

ABSTRACT

METHOD AND SYSTEM FOR ACTIVITY RECOGNITION AND BEHAVIOUR ANALYSIS

Energy remains a critical challenge for continuous sensing: with low-capacity batteries, wearable devices require frequent charging. In contrast, installing sensors in everyday ‘smart objects’, such as kitchen cabinets, household appliances and office equipment, supports ADL detection via indirect observations on human interaction with such objects, but cannot provide individual-specific insights in multi-tenanted environments. The embodiments herein provide a method and system for energy efficient activity recognition and behavior analysis. Architecture disclosed utilizes a hybrid mode of inexpensive, battery-free sensing of physical activities performed by a subject been monitored during his Activities for Daily Living (ADLs). The sensing combines object interaction sensing with person-specific wearable sensing to recognize individual activities in smart spaces. The method and system disclosed quantifies a probabilistic approach that uses longitudinal observations of user-item interactions, over each individual episode, to compute the anomalous behavior of the subject.

[To be published with FIG. 1]