support two types of communication: communication between one vehicle and another vehicle and contact between a vehicle and fixed means of communication around the streets. This network can be used in many fields such as safety, business, entertainment, and emergency. One of the main challenges in this network is the routing process to transfer information from one node to another. The main problem is the lack of a stable infrastructure. Of course, there is a problem in the MANET network that many algorithms and protocols have been presented to solve, but due to the high dynamics in these networks, these protocols cannot be used for VANET. Therefore, today the presentation and improvement of the protocol Routing features in VANET networks have become an attractive issue for researchers interested in computer networks. One of the challenging issues in these protocols is the possibility of adapting them to the high dynamics of the in-vehicle network. Of course, efforts have been made in recent years in this field, including artificial intelligence techniques. This paper also tried to improve sending rate and reduce latency by using the reinforcement learning method to select the nodes. To evaluate the protocol, its implementation has been done with OMNeT++ simulation. According to the obtained results and compared with other protocols such as GSR, the proposed protocol performs better in intercity networks.

کلمات کلیدی:

Vanet, Vehicular Ad hoc Networks, routing, reinforcement learning

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