A Reasonable Exploration of Data Mining Techniques in Wireless Sensor Network

Volume 151
Number 10

Year of Publication: 2016

Authors:

Shubhie Agarwal, Seema Maitrey, Poonam Rana, Pankaj Singh Yadav

Abstract

Data mining in WSN is the process of extracting model and pattern that are application oriented with possible accuracy from continuous, rapid flow of data. The whole huge amount of data cannot be stored and processed immediately. That is why the mining algorithm should be fast enough to process high speed arriving data. There are many conventional data mining techniques, but they are not able to handle dynamic amount of data. It is difficult to handle WSN data. There are several challenges that it has to face in WSN. The main aim of wireless sensor networks is to transmit data in such a manner that increased lifetime of the network and energy efficient routing can be done with significant accuracy. Data mining is the process of discovering interesting patterns (or knowledge) from large amounts of data. Knowledge discovery process attains several steps and can be interactive, iterative and user-driven. Data mining techniques of wireless sensor network are different from traditional techniques. Data mining techniques can be frequent pattern mining, sequential pattern mining, clustering and classification. All these techniques can use centralized or distributed approach, even after that the focus is decided that
either you can focus on application or performance of wireless sensor network. Data mining techniques that work on sensor network-based application are still facing shortcomings in existing techniques. By seeing these shortcomings and special characteristics of WSNs, there is a need for data mining technique designed for WSNs. In this paper, we are finding the difference between traditional and sensor data processing. Also comparing the different data mining techniques used in wireless sensor network where all these methods have their own processing architecture and method of sensor distribution depending upon the attributes.

References


Index Terms

Computer Science Wireless
Keywords

Centralized Mining, Distributed Mining, Sequential Mining, Pattern Mining, WSN