World Academy of Science, Engineering and Technology
International Journal of Computer and Systems Engineering
Vol:17, No:07, 2023

UAV's Enhanced Data Collection for Heterogeneous Wireless Sensor Networks

Authors : Kamel Barka, Lyamine Guezouli, Assem Rezki

Abstract : In this article, we propose a protocol called DataGA-DRF (a protocol for Data collection using a Genetic Algorithm through Dynamic Reference Points) that collects data from Heterogeneous wireless sensor networks. This protocol is based on DGA (Destination selection according to Genetic Algorithm) to control the movement of the UAV (Unmanned aerial vehicle) between dynamic reference points that virtually represent the sensor node deployment. The dynamics of these points ensure an even distribution of energy consumption among the sensors and also improve network performance. To determine the best points, DataGA-DRF uses a classification algorithm such as K-Means.

Keywords : heterogeneous wireless networks, unmanned aerial vehicles, reference point, collect data, genetic algorithm
Conference Title : ICCPSMLA 2023 : International Conference on Computer Science, Machine Learning and Algorithms
Conference Location : Paris, France
Conference Dates : July 10-11, 2023