

Energy Efficient Cooperative Routing Scheme For Heterogeneous Wireless Sensor Network

S. Saravanakumar¹, E. Anusha², R. Kanmani³, R. Varshini⁴

Assistant Professor, Department of Information Technology¹

UG Students, Department of Information Technology^{2,3,4}

Dhanalakshmi Srinivasan Engineering College, Perambalur, Tamil Nadu

Abstract: *Advancement in wireless communication and electronics over the years has led to the development of wireless sensor networks (WSNs). WSNs are formed by sets of distributed autonomous devices with several distinct characteristics to sense, process, transmit and receive observed or measured condition. Its deployment has been enhanced by its small, inexpensive and smart sensor which is easily deployable. In its simplest form, the sensor node is made up of a sensor component that measures the condition of the observed situation or physical surrounding of interest while the microprocessor component of the node ensures the information obtained are intelligently computed. The wireless radio embedded in the nodes allows communication between the neighbouring nodes. A considerable number of these sensors are used to cover the area of interest since a single sensor node can only provide limited information.*

REFERENCES

- [1]. Garcia Alvarez, Manuel, Javier Morales, and Menno-Jan Kraak. "Integration and exploitation of sensor data in smart cities through event-driven applications." *Sensors* 19, no. 6 (2019): 1372.
- [2]. You, Ilsun, Kim-Kwang Raymond Choo, and Chi-Lun Ho. "A smartphone-based wearable sensors for monitoring real-time physiological data." *Computers & Electrical Engineering* 65 (2018): 376-392.
- [3]. Hung, Li-Ling. "The dynamic routing for heterogeneous monitoring systems." In 2017 International Conference on Applied System Innovation (ICASI), pp. 717-720. IEEE, 2017.
- [4]. Singh, Samayveer, Aruna Malik, and Rajeev Kumar. "Energy efficient heterogeneous DEEC protocol for enhancing lifetime in WSNs." *Engineering Science and Technology, an International Journal* 20, no. 1 (2017): 345-353.
- [5]. Cheng, Jianming, Yating Gao, Ningbo Zhang, and Hongwen Yang. "An energy-efficient two-stage cooperative routing scheme in wireless multi-hop networks." *Sensors* 19, no. 5 (2019): 1002.
- [6]. Ying, Zhang, and Ji Changgang. "A kind of routing algorithm for heterogeneous wireless sensor networks based on affinity propagation." In *The 26th Chinese Control and Decision Conference (2014 CCDC)*, pp. 2481-2485. IEEE, 2014.
- [7]. Singh, Gayathri Tilak, and Fadi M. Al-Turjman. "Cognitive routing for information-centric sensor networks in smart cities." In *2014 International Wireless Communications and Mobile Computing Conference (IWCMC)*, pp. 1124-1129. IEEE, 2014.
- [8]. Sharma, Tripti, Bijesh Kumar, Karan Berry, Akanksha Dhawan, Rahul Singh Rathore, and Vishalakshi Gupta. "Ant based cluster head election algorithm in wireless sensor network to avoid redundancy." In *2014 Fourth International Conference on Communication Systems and Network Technologies*, pp. 83-88. IEEE, 2014.
- [9]. Singh, Ripudaman, Brijesh Kumar Rai, and Sanjay K. Bose. "Modeling and performance analysis for pipelined-forwarding MAC protocols for linear wireless sensor networks." *IEEE Sensors Journal* 19, no. 15 (2019): 6539-6552.
- [10]. Xu, Xiaohua, and Min Song. "Delay efficient real-time multicast scheduling in multi-hop wireless sensor networks." In *2015 IEEE Global Communications Conference (GLOBECOM)*, pp. 1-6. IEEE, 2015.

AUTHORS

- **First Author** – S. Saravanankumar, M.E, Dhanalakshmi Srinivasan Engineering College.
- **Second Author** – E. Anusha, Department of IT, Dhanalakshmi Srinivasan Engineering College.
- **Third Author** – R. Kanmani, Department of IT, Dhanalakshmi Srinivasan Engineering College.
- **Fourth Author** – R. Varshini, Department of IT, Dhanalakshmi Srinivasan Engineering College.