HIERARCHICAL CLUSTERING BASED ACTIVITY TRACKING SYSTEM IN A SMART ENVIRONMENT

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ABSTRACT

The Healthcare industries have very great advantages of using a remote monitoring system. The machine learning and pervasive sensing technologies found in smart homes offer unprecedented opportunities for providing health monitoring and assistance to individuals experiencing difficulties living independently at home. In a smart home environment where the sensors are installed in important places. All the activity of the patients at home are monitored each and every second and that data is analyzed using the activity detection algorithm, which categorize the activities based on the set of records that are obtained from the sensor. When an abnormal activity is identified, then that information will be sent to the concerned care givers to get the immediate attention. Such cases like activities of the elderly people with Alzheimer's diseases are monitored. The system can deduce what a person is doing and act appropriately. The different set of activities that are categorized into Models. The Computer system constructs and maintains a model describing the environment. In normal activity detection algorithm, each model is defined based on the inputs that are passed on regular intervals. But in this activity tracking and mining approach based on Hierarchical agglomerative clustering algorithm (HAC), so that no input is needed for the model selection and the accuracy can be improved for each model.

KEYWORDS:- Activity Recognition, Data Mining, Sequence Mining, Clustering, Smart Homes