## عنوان مقاله:

Proposing a New Algorithm for Optimizing Energy Consumption in Wireless Networks

## محل انتشار:

اولین کنفرانس ملی تحقق ایده های دست نیافتنی در زمینه فناوری اطلاعات و تکنولوژی(الکترونیکی) (سال: 1399)

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## خلاصه مقاله:

The purpose of this paper is to use the social spider algorithm to improve energy consumption in wireless sensornetworks. In this regard, finding a suitable place for routers was done with a social spider algorithm in thesystem by selecting and optimally placing elements in the network and revising the Objective function. To useit, the initial number was 12, and the maximum number of loop iterations in the algorithm was 100 replications.We achieved these values with several runs and errors. Besides, to achieve the best results, to solve the problem,they can be considered as the default algorithm. In this research, the MATLAB implementation language wasused to implement the spider algorithm, and then NS 2.35 tool was used to simulate the network environmentand use the algorithm. In this study, three standard gate placement algorithms were used for comparisons,including BRP, RDP, and RGP. The results showed that the proposed method could have the lowest energyconsumption. It can cause fair and uniform energy consumption between all nodes. It will also increase thelifetime of the network. Optimization of routing algorithms for such networks by using the spider algorithmalso reduced the number of errors (failures) in the system and increased the life of the network with the helpof the mentioned method. The proposed method, compared to the techniques presented before this study, isacceptable and, while creating the desired capabilities in terms of security, .does not impose much time overheadon the system

## کلمات کلیدی:

Optimization, Energy Consumption, Wireless Sensor Networks, Social Spider Algorithm