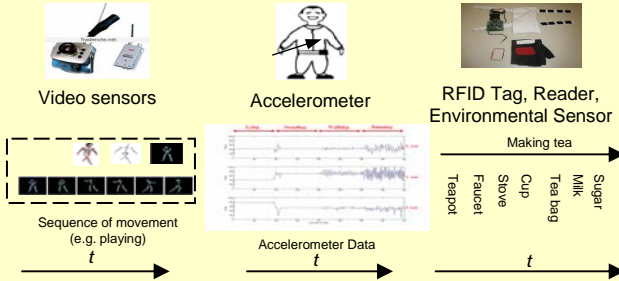
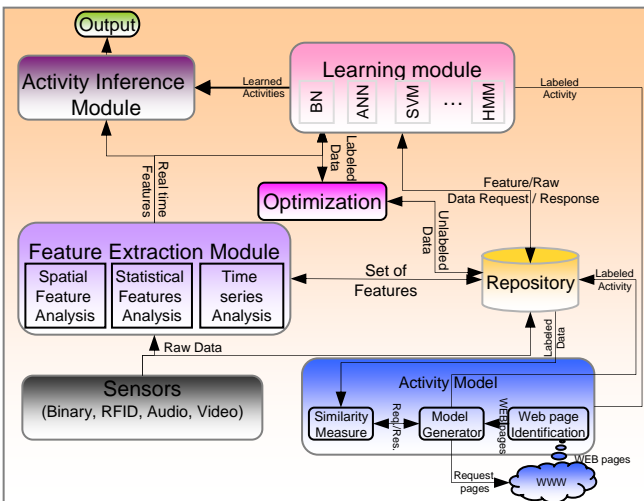


Introduction

In ubiquitous computing, recognition of daily activities (Preparing lunch, Toileting, etc.) is one of the current focuses of Researchers. Especially in health care industry it has a huge impact. As an example, monitoring daily activities can reduce the risk of elderly people or chronically ill children. We, the Activity Recognition team focusing on inferring activities of a person from a stream of sensor data. We are considering four types of sensors (i.e. Camera, Accelerometer, Environmental sensors and RFID tags).



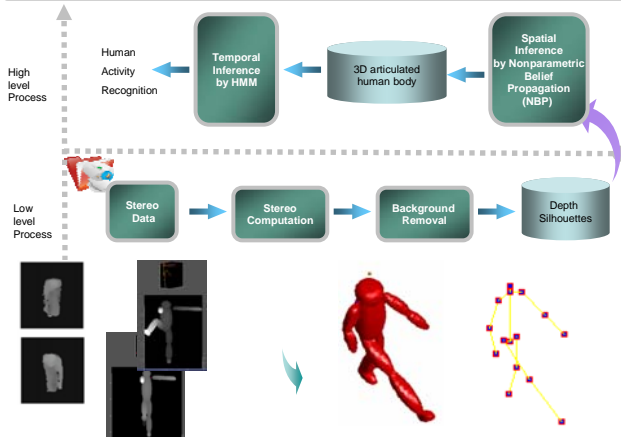
Architecture



Video based

Motivation

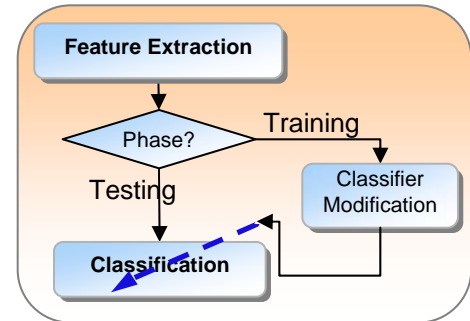
Develop and Implement an efficient system that can perform Human Activity Recognition using stereo cameras



Accelerometer based

Goal and Applications

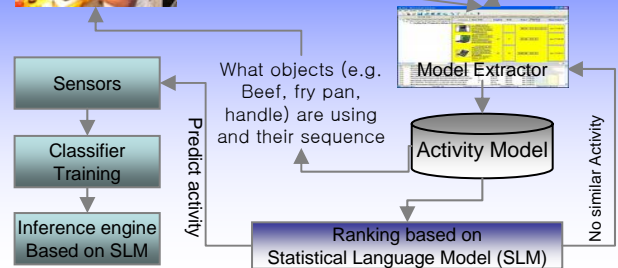
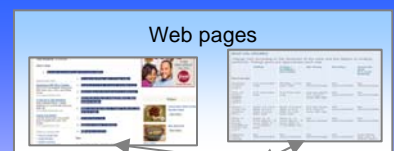
- To accurately provide information about human activities using accelerometer data, e.g., walking, playing golf, washing hands.
- Sport analysis, patient monitoring, u-healthcare system, etc.



Environmental-sensor based

Goal and Applications

- Recognition of Activities of Daily Living (ADL) through a stream of environmental sensor data in an unsupervised environment.
- Mine activity model from the web.
- There are thousands of activities. The system that uses supervised learning (human labeling) is not sufficient. We need activity model for this purpose. By activity model we mean the association between low level and high level activity and association between object uses and activity.
- A lot of web pages exists in WWW describe how to perform an activity, what object to use and how to use them. Our main research focus is to extract these directions in a meaningful way such that we can use these information to train our environmental sensor based classifier using RFID tag and reader.
- We are focusing on u-health care system.



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