

عنوان مقاله:

Improving the clustering-based routing protocol in vehicular ad-hoc networks (VANETs) by PCA algorithm

محل انتشار:

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خلاصه مقاله:

Given the number of vehicles on the streets and highways around the world, new challenges and opportunities arise in the face of the development of cities and communities. Understanding vehicle mobility can lead to better information about efficiency, maintenance, and, more broadly, situations, accidents, and pollution. During this article, we use the information of the GPS Global Positioning System to find the vehicles that are moving in our vehicle, and then, by combining it with the PCA algorithm, we identify the vehicles that are in the best condition to communicate with us. By calculating the variance and standard deviation of the points received from GPS, the PCA algorithm first classifies the average vehicle distance of the vehicles within our communication coverage area and notifies the system. The important point in the information receiving and processing phase is that the system is intelligent, so that the system automatically decides how many incoming messages to process by calculating the speed of our vehicle, which results in less information processing when we are in traffic. As a result, system performance is improved in terms of errors.

کلمات کلیدی:

(vehicular ad-hoc networks (VANETs), clustering, Principal Component Analysis (PCA), Global Position System (GPS)

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